

## CSE 484 Assignment 3

For Tasks 1-9 we will use a Cloud VM, however, the same principle is applicable everywhere.

### 1. Install docker

Deploying a Cloud VM ->

Name/ID	Monitoring	AZ	Status	Specifications/Image	IP Address
ecs-docker-muballigh 908e9a81-7d99-4c3f-aaf7-...		AZ1	Running	4 vCPUs   8 GiB   s3.xlarg... Ubuntu 20.04 server 64bit	94.74.87.58 (EIP)... 192.168.1.150 (Pr...)

```
Connected (encrypted) to: 908e9a81-7d99-4c3f-aaf7-e78e4e282017 Before yo

Ubuntu 20.04.4 LTS ecs-docker-muballigh tty1

ecs-docker-muballigh login: root
Password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.4.0-100-generic x86_64)

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

System information as of Mon 07 Nov 2022 12:51:18 PM CST

System load:  0.19          Processes:           133
Usage of /:   2.7% of 196.61GB  Users logged in:     0
Memory usage: 3%
Swap usage:  0%

0 updates can be applied immediately.

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Welcome to Huawei Cloud Service

root@ecs-docker-muballigh:~#
```

Connected (encrypted) to: 908e9a81-7d99-4c3-aaf7-e78e4e282017 Before you exit, ensure that computer is locked.

```

Get:3 http://repo.huaweicloud.com/ubuntu focal-backports InRelease [108 kB]
Get:4 http://repo.huaweicloud.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://repo.huaweicloud.com/ubuntu focal-updates/main amd64 Packages [2,214 kB]
Get:6 http://repo.huaweicloud.com/ubuntu focal-updates/main i386 Packages [745 kB]
Get:7 http://repo.huaweicloud.com/ubuntu focal-updates/main Translation-en [365 kB]
Get:8 http://repo.huaweicloud.com/ubuntu focal-updates/main amd64 c-n-f Metadata [16.0 kB]
Get:9 http://repo.huaweicloud.com/ubuntu focal-updates/restricted amd64 Packages [26.6 kB]
Get:10 http://repo.huaweicloud.com/ubuntu focal-updates/restricted amd64 Packages [1,301 kB]
Get:11 http://repo.huaweicloud.com/ubuntu focal-updates/restricted Translation-en [196 kB]
Get:12 http://repo.huaweicloud.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [600 kB]
Get:13 http://repo.huaweicloud.com/ubuntu focal-updates/universe i386 Packages [697 kB]
Get:14 http://repo.huaweicloud.com/ubuntu focal-updates/universe amd64 Packages [972 kB]
Get:15 http://repo.huaweicloud.com/ubuntu focal-updates/universe Translation-en [221 kB]
Get:16 http://repo.huaweicloud.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [21.8 kB]
Get:17 http://repo.huaweicloud.com/ubuntu focal-updates/multiverse i386 Packages [9,820 kB]
Get:18 http://repo.huaweicloud.com/ubuntu focal-updates/multiverse amd64 Packages [29.9 kB]
Get:19 http://repo.huaweicloud.com/ubuntu focal-updates/multiverse Translation-en [7,940 kB]
Get:20 http://repo.huaweicloud.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [664 kB]
Get:21 http://repo.huaweicloud.com/ubuntu focal-backports/main amd64 Packages [45.7 kB]
Get:22 http://repo.huaweicloud.com/ubuntu focal-backports/main i386 Packages [36.1 kB]
Get:23 http://repo.huaweicloud.com/ubuntu focal-backports/main Translation-en [16.3 kB]
Get:24 http://repo.huaweicloud.com/ubuntu focal-backports/main amd64 c-n-f Metadata [1,420 kB]
Get:25 http://repo.huaweicloud.com/ubuntu focal-backports/universe i386 Packages [13.5 kB]
Get:26 http://repo.huaweicloud.com/ubuntu focal-backports/universe amd64 Packages [24.0 kB]
Get:27 http://repo.huaweicloud.com/ubuntu focal-backports/universe Translation-en [16.0 kB]
Get:28 http://repo.huaweicloud.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [864 kB]
Get:29 http://repo.huaweicloud.com/ubuntu focal-security/main amd64 Packages [11,821 kB]
Get:30 http://repo.huaweicloud.com/ubuntu focal-security/main i386 Packages [514 kB]
Get:31 http://repo.huaweicloud.com/ubuntu focal-security/main Translation-en [1901 kB]
Get:32 http://repo.huaweicloud.com/ubuntu focal-security/main amd64 c-n-f Metadata [11.2 kB]
Get:33 http://repo.huaweicloud.com/ubuntu focal-security/restricted i386 Packages [25.3 kB]
Get:34 http://repo.huaweicloud.com/ubuntu focal-security/restricted amd64 Packages [1,289 kB]
Get:35 http://repo.huaweicloud.com/ubuntu focal-security/restricted Translation-en [183 kB]
Get:36 http://repo.huaweicloud.com/ubuntu focal-security/restricted amd64 c-n-f Metadata [596 kB]
Get:37 http://repo.huaweicloud.com/ubuntu focal-security/universe i386 Packages [566 kB]
Get:38 http://repo.huaweicloud.com/ubuntu focal-security/universe amd64 Packages [743 kB]
Get:39 http://repo.huaweicloud.com/ubuntu focal-security/universe Translation-en [137 kB]
Get:40 http://repo.huaweicloud.com/ubuntu focal-security/universe amd64 c-n-f Metadata [15.3 kB]
Get:41 http://repo.huaweicloud.com/ubuntu focal-security/multiverse amd64 Packages [22.2 kB]
Get:42 http://repo.huaweicloud.com/ubuntu focal-security/multiverse i386 Packages [7,192 kB]
Get:43 http://repo.huaweicloud.com/ubuntu focal-security/multiverse Translation-en [5,376 kB]
Get:44 http://repo.huaweicloud.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [508 kB]
Fetched 13.1 MB in 2s (5,882 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
185 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ecs-docker-muballigh:~#

```

Local Cursor Send CtrlAltDel Input Commands X

### Copy Commands

Copy and paste content into the text box. Up to 2000 characters are allowed. Non-standard keyboard characters are not supported.

```

sudo apt-get update
sudo apt-get install \
    ca-certificates \
    curl \
    gnupg \
    lsb-release

```

1897/2000

```

Unpacking gpgv-utils (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../04-gpg-agent_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpg-agent (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../05-gpg_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpg (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../06-gpgconf_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgconf (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../07-gnupg_110n_2.2.19-3ubuntu2.2_all.deb ...
Unpacking gnupg_110n (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../08-gnupg_2.2.19-3ubuntu2.2_all.deb ...
Unpacking gnupg (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../09-gpgsm_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgsm (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../10-gpgv_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgv (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Setting up gpgv (2.2.19-3ubuntu2.2) ...
(Reading database ... 116039 files and directories currently installed.)
Preparing to unpack .../ca-certificates_20211016-20.04.1_all.deb ...
Unpacking ca-certificates (20211016-20.04.1) over (20210119-20.04.2) ...
Preparing to unpack .../curl_7.68.0-1ubuntu2.14_amd64.deb ...
Unpacking curl (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Preparing to unpack .../libcurl4_amd64 (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Unpacking libcurl4_amd64 (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Setting up ca-certificates (20211016-20.04.1) ...
Updating certificates in /etc/ssl/certs...
rehash: warning: skipping ca-certificates.crt, it does not contain exactly one certificate or CRL
7 added, 0 removed; done.
Setting up gnupg_110n (2.2.19-3ubuntu2.2) ...
Setting up gpgconf (2.2.19-3ubuntu2.2) ...
Setting up libcurl4_amd64 (7.68.0-1ubuntu2.14) ...
Setting up curl (7.68.0-1ubuntu2.14) ...
Setting up gpg (2.2.19-3ubuntu2.2) ...
Setting up gnupg-utils (2.2.19-3ubuntu2.2) ...
Setting up gpg-agent (2.2.19-3ubuntu2.2) ...
Setting up gpgsm (2.2.19-3ubuntu2.2) ...
Setting up dirmngr (2.2.19-3ubuntu2.2) ...
Setting up gpg-wks-server (2.2.19-3ubuntu2.2) ...
Setting up gpg-wks-client (2.2.19-3ubuntu2.2) ...
Setting up gnupg (2.2.19-3ubuntu2.2)
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
Processing triggers for ca-certificates (20211016-20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@ecs-docker-muballigh:~#

