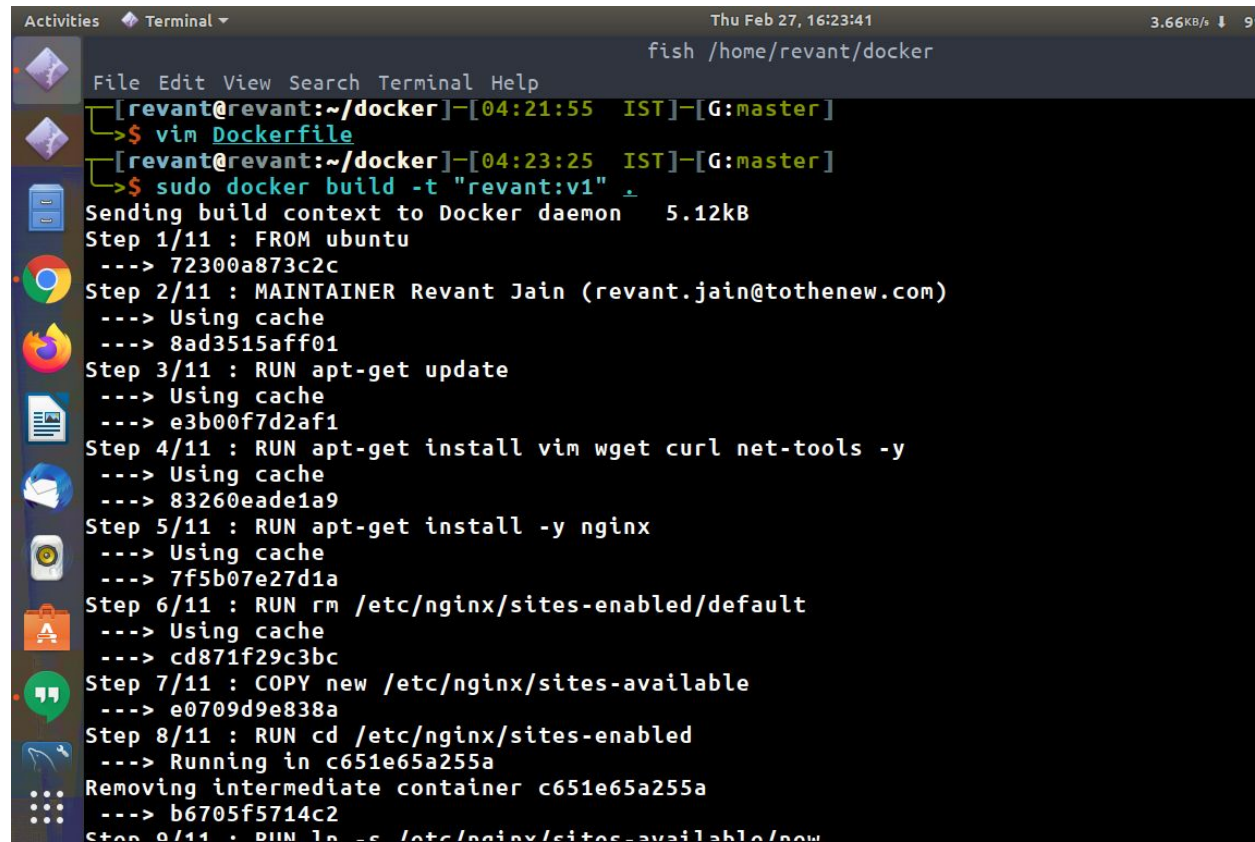


DOCKER

1. Set the base image to Ubuntu

- Add File Author / Maintainer
- Install Nginx
- Install necessary tools: vim wget curl net-tools
- Remove the default Nginx configuration file
- Copy a configuration file from the current directory
- Expose ports (80)
- Set the default command to execute Nginx when creating a new container



```
Activities Terminal Thu Feb 27, 16:23:41 3.66KB/s 9
fish /home/revant/docker
File Edit View Search Terminal Help
[revant@revant:~/docker]--[04:21:55 IST]--[G:master]
$ vim Dockerfile
[revant@revant:~/docker]--[04:23:25 IST]--[G:master]
$ sudo docker build -t "revant:v1" .
Sending build context to Docker daemon 5.12kB
Step 1/11 : FROM ubuntu
----> 72300a873c2c
Step 2/11 : MAINTAINER Revant Jain (revant.jain@tothenew.com)
----> Using cache
----> 8ad3515aff01
Step 3/11 : RUN apt-get update
----> Using cache
----> e3b00f7d2af1
Step 4/11 : RUN apt-get install vim wget curl net-tools -y
----> Using cache
----> 83260eade1a9
Step 5/11 : RUN apt-get install -y nginx
----> Using cache
----> 7f5b07e27d1a
Step 6/11 : RUN rm /etc/nginx/sites-enabled/default
----> Using cache
----> cd871f29c3bc
Step 7/11 : COPY new /etc/nginx/sites-available
----> e0709d9e838a
Step 8/11 : RUN cd /etc/nginx/sites-enabled
