

## ASSIGNMENT 2-B

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### INSTALLING DOCKER ENGINE -

Ref : <https://docs.docker.com/engine/install/ubuntu/>

```
a3-403a-06@a3-403a-06:~$ sudo apt-get remove docker docker-engine docker.io containerd runc
[sudo] password for a3-403a-06:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Package 'docker-engine' is not installed, so not removed
Package 'docker' is not installed, so not removed
Package 'containerd' is not installed, so not removed
Package 'runc' is not installed, so not removed
Package 'docker.io' is not installed, so not removed
The following packages were automatically installed and are no longer required:
  gir1.2-goa-1.0 libfwupdplugin1 libxmlb1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
```

```
a3-403a-06@a3-403a-06:~$ sudo apt-get update
Get:1 http://packages.microsoft.com/repos/code stable InRelease [3,023 B]
Get:2 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:4 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:5 https://dl.google.com/linux/chrome/deb stable InRelease
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:7 http://packages.microsoft.com/repos/code stable/main armhf Packages [63.0 kB]
Get:8 http://packages.microsoft.com/repos/code stable/main arm64 Packages [62.6 kB]
Get:9 http://packages.microsoft.com/repos/code stable/main amd64 Packages [62.2 kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [565 kB]
Get:11 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [2,041 kB]
Get:12 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [332 kB]
Get:13 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [60.0 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:13 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [60.0 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [793 kB]
Get:17 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [1,556 kB]
Get:18 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [219 kB]
Err:16 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages
  Hash Sum mismatch
Hashes of expected file:
 - Filesize:792948 [weak]
 - SHA256:81d0db7f8eae769ddd2cae7be7fc39ebc031d1880659498988825b81767dda81
 - SHA1:b0b413905fe1f2d51b615f3fc75e3f00f90789b7 [weak]
 - MD5Sum:cf3cb184addfccde9b4942b843315635 [weak]
Hashes of received file:
 - SHA256:a31eabbd8f6909ed0747a52e0b91935e9e3073ca77d448438c790b18a9b7bd92
 - SHA1:44b27c81e569a29191df1cc903d1f864a243c365 [weak]
 - MD5Sum:2b8aaf3b0c647699de867a4b3c684aa [weak]
 - Filesize:792948 [weak]
Last modification reported: Sat, 11 Mar 2023 07:18:49 +0000
Release file created at: Sat, 11 Mar 2023 08:43:57 +0000
Get:19 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [811 kB]
Get:20 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2,420 kB]
Get:21 http://security.ubuntu.com/ubuntu focal-security/universe i386 Packages [587 kB]
Get:22 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en [161 kB]
Get:23 http://security.ubuntu.com/ubuntu focal-security/universe amd64 DEP-11 Metadata [95.0 kB]
Get:24 http://security.ubuntu.com/ubuntu focal-security/universe DEP-11 48x48 Icons [46.3 kB]
Get:25 http://security.ubuntu.com/ubuntu focal-security/universe DEP-11 64x64 Icons [93.4 kB]
Get:26 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [17.2 kB]
Get:27 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11 Metadata [940 B]
Get:28 http://in.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [414 kB]
```

```

Get:29 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [275 kB]
Get:30 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [16.2 kB]
Get:31 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted i386 Packages [30.5 kB]
Get:32 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [1,662 kB]
Get:33 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [234 kB]
Get:34 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [620 B]
Get:35 http://in.archive.ubuntu.com/ubuntu focal-updates/universe i386 Packages [718 kB]
Get:36 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1,037 kB]
Get:37 http://in.archive.ubuntu.com/ubuntu focal-backports/main amd64 DEP-11 Metadata [7,984 B]
Get:38 http://in.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-11 Metadata [30.6 kB]
Fetched 11.2 MB in 12s (927 kB/s)
Reading package lists... Done
E: Failed to fetch http://in.archive.ubuntu.com/ubuntu/dists/focal-updates/main/binary-i386/by-hash/SHA256/81d0db7f8eae769ddd2cae7be7fc39ebc031d1880659498988825b81767dda81 Hash Sum mismatch
Hashes of expected file:
- Filesize:792948 [weak]
- SHA256:81d0db7f8eae769ddd2cae7be7fc39ebc031d1880659498988825b81767dda81
- SHA1:b0b413905fe1f2d51b615f3fc75e3f00f90789b7 [weak]
- MD5Sum:cf3cb184addfccde9b4942b843315635 [weak]
Hashes of received file:
- SHA256:a31eabbd8f6909ed0747a52e0b91935e9e3073ca77d448438c790b18a9b7bd92
- SHA1:44b27c81e569a29191df1cc903d1f864a243c365 [weak]
- MD5Sum:2b8aafe3b0c647699de867a4b3c684aa [weak]
- Filesize:792948 [weak]
Last modification reported: Sat, 11 Mar 2023 07:18:49 +0000
Release file created at: Sat, 11 Mar 2023 08:43:57 +0000
E: Some index files failed to download. They have been ignored, or old ones used instead.