```

Copy Commands X

Copy and paste content into the text box. Up to 2000 characters are allowed. Non-standard keyboard characters are not supported.

```

sudo mkdir -p /etc/apt/keyrings

```

1969/2000

```

Preparing to unpack .../04-gpg-agent_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpg-agent (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../05-gpg_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpg (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../06-gpgconf_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgconf (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../07-gnupg_110n_2.2.19-3ubuntu2.2_all.deb ...
Unpacking gnupg-110n (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../08-gnupg_2.2.19-3ubuntu2.2_all.deb ...
Unpacking gnupg (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../09-gpgsm_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgsm (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../10-gpgv_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgv (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Setting up gpgv (2.2.19-3ubuntu2.2) ...
(Reading database ... 116639 files and directories currently installed.)
Preparing to unpack .../ca-certificates_20210116~20.04.1_all.deb ...
Unpacking ca-certificates (20210116~20.04.1) over (20210119~20.04.2) ...
Preparing to unpack .../curl_7.68.0-1ubuntu2.14_amd64.deb ...
Unpacking curl (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Preparing to unpack .../libcurl4-amd64_7.68.0-1ubuntu2.14_amd64.deb ...
Unpacking libcurl4-amd64 (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Setting up ca-certificates (20210116~20.04.1) ...
Updating certificates in /etc/ssl/certs...
refresh: warning: skipping ca-certificates.crt, it does not contain exactly one certificate or CRL
0 added, 8 removed; done.
Setting up gpgme_110n_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpgconf_2.2.19-3ubuntu2.2_all.deb ...
Setting up libcurl4-amd64_7.68.0-1ubuntu2.14_all.deb ...
Setting up curl_7.68.0-1ubuntu2.14_all.deb ...
Setting up gpgv_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpgsm_2.2.19-3ubuntu2.2_all.deb ...
Setting up dirmngr_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpg-wks-server_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpg-wks-client_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpg_2.2.19-3ubuntu2.2_all.deb ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
Processing triggers for ca-certificates (20210116~20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@ecs-docker-muballigh:~# sudo mkdir -p /etc/apt/keyrings
root@ecs-docker-muballigh:~#

```

### Copy Commands

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```

curl -fsSL
https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o
/etc/apt/keyrings/docker.gpg

```

3

1892/2000

```

Preparing to unpack .../05-gpg_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpg (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../06-gpgconf_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgconf (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../07-gnupg_110n_2.2.19-3ubuntu2.2_all.deb ...
Unpacking gnupg-110n (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../08-gnupg_2.2.19-3ubuntu2.2_all.deb ...
Unpacking gnupg (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../09-gpgsm_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgsm (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Preparing to unpack .../10-gpgv_2.2.19-3ubuntu2.2_amd64.deb ...
Unpacking gpgv (2.2.19-3ubuntu2.2) over (2.2.19-3ubuntu2.1) ...
Setting up gpgv (2.2.19-3ubuntu2.2) ...
(Reading database ... 116639 files and directories currently installed.)
Preparing to unpack .../ca-certificates_20210116~20.04.1_all.deb ...
Unpacking ca-certificates (20210116~20.04.1) over (20210119~20.04.2) ...
Preparing to unpack .../curl_7.68.0-1ubuntu2.14_amd64.deb ...
Unpacking curl (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Preparing to unpack .../libcurl4-amd64_7.68.0-1ubuntu2.14_amd64.deb ...
Unpacking libcurl4-amd64 (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Setting up ca-certificates (20210116~20.04.1) ...
Updating certificates in /etc/ssl/certs...
refresh: warning: skipping ca-certificates.crt, it does not contain exactly one certificate or CRL
0 added, 8 removed; done.
Setting up gpgme_110n_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpgconf_2.2.19-3ubuntu2.2_all.deb ...
Setting up libcurl4-amd64_7.68.0-1ubuntu2.14_all.deb ...
Setting up curl_7.68.0-1ubuntu2.14_all.deb ...
Setting up gpgv_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpgsm_2.2.19-3ubuntu2.2_all.deb ...
Setting up dirmngr_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpg-wks-server_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpg-wks-client_2.2.19-3ubuntu2.2_all.deb ...
Setting up gpg_2.2.19-3ubuntu2.2_all.deb ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
Processing triggers for ca-certificates (20210116~20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@ecs-docker-muballigh:~# sudo mkdir -p /etc/apt/keyrings
root@ecs-docker-muballigh:~# curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg
root@ecs-docker-muballigh:~#

```

### Copy Commands

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```

echo \
  "deb [arch=$(dpkg --print-
architecture) signed-
by=/etc/apt/keyrings/docker.gpg]
https://download.docker.com/linux/ubuntu \
  $(lsb_release -cs) stable" | sudo
tee
/etc/apt/sources.list.d/docker.list
> /dev/null

```

2

1781/2000

```

Unpacking ca-certificates (20210116~20.04.1) over (20210119~20.04.2) ...
Preparing to unpack .../curl_7.68.0-1ubuntu2.14_amd64.deb ...
Unpacking curl (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Preparing to unpack .../libcurl4-amd64_7.68.0-1ubuntu2.14_amd64.deb ...
Unpacking libcurl4-amd64 (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.7) ...
Setting up ca-certificates (20210116~20.04.1) ...
Updating certificates in /etc/ssl/certs...
rehash: warning: skipping ca-certificates.crt, it does not contain exactly one certificate or CRL
7 added, 8 removed; done.
Setting up gnupg-110n (2.2.19-3ubuntu2.2) ...
Setting up gpgconf (2.2.19-3ubuntu2.2) ...
Setting up libcurl4-amd64 (7.68.0-1ubuntu2.14) ...
Setting up curl (7.68.0-1ubuntu2.14) ...
Setting up gpg (2.2.19-3ubuntu2.2) ...
Setting up gnupg-utils (2.2.19-3ubuntu2.2) ...
Setting up gpg-agent (2.2.19-3ubuntu2.2) ...
Setting up gpgsm (2.2.19-3ubuntu2.2) ...
Setting up dirmngr (2.2.19-3ubuntu2.2) ...
Setting up gpg-wks-server (2.2.19-3ubuntu2.2) ...
Setting up gpg-wks-client (2.2.19-3ubuntu2.2) ...
Setting up gnupg (2.2.19-3ubuntu2.2) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
Processing triggers for ca-certificates (20210116~20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@ecs-docker-muballigh:~# sudo mkdir -p /etc/apt/keyrings
root@ecs-docker-muballigh:~# curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg
root@ecs-docker-muballigh:~# echo \
> "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \
> $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
root@ecs-docker-muballigh:~# apt update
Get:1 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:2 http://repo.huaweicloud.com/ubuntu focal InRelease
Hit:3 http://repo.huaweicloud.com/ubuntu focal-updates InRelease
Get:4 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [20.8 kB]
Hit:5 http://repo.huaweicloud.com/ubuntu focal-backports InRelease
Hit:6 http://repo.huaweicloud.com/ubuntu focal-security InRelease
Fetched 78.5 kB in 0s (164 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
171 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ecs-docker-muballigh:~# _
```

#### Copy Commands

Copy and paste content into the text box. Up to 2000 characters are allowed. Non-standard keyboard characters are not supported.

```
sudo chmod a+r
/etc/apt/keyrings/docker.gpg
```