----> Running in c651e65a255a
Removing intermediate container c651e65a255a
----> b6705f5714c2
Step 9/11 : RUN ln -s /etc/nginx/sites-available/new
```

```
Activities Terminal Thu Feb 27, 16:24:09 vim /home/revant/docker
File Edit View Search Terminal Help
FROM ubuntu
MAINTAINER Revant Jain (revant.jain@tothenew.com)
RUN apt-get update
RUN apt-get install vim wget curl net-tools -y
RUN apt-get install -y nginx
RUN rm /etc/nginx/sites-enabled/default
COPY new /etc/nginx/sites-available
RUN cd /etc/nginx/sites-enabled
RUN ln -s /etc/nginx/sites-available/new .
EXPOSE 80
CMD ["nginx", "-g", "daemon off;"]
~
~
~
~
~
```

```
Activities Terminal Thu Feb 27, 16:45:52 6.54KB/s sudo /home/revant/docker
File Edit View Search Terminal Help
REVZ >docker ps
CONTAINER ID    IMAGE    COMMAND    CREATED
7b87017c8469    revant:v2    "nginx -g 'daemon of..."    41 seconds ago
REVZ >
```

2. What is the difference between 'RUN', 'CMD', & 'ENTRYPOINT' in dockerfile?

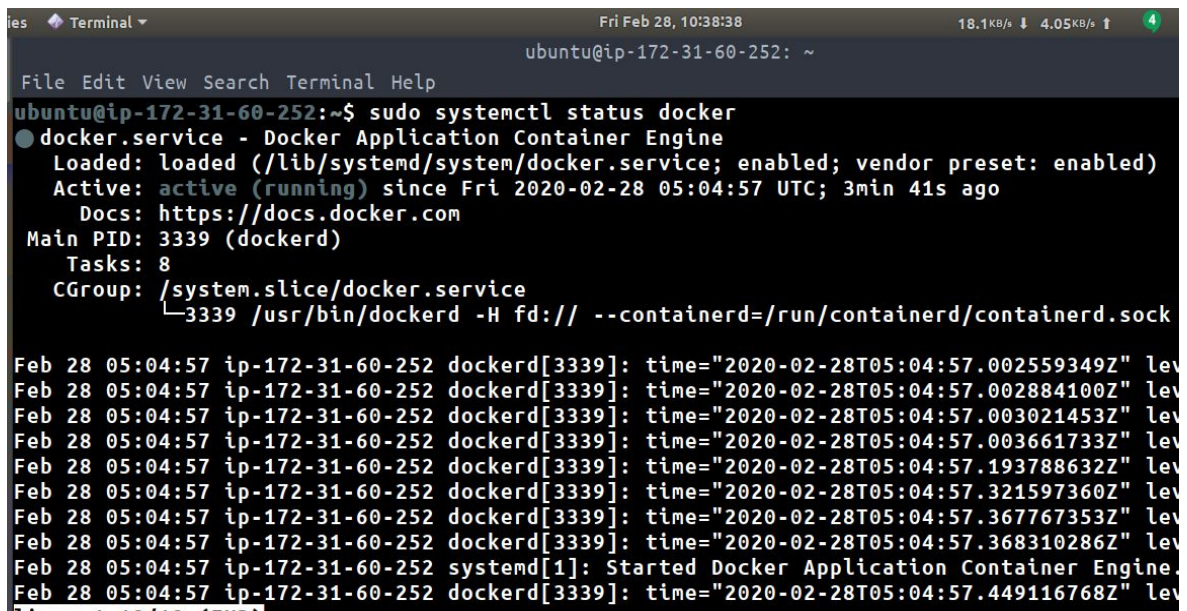
RUN instruction allows you to install your application and packages required for it. It executes any commands on top of the current image and creates a new layer by committing the results. Often you will find multiple RUN instructions in a Dockerfile.

