Step 1

Create a Dockerfile

$ mkdir Dockerfiles

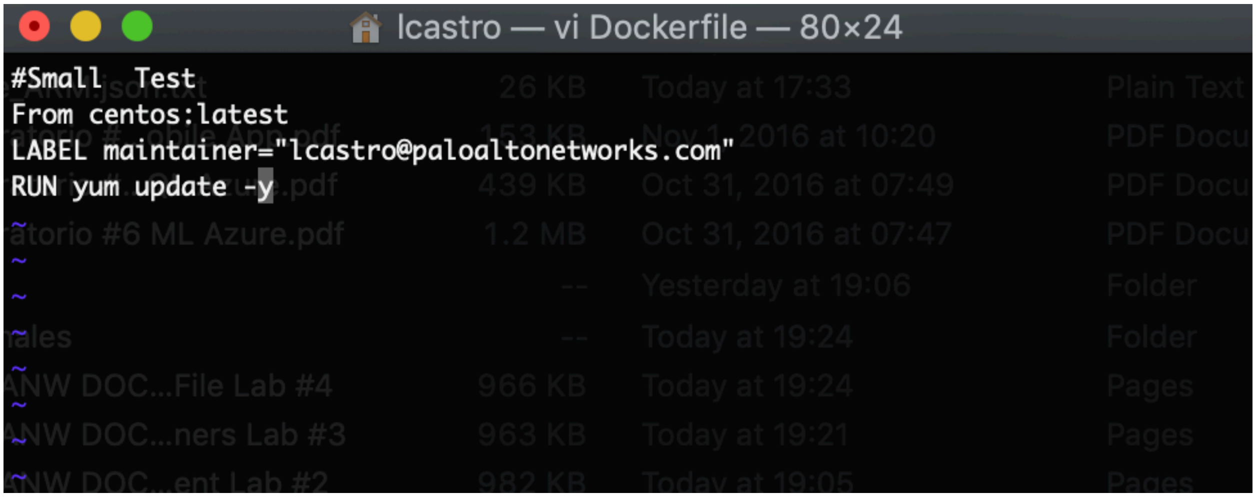
$ cd Dockerfiles

$ vim Dockerfile

Type i - to insert text

```
# Small Test
FROM centos:latest
LABEL maintainer=“lcastro@paloaltonetworks.com”
RUN yum update -y
```

Type ESC : wq! + Enter to exit vim

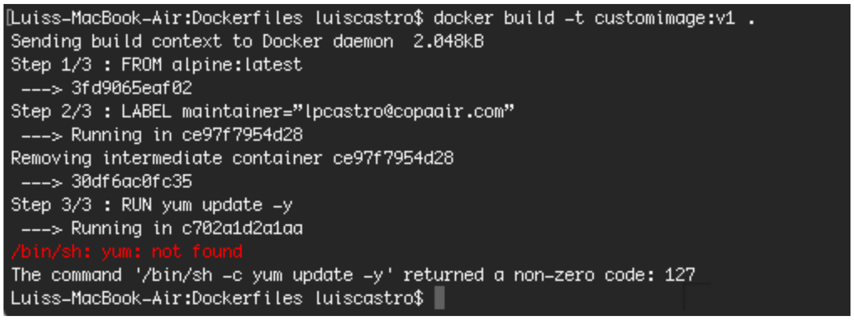


```
#Small  Test
From centos:latest
LABEL maintainer="lcastro@paloaltonetworks.com"
RUN yum update -y
~
~
~
~
~
~
~
~
```