1957/2000

```

7 added, 8 removed; done.
Setting up gnupg-110n (2.2.19-3ubuntu2.2) ...
Setting up gpgconf (2.2.19-3ubuntu2.2) ...
Setting up libcurl4-amd64 (7.68.0-1ubuntu2.14) ...
Setting up curl (7.68.0-1ubuntu2.14) ...
Setting up gpg (2.2.19-3ubuntu2.2) ...
Setting up gnupg-utils (2.2.19-3ubuntu2.2) ...
Setting up gpg-agent (2.2.19-3ubuntu2.2) ...
Setting up gpgsm (2.2.19-3ubuntu2.2) ...
Setting up dirmngr (2.2.19-3ubuntu2.2) ...
Setting up gpg-wks-server (2.2.19-3ubuntu2.2) ...
Setting up gpg-wks-client (2.2.19-3ubuntu2.2) ...
Setting up gnupg (2.2.19-3ubuntu2.2) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
Processing triggers for ca-certificates (20210116~20.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
root@ecs-docker-muballigh:~# sudo mkdir -p /etc/apt/keyrings
root@ecs-docker-muballigh:~# curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/
root@ecs-docker-muballigh:~# echo \
> "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \
> $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
root@ecs-docker-muballigh:~# apt update
Get:1 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:2 http://repo.huaweicloud.com/ubuntu focal InRelease
Hit:3 http://repo.huaweicloud.com/ubuntu focal-updates InRelease
Get:4 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [20.8 kB]
Hit:5 http://repo.huaweicloud.com/ubuntu focal-backports InRelease
Hit:6 http://repo.huaweicloud.com/ubuntu focal-security InRelease
Fetched 78.5 kB in 0s (164 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
171 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ecs-docker-muballigh:~# sudo chmod a+r
/etc/apt/keyrings/docker.gpg
root@ecs-docker-muballigh:~# sudo apt-get update
Hit:1 http://repo.huaweicloud.com/ubuntu focal InRelease
Hit:2 http://repo.huaweicloud.com/ubuntu focal-updates InRelease
Hit:3 http://repo.huaweicloud.com/ubuntu focal-backports InRelease
Hit:4 https://download.docker.com/linux/ubuntu focal InRelease
Hit:5 http://repo.huaweicloud.com/ubuntu focal-security InRelease
Reading package lists... Done
root@ecs-docker-muballigh:~#
```

#### Copy Commands

Copy and paste content into the text box. Up to 2000 characters are allowed. Non-standard keyboard characters are not supported.

```
sudo apt-get install docker-ce
docker-ce-cli containerd.io docker-compose-plugin
```

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```

Get:2 http://repo.huaweicloud.com/ubuntu focal/universe amd64 slirp4netns amd64 0.4.3-1 [74.3 kB]
Get:3 https://download.docker.com/linux/ubuntu focal/stable amd64 containerd.io amd64 1.6.9-1 [27.7 MB]
Get:4 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce-cli amd64 5:20.10.21~3-0~ubuntu-focal
Get:5 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce amd64 5:20.10.21~3-0~ubuntu-focal [20
Get:6 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce-rootless-extras amd64 5:20.10.21~3-0~0
,394 kB]
Get:7 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-compose-plugin amd64 2.12.2~ubuntu-focal
Get:8 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-scan-plugin amd64 0.21.0~ubuntu-focal [3,
Fetched 111 MB in 1s (85.6 MB/s)
Selecting previously unselected package pigz.
(Reading database ... 116638 files and directories currently installed.)
Preparing to unpack .../0-pigz_2.4-1_amd64.deb ...
Unpacking pigz (2.4-1) ...
Selecting previously unselected package containerd.io.
Preparing to unpack .../1-containerd.io_1.6.9-1_amd64.deb ...
Unpacking containerd.io (1.6.9-1) ...
Selecting previously unselected package docker-ce-cli.
Preparing to unpack .../2-docker-ce-cli_5~3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce-cli (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-ce.
Preparing to unpack .../3-docker-ce_5~3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-ce-rootless-extras.
Preparing to unpack .../4-docker-ce-rootless-extras_5~3a20.10.21~3-0~ubuntu-focal_amd64.deb ...
Unpacking docker-ce-rootless-extras (5:20.10.21~3-0~ubuntu-focal) ...
Selecting previously unselected package docker-compose-plugin.
Preparing to unpack .../5-docker-compose-plugin_2.12.2~ubuntu-focal_amd64.deb ...
Unpacking docker-compose-plugin (2.12.2~ubuntu-focal) ...
Selecting previously unselected package docker-scan-plugin.
Preparing to unpack .../6-docker-scan-plugin_0.21.0~ubuntu-focal_amd64.deb ...
Unpacking docker-scan-plugin (0.21.0~ubuntu-focal) ...
Selecting previously unselected package slirp4netns.
Preparing to unpack .../7-slirp4netns_0.4.3-1_amd64.deb ...
Unpacking slirp4netns (0.4.3-1) ...
Setting up slirp4netns (0.4.3-1) ...
Setting up docker-scan-plugin (0.21.0~ubuntu-focal) ...
Setting up containerd.io (1.6.9-1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/containerd.service → /lib/systemd/system/containerd.service.
Setting up docker-compose-plugin (2.12.2~ubuntu-focal) ...
Setting up docker-ce-cli (5:20.10.21~3-0~ubuntu-focal) ...
Setting up pigz (2.4-1) ...
Setting up docker-ce-rootless-extras (5:20.10.21~3-0~ubuntu-focal) ...
Setting up docker-ce (5:20.10.21~3-0~ubuntu-focal) ...
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/docker.service.
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system/docker.socket.
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for systemd (245.4-4ubuntu3.15) ...
root@ecs-docker-muballigh:~# 

```

#### Copy Commands

Copy and paste content into the text box. Up to 2000 characters are allowed. Non-standard keyboard characters are not supported.

`sudo docker run hello-world`



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## 2. Show outputs of basic Docker commands

```

root@ecs-docker-muballigh:~# sudo docker run hello-world
Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

root@ecs-docker-muballigh:~# docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
e96e057aae67: Pull complete
Digest: sha256:4b1d0c4a2d2aaaf63b3711f34eb9fa89fa1bf53dd6e4ca954d47caebca4005c2
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
root@ecs-docker-muballigh:~# 

```

```

root@ecs-docker-muballigh:~# docker search busybox
NAME                                            DESCRIPTION                               STARS      OFFICIAL   AUTOMATED
radial/busyboxplus                            Full-chain, Internet enabled, busybox made f...    49
yaurytux/busybox-curl                         Busybox with CURL                                18
arm32v7/busybox                               Busybox base image.                             10
odise/busybox-curl                           Busybox base image.                             4
arm64v8/busybox                             Busybox base image.                             4
s390x/busybox                                Busybox base image.                             3
i386/busybox                                 Busybox base image.                             3
prom/busybox                                  Prometheus Busybox Docker base images           2
busybox42/zimbra-docker-centos               A Zimbra Docker image, based in ZCS 8.8.9 an...    2
joeshaw/busybox-nonroot                      Busybox container with non-root user nobody     2
p7ppc64/busybox                            Busybox base image for ppc64.                     2
vukomir/busybox                            busybox and curl.                                1
amd64/busybox                               Busybox base image.                             1
spotify/busybox                            Spotify fork of https://hub.docker.com/_bus...    1
busybox42/nginx_php-docker-centos            This is a nginx/php-fpm server running on Ce...    1
ppc64le/busybox                            Busybox base image.                             1
busybox                                     Busybox base image.                             0
ibmcom/busybox-ppc64le                      0
busybox42/alpine-pod                        0
ibmcom/busybox-amd64                        0
antrea/busybox                            0
openebs/busybox-client                      0
ibmcom/busybox                            0
rancher/busybox                            0
arm32v5/busybox                            Busybox base image.                             0
root@ecs-docker-muballigh:~# _
```

Connected (encrypted) to: 908e9a81-7d99-4c3f-aaf7-e78e4e2820

```

root@ecs-docker-muballigh:~# sudo docker images
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE
ubuntu          latest   a8780b506fa4  4 days ago   77.8MB
hello-world     latest   feb5d9fea6a5  13 months ago  13.3kB
root@ecs-docker-muballigh:~#
```

```
root@ecs-docker-muballigh:~# sudo docker info_
```

```

root@ecs-docker-muballigh:~# systemctl status docker
● docker.service - Docker Application Container Engine
  Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
  Active: active (running) since Mon 2022-11-07 13:31:02 CST; 38min ago
  TriggeredBy: • docker.socket
    Docs: https://docs.docker.com
  Main PID: 10392 (dockerd)
    Tasks: 11
   Memory: 119.1M
      CGroup: /system.slice/docker.service
              └─10392 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Nov 07 13:31:02 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:31:02.210676868+08:00" level=warning msg="Your kernel is too old, must be at least 4.18, but is 5.15.0-1039-Microsoft. Please upgrade your kernel." dockerd[10392]
Nov 07 13:31:02 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:31:02.210855654+08:00" level=info msg="Loading containerd configuration file /etc/containerd/config.toml" dockerd[10392]
Nov 07 13:31:02 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:31:02.321315914+08:00" level=info msg="Default bridge plugin registered" dockerd[10392]
Nov 07 13:31:02 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:31:02.384482212+08:00" level=info msg="Loading containerd modules" dockerd[10392]
Nov 07 13:31:02 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:31:02.410489500+08:00" level=info msg="Docker daemon" dockerd[10392]
Nov 07 13:31:02 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:31:02.410597898+08:00" level=info msg="Daemon has completed initialization" dockerd[10392]
Nov 07 13:31:02 ecs-docker-muballigh systemd[1]: Started Docker Application Container Engine.
Nov 07 13:31:02 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:31:02.443368501+08:00" level=info msg="API listen on /var/run/docker.sock" dockerd[10392]
Nov 07 13:32:59 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:32:59.814112928+08:00" level=info msg="ignoring event" dockerd[10392]
Nov 07 13:34:09 ecs-docker-muballigh dockerd[10392]: time="2022-11-07T13:34:09.766036162+08:00" level=info msg="ignoring event" dockerd[10392]
```

Lines 1-21/21 (END)

```
Connected (encrypted) to: 908e9a81-7d99-4c3f-aaf7-e78e4e282017 Before you exit,ensure that computer is locked.  
root@ecs-docker-muballigh:~# sudo docker run -it ubuntu  
root@91d1647d63c2:/# ls  
bin boot dev etc home lib lib32 lib64 libx32 media mnt opt proc root run sbin srv sys tmp usr var  
root@91d1647d63c2:/# uname -v  
#113-Ubuntu SMP Thu Feb 3 18:43:29 UTC 2022  
root@91d1647d63c2:/# _
```

```
root@ecs-docker-muballigh:~# docker pull alpine  
Using default tag: latest  
latest: Pulling from library/alpine  
213ec9aee27d: Pull complete  
Digest: sha256:65a2763f593ae85fab3b5406dc9e80f744ec5b449f269b699b5efd37a07ad32e  
Status: Downloaded newer image for alpine:latest  
docker.io/library/alpine:latest  
root@ecs-docker-muballigh:~# _
```

```
root@ecs-docker-muballigh:~# docker pull alpine  
Using default tag: latest  
latest: Pulling from library/alpine  
213ec9aee27d: Pull complete  
Digest: sha256:65a2763f593ae85fab3b5406dc9e80f744ec5b449f269b699b5efd37a07ad32e  
Status: Downloaded newer image for alpine:latest  
docker.io/library/alpine:latest  
root@ecs-docker-muballigh:~# sudo docker images  
REPOSITORY TAG IMAGE ID CREATED SIZE  
ubuntu latest a8780b506fa4 8 days ago 77.8MB  
alpine latest 9c6f07244728 3 months ago 5.54MB  
hello-world latest feb5d9fea6a5 13 months ago 13.3kB  
root@ecs-docker-muballigh:~# _
```

```
root@ecs-docker-muballigh:~# docker rmi /alpine  
Untagged: alpine:latest  
Untagged: alpine@sha256:65a2763f593ae85fab3b5406dc9e80f744ec5b449f269b699b5efd37a07ad32e  
Deleted: sha256:9c6f0724472873b50a2ae67a9e7adcb57673a183cea8b06eb778dca859181b5  
Deleted: sha256:994393dc58e7931862558d06e46aa2bb17487044f670f310dfffe1d24e4d1eec7  
root@ecs-docker-muballigh:~# docker images  
REPOSITORY TAG IMAGE ID CREATED SIZE  
ubuntu latest a8780b506fa4 8 days ago 77.8MB  
hello-world latest feb5d9fea6a5 13 months ago 13.3kB  
root@ecs-docker-muballigh:~# _
```

```
root@ecs-docker-muballigh:~# lsb_release -a  
No LSB modules are available.  
Distributor ID: Ubuntu  
Description:    Ubuntu 20.04.4 LTS  
Release:        20.04  
Codename:       focal  
root@ecs-docker-muballigh:~# apt list --installed | grep docker  
  
WARNING: apt does not have a stable CLI interface. Use with caution in scripts.  
  
docker-ce-cli/focal,now 5:20.10.21~3-0~ubuntu-focal amd64 [installed]  
docker-ce-rootless-extras/focal,now 5:20.10.21~3-0~ubuntu-focal amd64 [installed,automatic]  
docker-ce/focal,now 5:20.10.21~3-0~ubuntu-focal amd64 [installed]  
docker-compose-plugin/focal,now 2.12.2~ubuntu-focal amd64 [installed]  
docker-scan-plugin/focal,now 0.21.0~ubuntu-focal amd64 [installed,automatic]  
root@ecs-docker-muballigh:~# _
```

### 3. Create a Docker image using Dockerfile.

```
root@ecs-docker-muballigh:~# mkdir dockerfiles  
root@ecs-docker-muballigh:~# vim dockerfiles/dockerfile
```

```
GNU nano 4.8                                            dockerfile  
# Getting image from docker hub  
FROM httpd  
  
RUN apt-get update  
  
CMD ["echo", "Apache web server image"]
```

```
root@ecs-docker-muballigh:~/dockerfiles# cat dockerfile  
# Getting image from docker hub  
FROM httpd  
  
RUN apt-get update  
  
CMD ["echo", "Apache web server image"]  
  
root@ecs-docker-muballigh:~/dockerfiles#
```

```
root@ecs-docker-muballigh:~# docker build dockerfiles/  
Sending build context to Docker daemon 2.048kB  
Step 1/3 : FROM httpd  
latest: Pulling from library/httpd  
e9995326b091: Already exists  
ee55ccd48c0f: Pull complete  
bc66bea7efe: Pull complete  
5d0f831d3c0b: Pull complete  
e559e5380898: Pull complete  
Digest: sha256:5fa96551b61359de5dfb7fd8c9e97e4153232eb520a8e883e2f47fc80dbfc33e  
Status: Downloaded newer image for httpd:latest  
--> fe8735c23ec5  
Step 2/3 : RUN apt-get update  
--> Running in d189e5638093  
Get:1 http://deb.debian.org/debian bullseye InRelease [116 kB]  
Get:2 http://deb.debian.org/debian-security bullseye-security InRelease [48.4 kB]  
Get:3 http://deb.debian.org/debian bullseye-updates InRelease [44.1 kB]  
Get:4 http://deb.debian.org/debian bullseye/main amd64 Packages [8184 kB]  
Get:5 http://deb.debian.org/debian-security/bullseye-security/main amd64 Packages [194 kB]  
Get:6 http://deb.debian.org/debian bullseye-updates/main amd64 Packages [14.6 kB]  
Fetched 8600 kB in 7s (1164 kB/s)  
Reading package lists...  
Removing intermediate container d189e5638093  
--> 32ee3dabe157  
Step 3/3 : CMD ["echo", "Apache web server image"]  
--> Running in 422b75d44ff4  
Removing intermediate container 422b75d44ff4  
--> f6b9880e1b96  
Successfully built f6b9880e1b96  
root@ecs-docker-muballigh:~#
```

```
root@ecs-docker-muballigh:~# docker images
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE
<none>          <none>   f6b9880e1b96  About a minute ago  163MB
ubuntu          latest   a8780b506fa4  8 days ago   77.8MB
nginx           latest   76c69feac34e  2 weeks ago  142MB
httpd            latest   fe8735c23ec5  2 weeks ago  145MB
hello-world     latest   feb5d9fea6a5  13 months ago 13.3kB
root@ecs-docker-muballigh:~#
```

```
root@ecs-docker-muballigh:~# docker run f6b9880e1b96
Apache web server image
root@ecs-docker-muballigh:~#
```

#### 4. Run a container as a single task, show outputs, show status of the all containers

```
root@ecs-docker-muballigh:~# docker pull centos
Using default tag: latest
latest: Pulling from library/centos
a1d0c7532777: Pull complete
Digest: sha256:a27fd8080b517143cbbb9dfb7c8571c40d67d534bbdee55bd6c473f432b177
Status: Downloaded newer image for centos:latest
docker.io/library/centos:latest
```

```
root@ecs-docker-muballigh:~# docker run -d -t --name MubaContainer centos
c9fff9800e9a966defba0d2c190eecffc0dc8c7bcb137da24eb848035b0dd456
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
c9fff9800e9a	centos	"/bin/bash"	8 seconds ago	Up 7 seconds		MubaContainer