```

```

a3-403a-06@a3-403a-06:~$ sudo apt-get install \
> ca-certificates \
> curl \
> gnupg \
> lsb-release
Reading package lists... Done
Building dependency tree
Reading state information... Done
lsb-release is already the newest version (11.1.0ubuntu2).
ca-certificates is already the newest version (20211016ubuntu0.20.04.1).
curl is already the newest version (7.68.0-1ubuntu2.16).
gnupg is already the newest version (2.2.19-3ubuntu2.2).
The following packages were automatically installed and are no longer required:
  gir1.2-goa-1.0 libfwupdplugin1 libxmlb1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 39 not upgraded.

```

```

a3-403a-06@a3-403a-06:~$ sudo mkdir -m 0755 -p /etc/apt/keyrings

```

```

a3-403a-06@a3-403a-06:~$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --
dearmor -o /etc/apt/keyrings/docker.gpg
File 'etc/apt/keyrings/docker.gpg' exists. Overwrite? (y/N) y

```

```

a3-403a-06@a3-403a-06:~$ 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

```

```

a3-403a-06@a3-403a-06:~$ sudo apt-get update
Hit:1 https://download.docker.com/linux/ubuntu focal InRelease
Get:2 http://packages.microsoft.com/repos/code stable InRelease [3,023 B]
Hit:3 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:4 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:6 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2,420 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [793 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [793 kB]

```



```
Cloning into 'getting-started'...
remote: Enumerating objects: 952, done.
remote: Total 952 (delta 0), reused 0 (delta 0), pack-reused 952
Receiving objects: 100% (952/952), 5.18 MiB | 1.49 MiB/s, done.
Resolving deltas: 100% (540/540), done.
```

## 2. Create a *Dockerfile* in app folder and add the required code :

```
a3-403a-06@a3-403a-06:~/Desktop/sample$ cd getting-started/app/
a3-403a-06@a3-403a-06:~/Desktop/sample/getting-started/app$ touch Dockerfile
```

## 3. Build app image :

```
a3-403a-06@a3-403a-06:~/Desktop/sample/getting-started/app$ docker build -t getting-started .
[+] Building 72.6s (11/11) FINISHED
=> [internal] load build definition from Dockerfile                                0.9s
=> => transferring dockerfile: 184B                                              0.0s
=> [internal] load .dockerignore                                                  0.6s
=> => transferring context: 2B                                                  0.1s
=> resolve image config for docker.io/docker/dockerfile:1                      2.9s
=> CACHED docker-image://docker.io/docker/dockerfile:1@sha256:39b85bbfa7536a5feceb737 0.0s
=> [internal] load metadata for docker.io/library/node:18-alpine                3.4s
=> [1/4] FROM docker.io/library/node:18-alpine@sha256:f605fcd5254d0e398e04d93c7b11e2 34.8s
=> => resolve docker.io/library/node:18-alpine@sha256:f605fcd5254d0e398e04d93c7b11e2a 0.5s
=> => sha256:f605fcd5254d0e398e04d93c7b11e2aec2a6e1aeb7da1f99bc40cd10 1.43kB / 1.43kB 0.0s
=> => sha256:19eaf41f3b8c2ac2f609ac8103f9246a6a6d46716cdbc49103fdb116 1.16kB / 1.16kB 0.0s
=> => sha256:f520ad35ba68f1ed1301a5eda87eaa722e468a9fc3a179868a035dc4 6.48kB / 6.48kB 0.0s
=> => sha256:69dcb013f10fed3864b0f9915d6721b09f0c6717e5452ee96e04fde6 2.35MB / 2.35MB 3.5s
=> => sha256:f41005eb563ce84e6c742a787d6a598fde273c134e94c90acc611 47.54MB / 47.54MB 29.1s
=> => sha256:00a00d31565028f3c00c64959dafa4587320e8c99a39982ccda8a8a9ccef 449B / 449B 1.5s
=> => extracting sha256:f41005eb563ce84e6c742a787d6a598fde273c134e94c90acc6115853a7f8 1.2s
=> => extracting sha256:69dcb013f10fed3864b0f9915d6721b09f0c6717e5452ee96e04fde608232 0.1s
=> => extracting sha256:00a00d31565028f3c00c64959dafa4587320e8c99a39982ccda8a8a9ccef7 0.0s
=> [internal] load build context                                                0.8s
=> => transferring context: 4.59MB                                              0.3s
=> [2/4] WORKDIR /app                                                           4.2s
=> [3/4] COPY . .                                                             1.6s
=> [4/4] RUN yarn install --production                                         18.7s
=> exporting to image                                                         3.4s
=> => exporting layers                                                         3.3s
=> => writing image sha256:d2c6da5f4c1d2d7b192fa05d1b289afd2608cd47d06d12cd02c43eebc 0.0s
=> => naming to docker.io/library/getting-started                             0.1s
```

## 4. Run the container by specifying the name of the image just created :

```
a3-403a-06@a3-403a-06:~/Desktop/sample/getting-started/app$ docker run -dp 3000:3000 getting-started
2c138df6af821a29bdebab08e2e01b2a1fad2a65a57f9843902641ba4c0f1987
```

## 5. Checking the list of containers :

```
a3-403a-06@a3-403a-06:~/Desktop/sample/getting-started/app$ docker ps
```

CONTAINER ID	IMAGE	COMMAND	NAMES	CREATED	STATUS
2c138df6af82	getting-started	"docker-entrypoint.s..."		About a minute ago	Up About a minute
0.0.0.0:3000->3000/tcp		:::3000->3000/tcp	magical_gauss		

## 6. Application running at port 3000:

