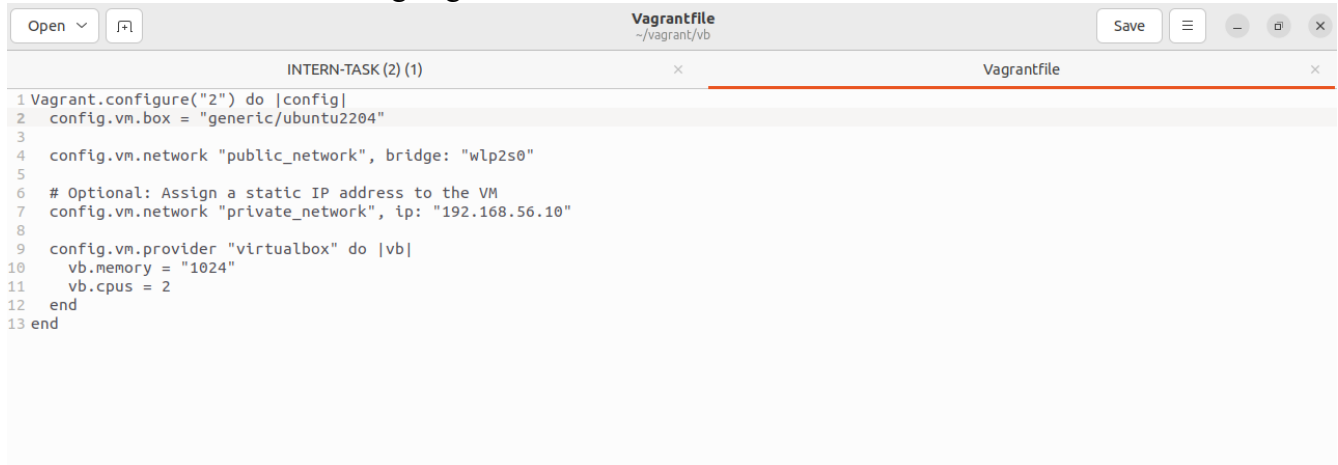


For task-2

1.

I. Oracle vm virtualbox is downloaded.

II. Installed ubuntu 22.04 using vagrantfile as below.



```
1 Vagrant.configure("2") do |config|
2   config.vm.box = "generic/ubuntu2204"
3
4   config.vm.network "public_network", bridge: "wlp2s0"
5
6   # Optional: Assign a static IP address to the VM
7   config.vm.network "private_network", ip: "192.168.56.10"
8
9   config.vm.provider "virtualbox" do |vb|
10    vb.memory = "1024"
11    vb.cpus = 2
12  end
13 end
```

Have set static ip which : 192.168.56.10

2.

I. Installing ansible on host machine

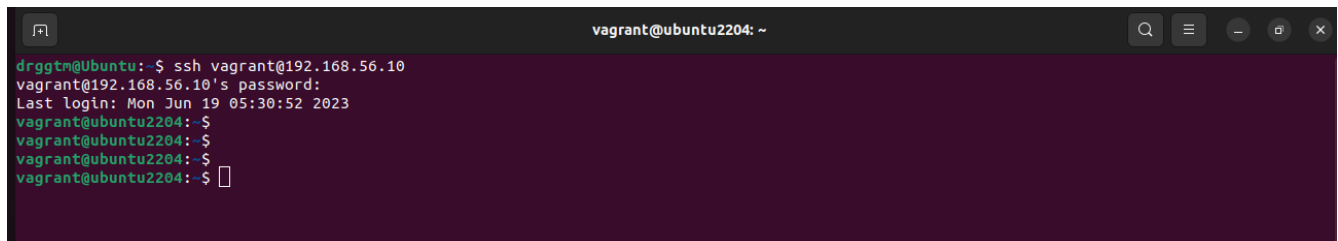
```
$ sudo apt-add-repository ppa:ansible/ansible
```

```
$ sudo apt update
```

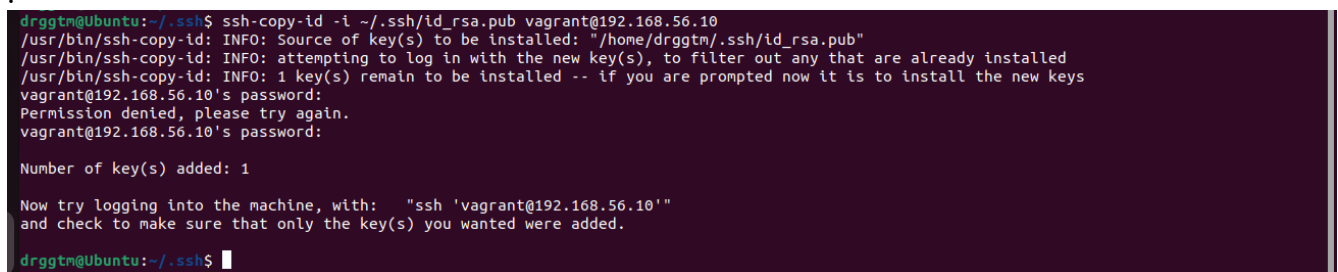
```
$ sudo apt install ansible
```

3.

ssh to vm successful



```
vagrant@ubuntu2204: ~
drsgtm@Ubuntu:~$ ssh vagrant@192.168.56.10
vagrant@192.168.56.10's password:
Last login: Mon Jun 19 05:30:52 2023
vagrant@ubuntu2204:~$
vagrant@ubuntu2204:~$
vagrant@ubuntu2204:~$
vagrant@ubuntu2204:~$
```

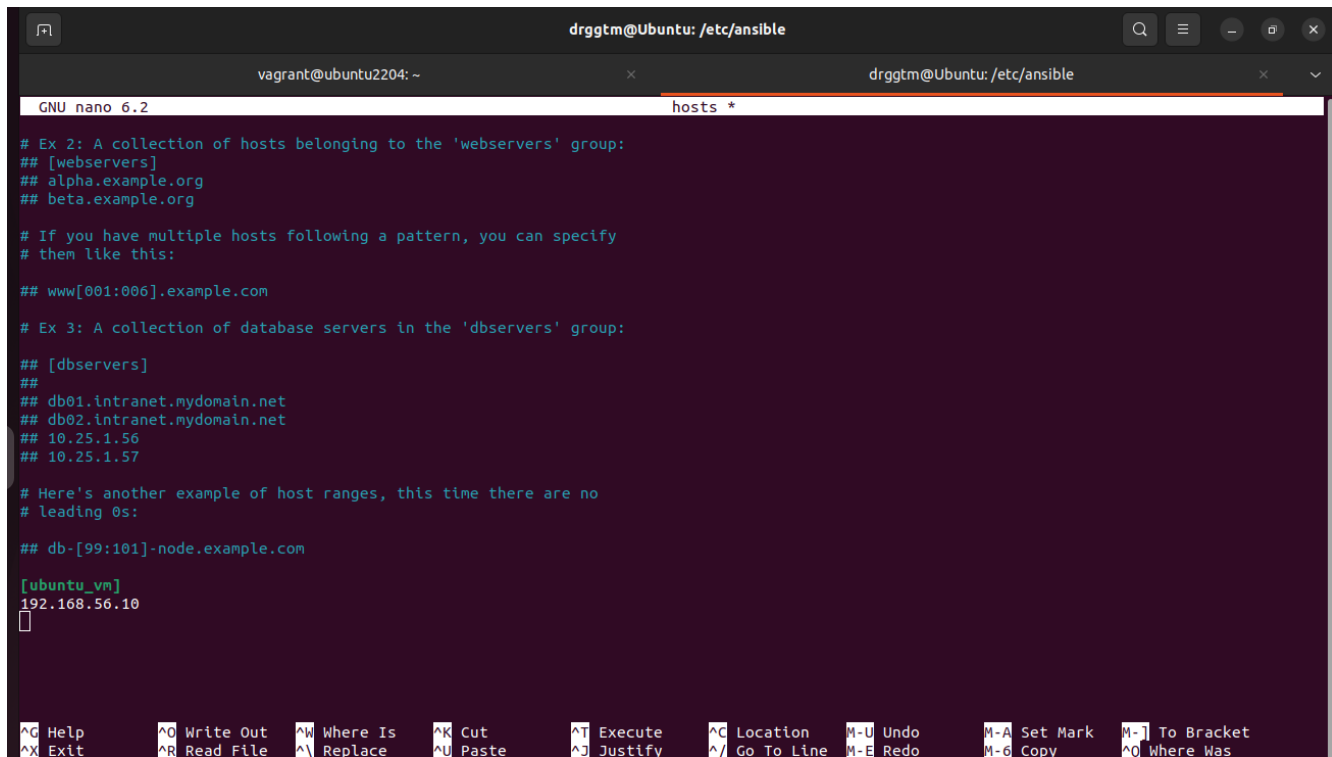


```
drsgtm@Ubuntu:~/.ssh$ ssh-copy-id -i ~/.ssh/id_rsa.pub vagrant@192.168.56.10
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/drsgtm/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
vagrant@192.168.56.10's password:
Permission denied, please try again.
vagrant@192.168.56.10's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'vagrant@192.168.56.10'"
and check to make sure that only the key(s) you wanted were added.
drsgtm@Ubuntu:~/.ssh$
```