#### 5. Run a container in iterative mode and install different packages in the container. Show each step.

```
root@ecs-docker-muballigh:~# docker exec -it MubaContainer bash
[root@c9fff9800e9a /]# ls
bin dev etc home lib lib64 lost+found media mnt opt proc root run sbin srv sys tmp usr var
[root@c9fff9800e9a /]#
```

```
[root@c9fff9800e9a /]# yum update
Failed to set locale, defaulting to C.UTF-8
CentOS Linux 8 - AppStream
Error: Failed to download metadata for repo 'appstream': Cannot prepare internal mirrorlist: No URLs in mirrorlist
[root@c9fff9800e9a /]# yum install net-tools
Failed to set locale, defaulting to C.UTF-8
CentOS Linux 8 - AppStream
Error: Failed to download metadata for repo 'appstream': Cannot prepare internal mirrorlist: No URLs in mirrorlist
```

```
[root@c9fff9800e9a /]# cd /etc/yum.repos.d/
[root@c9fff9800e9a yum.repos.d]# sed -i 's/mirrorlist/#mirrorlist/g' /etc/yum.repos.d/CentOS-
[root@c9fff9800e9a yum.repos.d]# sed -i 's|#baseurl=http://mirror.centos.org|baseurl=http://vault.centos.org|g' /etc/yum.repos.d/CentOS-*
```

```
[root@c9fff9800e9a yum.repos.d]# yum update -
Failed to set locale, defaulting to C.UTF-8
CentOS Linux 8 - AppStream
CentOS Linux 8 - BaseOS
CentOS Linux 8 - Extras
Dependencies resolved.
=====
Package           Architecture      Version       Repository   Size
Upgrading:
bash              x86_64          4.4.20-2.el8    baseos      1.5 M
bind-export-libs x86_64          32:9.11.26-6.el8  baseos      1.1 M
binutils          x86_64          2.30-108.el8_5.1  baseos      5.8 M
ca-certificates   noarch         2021.2.50-80.0.el8_4  baseos      390 k
centos-gpg-keys  noarch         1:8-3.el8        baseos      12 k
centos-linux-release noarch        8.5-1.2111.el8    baseos      22 k
centos-linux-repos noarch        8-3.el8         baseos      20 k
chkconfig         x86_64          1.19.1-1.el8      baseos      198 k
coreutils-single x86_64          8.30-12.el8      baseos      629 k
crypto-policies  noarch         20210617-1.gitc776d3e.el8  baseos      63 k
curl              x86_64          7.61.1-22.el8     baseos      351 k
dbus              x86_64          1:1.12.8-14.el8    baseos      41 k
dbus-common       noarch         1:1.12.8-14.el8    baseos      46 k
dbus-daemon       x86_64          1:1.12.8-14.el8    baseos      240 k
dbus-libs         x86_64          1:1.12.8-14.el8    baseos      184 k
dbus-tools        x86_64          1:1.12.8-14.el8    baseos      85 k
device-mapper     x86_64          8:1.02.177-10.el8  baseos      377 k
device-mapper-libs x86_64          8:1.02.177-10.el8  baseos      409 k
dhclient          x86_64          12:4.3.6-45.el8    baseos      318 k
dhclient-common   noarch         12:4.3.6-45.el8    baseos      207 k
dhclient-libs     x86_64          12:4.3.6-45.el8    baseos      148 k
dnf               noarch         4.7.0-4.el8       baseos      544 k
=====
[root@c9fff9800e9a ~]# yum install net-tools
Last metadata expiration check: 0:03:49 ago on Tue 15 Nov 2022 04:41:17 AM UTC.
Dependencies resolved.
=====
Package           Architecture      Version       Repository   Size
Installing:
net-tools          x86_64          2.0-0.52.20160912git.el8
                                                               baseos      322 k
Transaction Summary
Install 1 Package
Total download size: 322 k
Installed size: 942 k
Is this ok [y/N]: y
Downloading Packages:
net-tools-2.0-0.52.20160912git.el8.x86_64.rpm
                                                               5.9 MB/s | 322 kB  00:00
Total
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing : 1/1
Installing : net-tools-2.0-0.52.20160912git.el8.x86_64 1/1
Running scriptlet: net-tools-2.0-0.52.20160912git.el8.x86_64
Verifying  : net-tools-2.0-0.52.20160912git.el8.x86_64 1/1
Installed:
net-tools-2.0-0.52.20160912git.el8.x86_64
Complete!
=====
[root@c9fff9800e9a ~]# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
      inet 172.17.0.2  netmask 255.255.0.0 broadcast 172.17.255.255
        ether 02:42:ac:11:00:02  txqueuelen 0  (Ethernet)
          RX packets 7314  bytes 95660691 (91.2 MiB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 3739  bytes 318668 (311.1 KiB)
          TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
      inet 127.0.0.1  netmask 255.0.0.0
        loop  txqueuelen 1000  (Local Loopback)
          RX packets 0  bytes 0 (0.0 B)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 0  bytes 0 (0.0 B)
          TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0
```

**6. Run a database container in the background. Then show logs of the running container. After, access the container in interactive mode. show some sql queries inside the container.**

```
root@ecs-docker-muballigh:~# sudo docker pull mysql/mysql-server:latest
latest: Pulling from mysql/mysql-server
134439bbc243: Pull complete
24197d57c06a: Pull complete
a8ff14042390: Pull complete
209d472e303b: Pull complete
4158d94acc40: Pull complete
807107bf7d7a: Pull complete
5f5d5a703fe0: Pull complete
Digest: sha256:1b2005199e9dc12d88d5950cd738dfd12172b1224675294646ea9d6031c78408
Status: Downloaded newer image for mysql/mysql-server:latest
docker.io/mysql/mysql-server:latest
```

```
root@ecs-docker-muballigh:~# docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
<none>              <none>   f6b9880e1b96  3 days ago    163MB
ubuntu               latest   a8780b506fa4  12 days ago   77.8MB
nginx                latest   76c69feac34e  2 weeks ago   142MB
httpd                latest   fe8735c23ec5  3 weeks ago   145MB
mysql/mysql-server   latest   3f3946d5572f  4 weeks ago   517MB
hello-world          latest   feb5d9fea6a5  13 months ago  13.3kB
centos               latest   5d0da3dc9764  14 months ago  231MB
```

```
root@ecs-docker-muballigh:~# docker run --name muba-mysql -p 3306:3306 -e MYSQL_ROOT_PASSWORD=test123 -d mysql/mysql-server:latest
61945ec2cde6efe41bc82eea3d78e3327888f29f497e11394076bb2855c9ba33
root@ecs-docker-muballigh:~#
```

```
root@ecs-docker-muballigh:~# docker ps
CONTAINER ID   IMAGE           COMMAND       CREATED        STATUS          PORTS          NAMES
61945ec2cde6   mysql/mysql-server:latest "entrypoint.sh mysql"   8 minutes ago   Up 8 minutes (healthy)   0.0.0.0:3306->3306/tcp, :::3306->3306/tcp, 33060-33061/tcp   muba-mys
ql
-9fff9800e9a   centos         "/bin/bash"    2 hours ago    Up 2 hours
ainer
root@ecs-docker-muballigh:~#
```

```
root@ecs-docker-muballigh:~# docker exec -it muba-mysql bash
bash-4.4#
```

```
root@ecs-docker-muballigh:~# docker exec muba-mysql mysql --version
mysql Ver 8.0.31 for Linux on x86_64 (MySQL Community Server - GPL)
root@ecs-docker-muballigh:~#
```

```
root@ecs-docker-muballigh:~# docker exec -it muba-mysql mysql -uroot -ptest123 -e 'show databases;'
mysql: [Warning] Using a password on the command line interface can be insecure.
+-----+
| Database      |
+-----+
| information_schema |
| mysql          |
| performance_schema |
| sys            |
+-----+
```

```

root@ecs-docker-muballigh:~# docker exec -it muba-mysql mysql -uroot -ptest123
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 82
Server version: 8.0.31 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 