Step 2

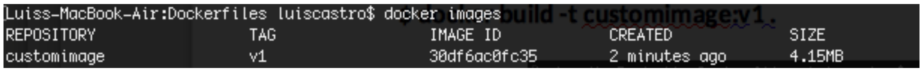
Create a Custom Image from Docker File

$ docker build -t custom_image:v1 .



```
Luiss-MacBook-Air:Dockerfiles luiscastro$ docker build -t customimage:v1 .
Sending build context to Docker daemon  2.048kB
Step 1/3 : FROM alpine:latest
 ---> 3fd9065eaf02
Step 2/3 : LABEL maintainer="lpcastro@copaair.com"
 ---> Running in ce97f7954d28
Removing intermediate container ce97f7954d28
 ---> 30df6ac0fc35
Step 3/3 : RUN yum update -y
 ---> Running in c702a1d2a1aa
/bin/sh: yum: not found
The command '/bin/sh -c yum update -y' returned a non-zero code: 127
Luiss-MacBook-Air:Dockerfiles luiscastro$
```

$ docker images



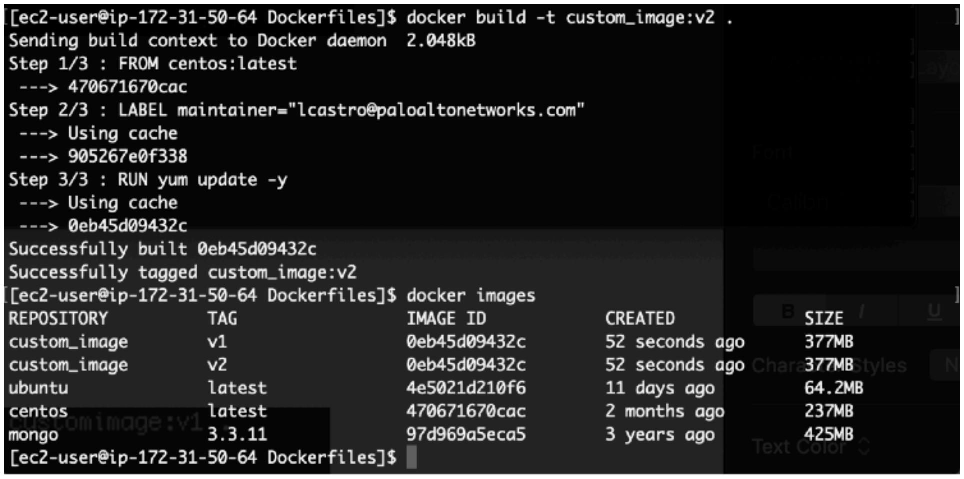
```
Luiss-MacBook-Air:Dockerfiles luiscastro$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
customimage         v1                  30df6ac0fc35        2 minutes ago       4.15MB
```

Step 3

Rebuild image using Cache

$ docker build -t custom_image:v2 .

$ docker images



```
[ec2-user@ip-172-31-50-64 Dockerfiles]$ docker build -t custom_image:v2 .
Sending build context to Docker daemon  2.048kB
Step 1/3 : FROM centos:latest
 ---> 470671670cac
Step 2/3 : LABEL maintainer="lcastro@paloaltonetworks.com"
 ---> Using cache
 ---> 905267e0f338
Step 3/3 : RUN yum update -y
 ---> Using cache
 ---> 0eb45d09432c
Successfully built 0eb45d09432c
Successfully tagged custom_image:v2
[ec2-user@ip-172-31-50-64 Dockerfiles]$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
custom_image        v1                  0eb45d09432c        52 seconds ago      377MB
custom_image        v2                  0eb45d09432c        52 seconds ago      377MB
ubuntu              latest              4e5021d210f6        11 days ago         64.2MB
centos              latest              470671670cac        2 months ago        237MB
mongo               3.3.11              97d969a5eca5        3 years ago         425MB
[ec2-user@ip-172-31-50-64 Dockerfiles]$
```

Step 4

Remove Dockerfile

# rm Dockerfile

Step 5

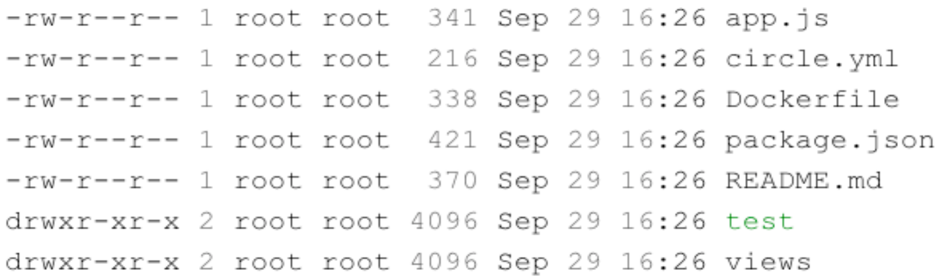
Create an image from Docker Hub

$ sudo yum install git

$ git clone https://github.com/nigelpoulton/psweb.git

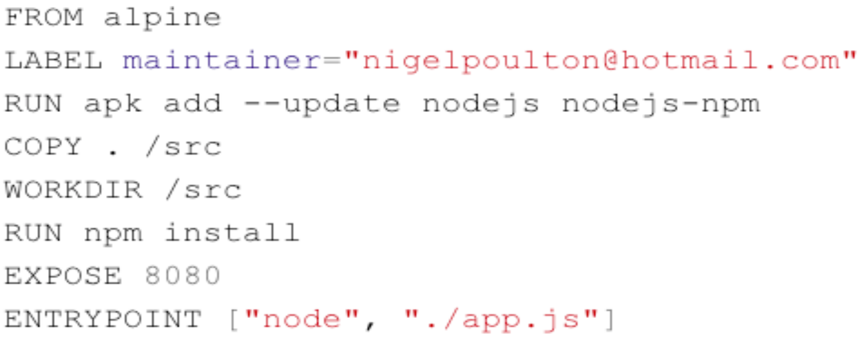
$ cd psweb

$ ls -l



```
-rw-r--r-- 1 root root  341 Sep 29 16:26 app.js
-rw-r--r-- 1 root root  216 Sep 29 16:26 circle.yml
-rw-r--r-- 1 root root  338 Sep 29 16:26 Dockerfile
-rw-r--r-- 1 root root  421 Sep 29 16:26 package.json
-rw-r--r-- 1 root root  370 Sep 29 16:26 README.md
drwxr-xr-x 2 root root 4096 Sep 29 16:26 test
drwxr-xr-x 2 root root 4096 Sep 29 16:26 views
```

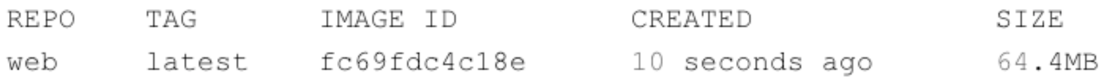
$ cat Dockerfile



```
FROM alpine
LABEL maintainer="nigelpoulton@hotmail.com"
RUN apk add --update nodejs nodejs-npm
COPY . /src
WORKDIR /src
RUN npm install
EXPOSE 8080
ENTRYPOINT ["node", "./app.js"]
```

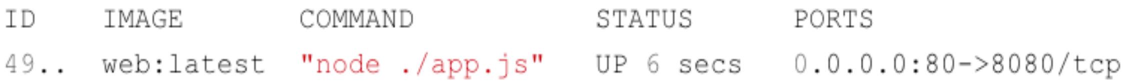
$ docker image build -t web:latest .