CMD instruction allows you to set a *default* command, which will be executed only when you run container without specifying a command. If Docker container runs with a command, the default command will be ignored. If Dockerfile has more than one CMD instruction, all but last CMD instructions are ignored.

ENTRYPOINT instruction allows you to configure a container that will run as an executable. It looks similar to CMD, because it also allows you to specify a command with parameters. The difference is ENTRYPOINT command and parameters are not ignored when Docker container runs with command line parameters. (There is a way to ignore ENTRYPOINT, but it is unlikely that you will do it.)

How to connect a docker client to docker daemon running on another host?

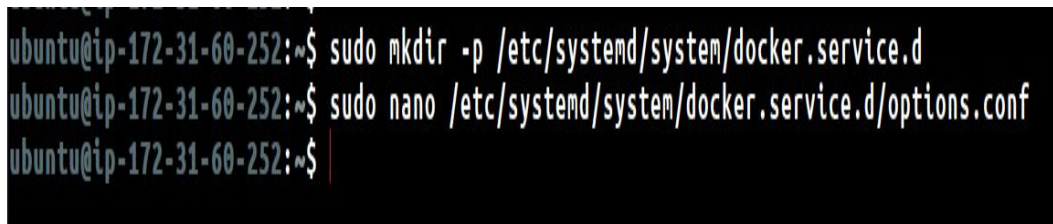
Install docker in an EC2 machine

A terminal window titled 'Terminal' with a dark background. The prompt is 'ubuntu@ip-172-31-60-252: ~'. The user has run 'sudo systemctl status docker'. The output shows 'docker.service - Docker Application Container Engine' is loaded and active (running) since Fri 2020-02-28 05:04:57 UTC. Below this, it shows the main PID is 3339 (dockerd) and the tasks are 8. The CGroup is '/system.slice/docker.service' with the command '3339 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock'. At the bottom, there are several log entries from 'dockerd[3339]' and 'systemd[1]' showing the service started successfully on Feb 28 05:04:57.

```
ubuntu@ip-172-31-60-252:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2020-02-28 05:04:57 UTC; 3min 41s ago
     Docs: https://docs.docker.com
   Main PID: 3339 (dockerd)
    Tasks: 8
   CGroup: /system.slice/docker.service
           └─3339 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.002559349Z" lev
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.002884100Z" lev
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.003021453Z" lev
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.003661733Z" lev
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.193788632Z" lev
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.321597360Z" lev
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.367767353Z" lev
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.368310286Z" lev
Feb 28 05:04:57 ip-172-31-60-252 systemd[1]: Started Docker Application Container Engine.
Feb 28 05:04:57 ip-172-31-60-252 dockerd[3339]: time="2020-02-28T05:04:57.449116768Z" lev
```

Configure the Docker daemon in the EC2 to allow remote connections:

A terminal window showing the user running two commands to configure the Docker daemon for remote connections. The first command creates the directory '/etc/systemd/system/docker.service.d'. The second command opens the file '/etc/systemd/system/docker.service.d/options.conf' in the nano text editor.

```
ubuntu@ip-172-31-60-252:~$ sudo mkdir -p /etc/systemd/system/docker.service.d
ubuntu@ip-172-31-60-252:~$ sudo nano /etc/systemd/system/docker.service.d/options.conf
ubuntu@ip-172-31-60-252:~$
```

Activities Terminal ▾ Fri Feb 28, 10:47:19

ubuntu@ip-172-31-60-252: ~

File Edit View Search Terminal Help

GNU nano 2.9.3 /etc/systemd/system/docker.service.d/optimi

[Service]
ExecStart=
ExecStart=/usr/bin/dockerd -H unix:// -H tcp://0.0.0.0:2375