```

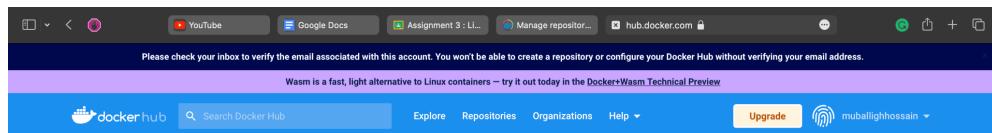
```

mysql> CREATE DATABASE mubatest;
Query OK, 1 row affected (0.01 sec)

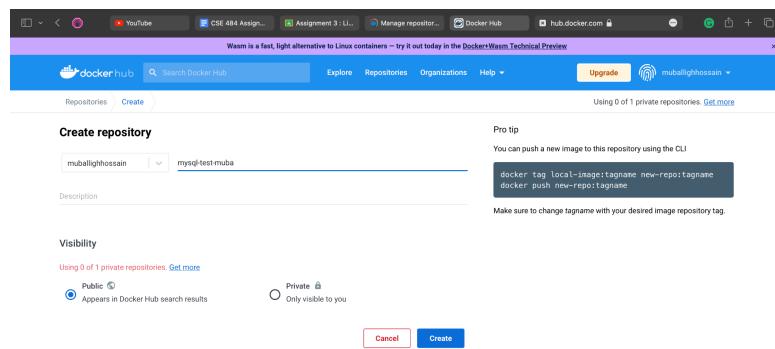
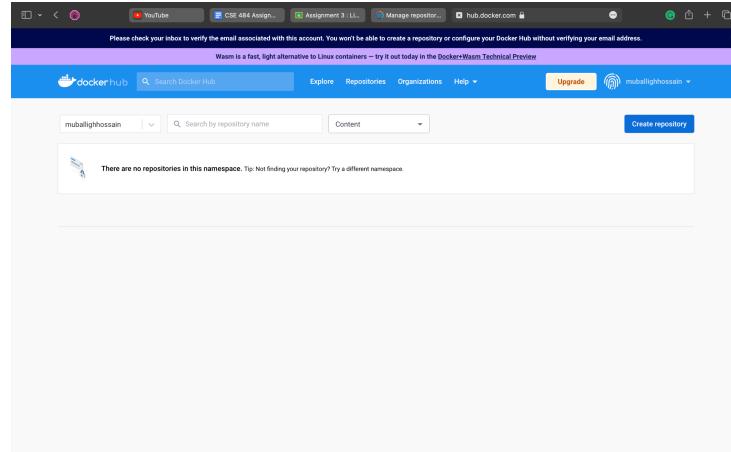
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mubatest          |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

```

## 7. Push your own image into Docker public registry/Hub.



Access the world's largest library of container images



```

root@ecs-docker-muballigh:~#
centos      latest    5d0da3dc9764  14 months ago  231MB
root@ecs-docker-muballigh:~# client_loop: send disconnect: Broken pipe
> ssh root@19.8.167.105
root@19.8.167.105's password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.4.0-100-generic x86_64)

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

System information as of Wed Nov 16 12:41:36 PM CST

System load: 0.0          Processes:           134
Usage of /:  3.8% of 196.61GB  Users logged in:  1
Memory usage: 4%           IPv4 address for docker0: 172.17.0.1
Swap usage:  0%           IPv4 address for eth0:  192.168.1.150

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
just raised the bar for easy, resilient and secure K8s cluster deployment.
https://ubuntu.com/engage/secure-kubernetes-at-the-edge

177 updates can be applied immediately.
120 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

New release '22.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Welcome to Huawei Cloud Service

Last login: Wed Nov 16 12:10:44 2022 from 119.8.179.23
root@ecs-docker-muballigh:~# 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: muballighossain
Password:
Error response from daemon: Get "https://registry-1.docker.io/v2/": unauthorized: incorrect username or password
root@ecs-docker-muballigh:~# 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: muballighossain
Password:
WARNING! Your password will be stored unencrypted in /root/.dockercfg.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
root@ecs-docker-muballigh:~# 

```

```

root@ecs-docker-muballigh:~# docker login
Authenticating with existing credentials...
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@ecs-docker-muballigh:~# docker images
REPOSITORY          TAG        IMAGE ID      CREATED       SIZE
<none>            <none>     f6b9880e1b96  4 days ago   163MB
ubuntu              latest     a8780b506fa4  13 days ago  77.8MB
nginx               latest     76c69feac34e  3 weeks ago  142MB
httpd               latest     fe8735c23ec5  3 weeks ago  145MB
mysql/mysql-server latest     3f3946d5572f  5 weeks ago  517MB
hello-world         latest     febd59fea6a5  13 months ago 13.3kB
centos              latest     5d0da3dc9764  14 months ago 231MB
root@ecs-docker-muballigh:~# docker tag 3f3946d5572f muballighhossain/mysql-test-muba:firsttry
root@ecs-docker-muballigh:~# docker push muballighhossain/mysql-test-muba:firsttry
The push refers to repository [docker.io/muballighhossain/mysql-test-muba]
7f77c06acd1e: Mounted from mysql/mysql-server
b324ecc1b6ab: Mounted from mysql/mysql-server
50055407cc6: Mounted from mysql/mysql-server
7e53733d3c3b: Mounted from mysql/mysql-server
c27c7dfeb3de: Mounted from mysql/mysql-server
988735459f57: Mounted from mysql/mysql-server
553b196ea5e8: Mounted from mysql/mysql-server
firsttry: digest: sha256:32e7f21fe78daa57e3e11ec0785aa3f5ca2d135e8af06a18b909d00c98dc388d size: 1782
root@ecs-docker-muballigh:~#

```

The screenshot shows the Docker Hub interface for the repository 'muballighhossain/mysql-test-muba'. The repository has no description. It contains one tag, 'firsttry', which was pushed a minute ago. The Docker commands section shows the command to push a new tag: 'docker push muballighhossain/mysql-test-muba:tagname'. The automated builds section is available with Pro, Team and Business subscriptions.

The screenshot shows the Docker Hub image details for 'muballighhossain/mysql-test-muba:firsttry'. The image has a digest of sha256:32e7f21fe78daa57e3e11ec0785aa3f5ca2d135e8af06a18b909d00c98dc388d, is based on OS/ARCH linux/amd64, and has a compressed size of 164.07 MB. It was last pushed 2 minutes ago by muballighhossain. The image type is an Image. The image layers section lists several layers, with the first one being the largest at 43.16 MB. The vulnerabilities section is currently empty.

## 8. How to make your own private registry? Show steps.

```
root@ecs-docker-muballigh:/# docker run -d --name private_reg -p 5000:5000 registry:2
Unable to find image 'registry:2' locally
2: Pulling from library/registry
ca7dd9ec2225: Pull complete
c41ae7ad2b39: Pull complete
1ed0fc8a6161: Pull complete
21df229223d2: Pull complete
626897ccab21: Pull complete
Digest: sha256:ce14a6258f37702ff3cd92232a6f5b81ace542d9f1631966999e9f7c1ee6ddba
Status: Downloaded newer image for registry:2
63527c16ba82618812717712781193be8a0c94ff57dbdf57570c8600bb6c679d
root@ecs-docker-muballigh:/# █
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
63527c16ba82	registry:2	"/entrypoint.sh /etc.."	34 seconds ago	Up 33 seconds	0.0.0.0:5000->5000/tcp, :::5000->5000/tcp	private_reg
61945ec2cd6	mysql/mysql-server:latest	"/entrypoint.sh mysql.."	25 hours ago	Exited (0) 18 hours ago		muba-mysql
7809615722fa	mysql/mysql-server:latest	"/entrypoint.sh mysql.."	25 hours ago	Exited (0) 25 hours ago		MubaDataBase
c9ffff0800e9a	centos	"/bin/bash"	27 hours ago	Exited (0) 23 hours ago		MubaContainer
23de012ecb9a	ubuntu	"bash"	27 hours ago	Exited (0) 27 hours ago		hungry_shamir
d3a1ee79a88c		"echo 'Apache web se.."	4 days ago	Exited (0) 4 days ago		admiring_roentgen
91d1647d63c2	ubuntu	"bash"	9 days ago	Exited (255) 5 days ago		xenodochial_ramanujan
f7c1186d0c8d	hello-world	"/hello"	9 days ago	Exited (0) 9 days ago		bold_taussig
f6bcc06a3fd2	hello-world	"/hello"	9 days ago	Exited (0) 9 days ago		eager_chandrasekhar

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
registry	2	81c944c2288b	3 days ago	24.1MB
<none>	<none>	f6b9880e1b96	4 days ago	163MB
ubuntu	latest	a8780b506fa4	13 days ago	77.8MB
nginx	latest	76c69feac34e	3 weeks ago	142MB
httpd	latest	fe8735c23ec5	3 weeks ago	145MB
muballighhossain/mysql-test-muba	firsttry	3f3946d5572f	5 weeks ago	517MB
mysql/mysql-server	latest	3f3946d5572f	5 weeks ago	517MB
hello-world	latest	feb5d9fea6a5	13 months ago	13.3kB
centos	latest	5d0da3dc9764	14 months ago	231MB

```
root@ecs-docker-muballigh:/# docker tag mysql/mysql-server:latest localhost:5000/mysql/mysql-server:latest
root@ecs-docker-muballigh:/# █
```

```
root@ecs-docker-muballigh:/# docker push localhost:5000/mysql/mysql-server:latest
The push refers to repository [localhost:5000/mysql/mysql-server]
7f77c06acd1e: Pushed
b324ecc1b6a6: Pushed
50055407ccc6: Pushed
7e53733d3c3b: Pushed
c27c7dfeb3de: Pushed
988735459f57: Pushed
553b196ea5e8: Pushed
latest: digest: sha256:d66d87fc06cc566cfcb174fc45cf2b5c8421e807def049d84addab11849e7ad1 size: 1782
root@ecs-docker-muballigh:/# █
```

```
root@ecs-docker-muballigh:/# curl localhost:5000/v2/_catalog
{"repositories":["mysql/mysql-server"]}
root@ecs-docker-muballigh:/# █
```

**9. Create a small website or app with minimal functionality (Could be a simple HTML website that has a button which opens a static image/file) inside Docker container. Then run the application (inside the container) in the background of your HOST machine in any port. Browse the website from your host machine.**

First I will clone my repository from github in the cloud vm and then deploy it inside a docker container.

The screenshot shows a GitHub repository page for 'Modern-Landing-Page-UI'. The repository is public and has 1 branch (master) and 0 tags. The commit history shows a single commit from Jun 25, 2020, by MuballighHossain, titled 'Create README.md'. The README.md file contains the following text:

```
Highly Responsive Modern Landing Page having animated Nav-bar built using Argon Design System, Bootstrap, jQuery, Popper, JavaScript and Slick
```

```
root@ecs-docker-muballigh:/# sudo apt-get install git
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-el git-email gitk gitweb git-cvs git-mediawiki git-svn
The following packages will be upgraded:
  git
1 upgraded, 0 newly installed, 0 to remove and 170 not upgraded.
Need to get 4,529 kB of archives.
After this operation, 41.0 kB of additional disk space will be used.
Get:1 http://repo.huaweicloud.com/ubuntu focal-updates/main amd64 git amd64 1:2.25.1-1ubuntu3.6 [4,529 kB]
Fetched 4,529 kB in 0s (58.1 MB/s)
(Reading database ... 116292 files and directories currently installed.)
Preparing to unpack .../git_1%3a2.25.1-1ubuntu3.6_amd64.deb ...
Unpacking git (1:2.25.1-1ubuntu3.6) over (1:2.25.1-1ubuntu3.2) ...
Setting up git (1:2.25.1-1ubuntu3.6) ...
root@ecs-docker-muballigh:/#
```

```
root@ecs-docker-muballigh:/# git clone https://github.com/MuballighHossain/Modern-Landing-Page-UI.git
Cloning into 'Modern-Landing-Page-UI'...
remote: Enumerating objects: 60, done.
remote: Counting objects: 100% (60/60), done.
remote: Compressing objects: 100% (57/57), done.
remote: Total 60 (delta 3), reused 54 (delta 1), pack-reused 0
Unpacking objects: 100% (60/60), 2.89 MiB | 2.80 MiB/s, done.
root@ecs-docker-muballigh:/#
```

```
root@ecs-docker-muballigh:/# ls
bin  CloudResetPwdUpdateAgent  dev  home  lib32  libx32    media  Modern-Landing-Page-UI  proc  run  snap  swapfile  [mp]  var
boot  CloudResetPwdAgent      etc  lib   lib64  lost+found  mnt  opt                  root  sbin  srv  sys      usr
root@ecs-docker-muballigh:/# cp -r Modern-Landing-Page-UI /root/dockerfiles
```

```
root@ecs-docker-muballigh:/# cd root
root@ecs-docker-muballigh:~/# cd dockerfiles
root@ecs-docker-muballigh:~/dockerfiles# ls
dockerfile  htmlapplication  Modern-Landing-Page-UI
root@ecs-docker-muballigh:~/dockerfiles# █
```

```
root@ecs-docker-muballigh:~/dockerfiles# mkdir testsite
root@ecs-docker-muballigh:~/dockerfiles# cp -r Modern-Landing-Page-UI testsite
root@ecs-docker-muballigh:~/dockerfiles# cd testsite
root@ecs-docker-muballigh:~/dockerfiles/testsite# ls
Modern-Landing-Page-UI
root@ecs-docker-muballigh:~/dockerfiles/testsite# █
```

```
root@ecs-docker-muballigh:~/dockerfiles/testsite# nano Dockerfile
root@ecs-docker-muballigh:~/dockerfiles/testsite# cat Dockerfile
FROM nginx
COPY . /usr/share/nginx/html
FROM apache
COPY . /var/www/html
root@ecs-docker-muballigh:~/dockerfiles/testsite# █
```

```
root@ecs-docker-muballigh:~/dockerfiles/testsite# ls
Dockerfile  Modern-Landing-Page-UI
root@ecs-docker-muballigh:~/dockerfiles/testsite# cp -r Dockerfile Modern-Landing-Page-UI/
root@ecs-docker-muballigh:~/dockerfiles/testsite# cd Modern-Landing-Page-UI/
root@ecs-docker-muballigh:~/dockerfiles/testsite/Modern-Landing-Page-UI# ls
css  Dockerfile  home.html  img  js  README.md  slick
```

```
root@ecs-docker-muballigh:~/dockerfiles/testsite/Modern-Landing-Page-UI# docker login
Authenticating with existing credentials...
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

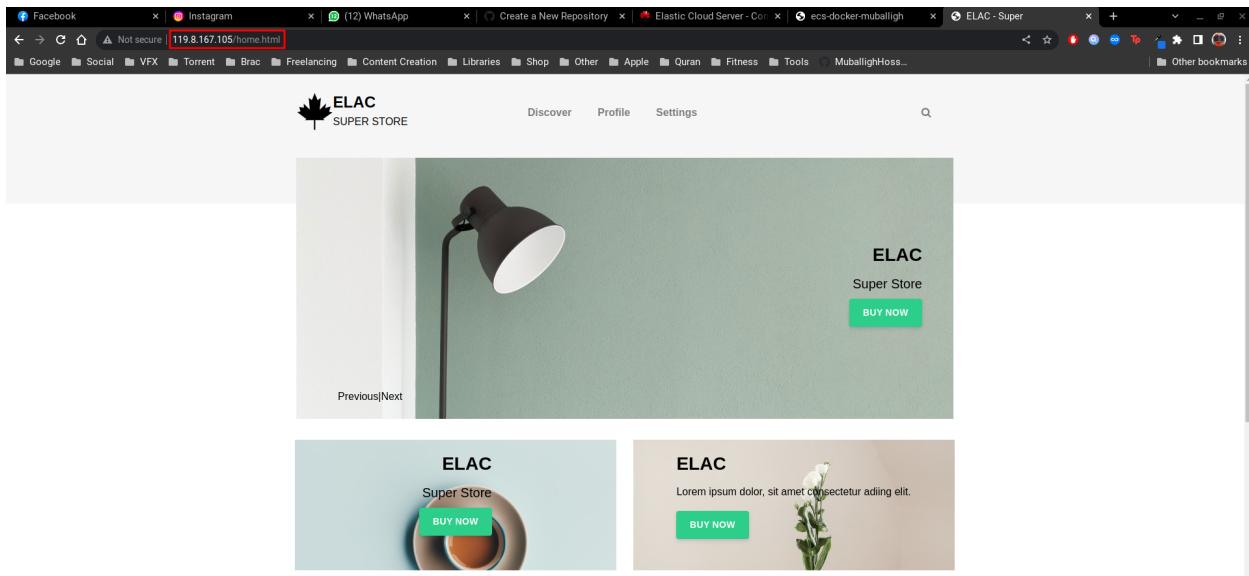
Login Succeeded
```

```
See 'docker run --help'.
root@ecs-docker-muballigh:~/dockerfiles/testsite/Modern-Landing-Page-UI# docker build -t img-static-site-example .
Sending build context to Docker daemon 6.966MB
Step 1/2 : FROM nginx
--> 76c69feac34e
Step 2/2 : COPY . /usr/share/nginx/html
--> Using cache
--> 4fe50929e639
Successfully built 4fe50929e639
Successfully tagged img-static-site-example:latest
```

```
See 'docker run --help'.
root@ecs-docker-muballigh:~/dockerfiles/testsite/Modern-Landing-Page-UI# docker run -it -d -p 80:80 img-static-site-example
d96ef1c9fcad8a4d2c925c9d98bffa1651b17821f215c2cd80bf4a14a54c08f8
root@ecs-docker-muballigh:~/dockerfiles/testsite/Modern-Landing-Page-UI# █
```

```
root@ecs-docker-muballigh:~/dockerfiles/testsite/Modern-Landing-Page-UI# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS               NAMES
d96ef1c9fcad        img-static-site-example   "/docker-entrypoint..."   4 minutes ago    Up 4 minutes     0.0.0.0:80->80/tcp, :::80->80/tcp          hungry_kilb
63527c16ba82        registry:2                  "/entrypoint.sh /etc.."   7 hours ago      Up 7 hours       0.0.0.0:5000->5000/tcp, :::5000->5000/tcp          private_reg
root@ecs-docker-muballigh:~/dockerfiles/testsite/Modern-Landing-Page-UI#
```

Now if we hit the IP of the VM followed by the directory, we will see that the website is up and running.



## 10. Migrate the new container having the application into another machine. Again run the container and browse the URL. It should work.

First we will upload the existing container in our cloud vm to the docker hub.

The screenshot shows the Docker Hub interface for the repository 'muballighhossain / sample-website-muballigh'. The repository has 0 private repositories. It includes sections for General (with a note to add a short description), Tags, Builds, Collaborators, Webhooks, and Settings. A Docker command box contains 'docker push muballighhossain/sample-website-muballigh:tagname'. Below are sections for Tags and scans (disabled), Automated Builds (disabled), and a README file (empty).

```
❯ ssh root@119.8.167.105
root@119.8.167.105's password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.4.0-100-generic x86_64)

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

System information as of Wed 16 Nov 2022 11:35:07 PM CST

System load: 0.0          Processes:           148
Usage of /: 3.9% of 196.61GB   Users logged in: 1
Memory usage: 6%
Swap usage: 0%            IPv4 address for docker0: 172.17.0.1
                           IPv4 address for eth0: 192.168.1.150

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge

176 updates can be applied immediately.
119 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

New release '22.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Welcome to Huawei Cloud Service

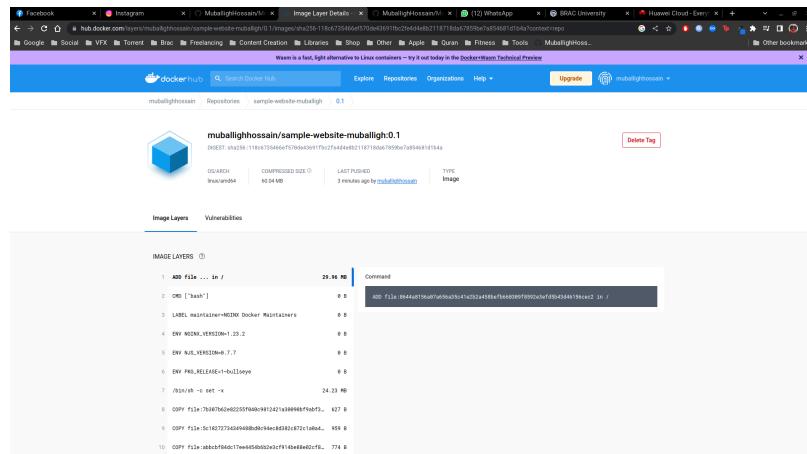
Last login: Wed Nov 16 21:29:29 2022 from 103.129.37.240
root@ecs-docker-muballigh:~# docker login
Authenticating with existing credentials...
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
```

```
root@ecs-docker-muballigh:~# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
d96ef1c9fcad img-static-site-example "/docker-entrypoint..." 2 hours ago Up 2 hours 0.0.0.0:80->80/tcp, ::80->80/tcp hungry_kilby
f3527c16ba82 registry:2 "/entrypoint.sh /etc..." 9 hours ago Up 9 hours 0.0.0.0:5000->5000/tcp, ::5000->5000/tcp private_reg
```

```
root@ecs-docker-muballigh:~# docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
img-static-site-example    latest   4fe50929e639  2 hours ago  149MB
muballigh-test-site      latest   ffc73a938767  3 hours ago  149MB
<none>                <none>   dd4825ca80f1  3 hours ago  149MB
registry              2       81c944c2288b  4 days ago   24.1MB
<none>                <none>   f6b9880e1b96  5 days ago   163MB
ubuntu                latest   a8780b506fa4  13 days ago  77.8MB
nginx                 latest   76c69feac34e  3 weeks ago  142MB
httpd                 latest   fe873c523ec5  3 weeks ago  145MB
muballighhossain/mysql-test-muba  firsttry  3f3946d5572f  5 weeks ago  517MB
mysql/mysql-server      latest   3f3946d5572f  5 weeks ago  517MB
localhost:5000/mysql/mysql-server  latest   3f3946d5572f  5 weeks ago  517MB
hello-world            latest   feb5d9fea6a5  13 months ago 13.3kB
centos                latest   5d0da3dc9764  14 months ago 231MB
```

```
root@ecs-docker-muballigh:~# docker tag 4fe50929e639 muballighhossain/sample-website-muballigh:0.1
root@ecs-docker-muballigh:~# docker push muballighhossain/sample-website-muballigh:0.1
The push refers to repository [docker.io/muballighhossain/sample-website-muballigh]
7937300b149f: Pushed
a2e59a79fae0: Mounted from library/nginx
4091cd312f19: Mounted from library/nginx
9e7119c28877: Mounted from library/nginx
2280b348f4d6: Mounted from library/nginx
e74dd0d8d2def: Mounted from library/nginx
a12586ed027f: Mounted from library/httpd
0.1: digest: sha256:118c6735466ef570de43691fbcc4e68b2118718da67859be7a854681d1b4a size: 1781
root@ecs-docker-muballigh:~#
```



Now on our local machine, we will install docker and pull the corresponding docker image from docker hub.

```
grep docker /etc/group
docker:x:999:muballigh

newgrp docker

docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/
```

```

> docker pull muballighhossain/sample-website-muballigh:0.1
0.1: Pulling from muballighhossain/sample-website-muballigh
e9995326b091: Pull complete
71689475aec2: Pull complete
f88a23025338: Pull complete
0df440342e26: Pull complete
eef26ceb3309: Pull complete
8e3ed6a9e43a: Pull complete
59161fcdb261: Pull complete
Digest: sha256:118c6735466ef570de43691fbc2fe4d4e8b2118718da67859be7a854681d1b4a
Status: Downloaded newer image for muballighhossain/sample-website-muballigh:0.1
docker.io/muballighhossain/sample-website-muballigh:0.1

~ took 22s

```

```

> docker images
REPOSITORY           TAG      IMAGE ID      CREATED       SIZE
muballighhossain/sample-website-muballigh   0.1      4fe50929e639   3 hours ago   149MB
hello-world          latest   feb5d9fea6a5   13 months ago  13.3kB

```

```

~
> docker run -it -d -p 80:80 muballighhossain/sample-website-muballigh:0.1
87ab786b4aac373837e9ab82213d50a9c4618ceba0aae0b4a3bf98011a1e5505

```

```

> docker ps
CONTAINER ID   IMAGE               COMMAND                  CREATED             STATUS              PORTS                 NAMES
87ab786b4aac   muballighhossain/sample-website-muballigh:0.1   "/docker-entrypoint..."   About a minute ago   Up About a minute   0.0.0.0:80->80/tcp, :::80->80/tcp   elastic_cohen

```

If we hit the localhost IP followed by the file, we will now see that the website is live in our local machine.