$ docker image ls



```
REPO    TAG       IMAGE ID        CREATED             SIZE
web     latest    fc69fdc4c18e    10 seconds ago      64.4MB
```

$ docker image inspect web:latest



```
ID    IMAGE       COMMAND          STATUS      PORTS
49..  web:latest  "node ./app.js"  UP 6 secs   0.0.0.0:80->8080/tcp
```

$ docker container run -d --name c1 -p 80:8080 web:latest

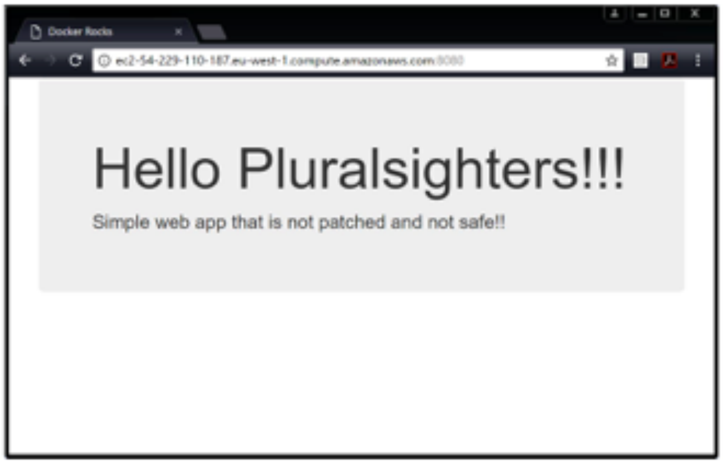
Step 6

Test the app

Get the IP address or DNS Name from AWS, also create a Security Group Allowing Port 80 as Inbound.

Open a web browser and point it to the DNS name or IP address of the host that the container is running on.

http://IP-Address-host



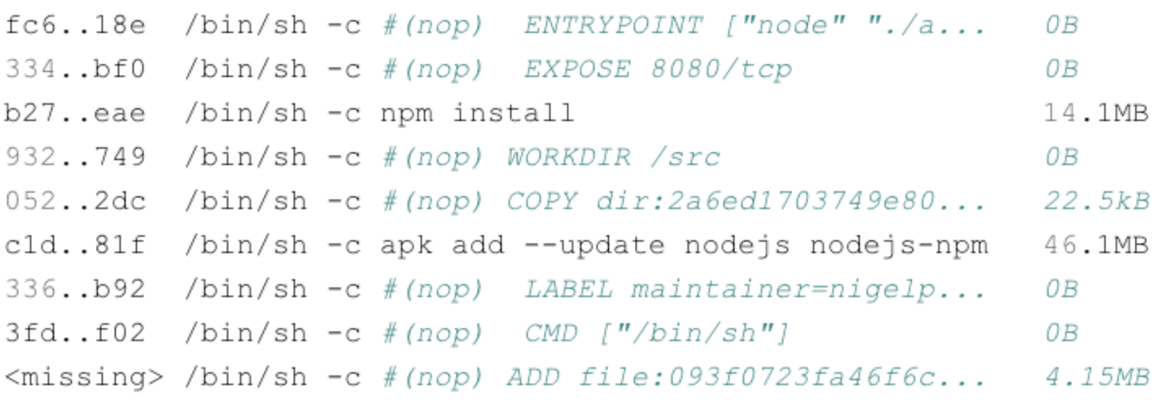
Hello Pluralsighters!!!

Simple web app that is not patched and not safe!!

Step 7

Describe image layers

$ docker image history web:latest



```
fc6..18e  /bin/sh -c #(nop)  ENTRYPOINT ["node" "./a...   0B
334..bf0  /bin/sh -c #(nop)  EXPOSE 8080/tcp              0B
b27..eae  /bin/sh -c npm install                          14.1MB
932..749  /bin/sh -c #(nop) WORKDIR /src                  0B
052..2dc  /bin/sh -c #(nop) COPY dir:2a6ed1703749e80...   22.5kB
c1d..81f  /bin/sh -c apk add --update nodejs nodejs-npm   46.1MB
336..b92  /bin/sh -c #(nop)  LABEL maintainer=nigelp...   0B
3fd..f02  /bin/sh -c #(nop)  CMD ["/bin/sh"]              0B
<missing> /bin/sh -c #(nop) ADD file:093f0723fa46f6c...   4.15MB
```