#### 4. Added new host in `/etc/ansible/hosts` as (ubuntu\_vm)



```
GNU nano 6.2 hosts *
# Ex 2: A collection of hosts belonging to the 'webservers' group:
## [webservers]
## alpha.example.org
## beta.example.org

# If you have multiple hosts following a pattern, you can specify
# them like this:
## www[001:006].example.com

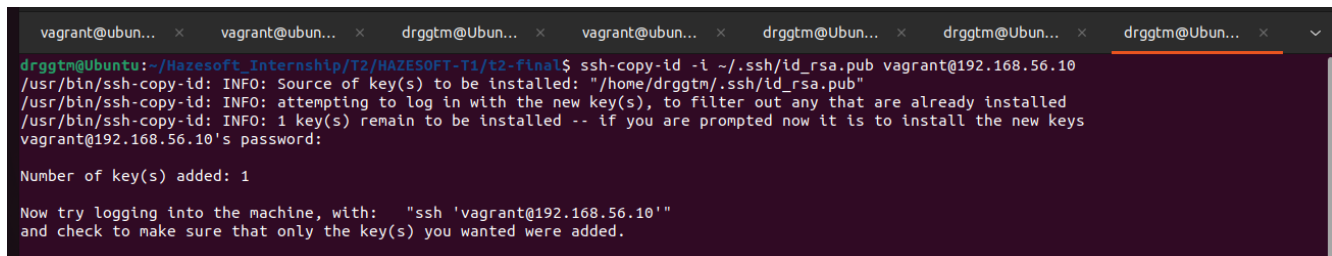
# Ex 3: A collection of database servers in the 'dbservers' group:
## [dbservers]
##
## db01.intranet.mydomain.net
## db02.intranet.mydomain.net
## 10.25.1.56
## 10.25.1.57

# Here's another example of host ranges, this time there are no
# leading 0s:
## db-[99:101]-node.example.com

[ubuntu_vm]
192.168.56.10

```

#### 5. Added ssh keys using for access

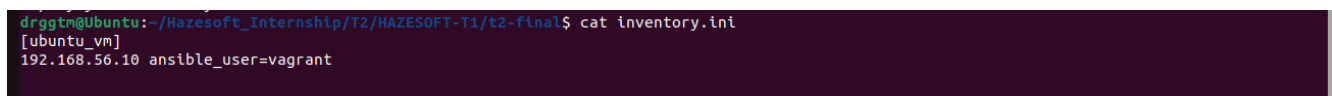


```
drpgtm@Ubuntu:~/Hazesoft_Internship/T2/HAZES0FT-T1/t2-final$ ssh-copy-id -i ~/.ssh/id_rsa.pub vagrant@192.168.56.10
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/drpgtm/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
vagrant@192.168.56.10's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'vagrant@192.168.56.10'"
and check to make sure that only the key(s) you wanted were added.
```

#### 6. Made a two file a. inventory.ini with



```
drpgtm@Ubuntu:~/Hazesoft_Internship/T2/HAZES0FT-T1/t2-final$ cat inventory.ini
[ubuntu_vm]
192.168.56.10 ansible_user=vagrant
```

b. deploy.yml for ansible playbook.

```
cat deploy.yml
```

```
- name: Build and run Docker application
```

```
hosts: ubuntu_vm
```

```
gather_facts: false
```

```
become: true
```

```
tasks:
```

```
- name: Install Docker dependencies
```

```
apt:
```

```
name:
```

```
- apt-transport-https
```

```
- ca-certificates
```

```
- curl
```

```
- gnupg
```

```
- software-properties-common
```

```
state: present
```

```
- name: Add Docker GPG key
```

```
apt_key:
```

```
url: https://download.docker.com/linux/ubuntu/gpg
```

```
state: present
```

```
- name: Add Docker repository
```

```
apt_repository:
```

```
repo: deb [arch=amd64] https://download.docker.com/linux/ubuntu focal stable
```

```
state: present
```

```
- name: Update apt cache
```

```
apt:
```

```
update_cache: yes
```

```
cache_valid_time: 3600
```

```
- name: Install Docker
```

```
apt:
```

```
name: docker-ce
```

```
state: present
```

```
- name: Install Python and pip
```

```
apt:
```

```
name:
```

```
- python3
```

```
- python3-pip
```

```
state: present
```

```
- name: Upgrade pip
```

```
pip:
```

name: pip  
state: latest

- name: Install Docker Compose

pip:  
name: docker-compose

- name: Clone repository

git:  
repo: https://github.com/drggtm/HAZESOFT-T1.git  
dest: /opt/task  
version: main

- name: Build Docker image

command: docker build -t task1 /opt/task  
args:  
chdir: /opt/task

- name: Run Docker container

command: docker run -d -p 9000:80 --name task2 task1

TO RUN THESE: `$ ansible-playbook -i inventory.ini deploy.yml --ask-become-pass`

7. some errors encountered during initial stages as..

```
PLAY RECAP *****
192.168.56.10 : ok=1 changed=0 unreachable=0 failed=1 skipped=0 rescued=0 ignored=0

drggtm@Ubuntu:~/Hazesoft_Internship/T2/HAZESOFT-T1/t2-final$ ansible-playbook -i inventory.ini deploy.yml --ask-become-pass
BECOME password:

PLAY [Deploy Dockerized Nginx] *****

TASK [Gathering Facts] *****
ok: [192.168.56.10]

TASK [Wait for dpkg lock to be released] *****
fatal: [192.168.56.10 -> 127.0.0.1]: FAILED! => {"changed": false, "elapsed": 300, "msg": "Timeout when waiting for /var/lib/dpkg/lock-fronten
d to be absent."}

PLAY RECAP *****
192.168.56.10 : ok=1 changed=0 unreachable=0 failed=1 skipped=0 rescued=0 ignored=0

drggtm@Ubuntu:~/Hazesoft_Internship/T2/HAZESOFT-T1/t2-final$ nano deploy.yml
drggtm@Ubuntu:~/Hazesoft_Internship/T2/HAZESOFT-T1/t2-final$ ansible-playbook -i inventory.ini deploy.yml --ask-become-pass
BECOME password:

PLAY [Deploy Dockerized Application] *****

TASK [Install Docker dependencies] *****
changed: [192.168.56.10] => (item=apt-transport-https)
ok: [192.168.56.10] => (item=ca-certificates)
ok: [192.168.56.10] => (item=curl)
ok: [192.168.56.10] => (item=gnupg)
ok: [192.168.56.10] => (item=software-properties-common)

TASK [Add Docker GPG key] *****
[WARNING]: Module remote_tmp /root/.ansible/tmp did not exist and was created with a mode of 0700, this may cause issues when running as
another user. To avoid this, create the remote_tmp dir with the correct permissions manually
changed: [192.168.56.10]

TASK [Add Docker repository] *****
□
```

```

chdir: /opt/task

drsgtm@Ubuntu: ~/Hazesoft_Internship/T2/HAZES0FT-T1/t2-final$ sudo nano deploy.yml
drsgtm@Ubuntu: ~/Hazesoft_Internship/T2/HAZES0FT-T1/t2-final$ ansible-playbook -i inventory.ini deploy.yml --ask-become-pass
BECOME password:

PLAY [Deploy Dockerized Application] *****

TASK [Install Docker dependencies] *****
ok: [192.168.56.10] => (item=apt-transport-https)
ok: [192.168.56.10] => (item=ca-certificates)
ok: [192.168.56.10] => (item=curl)
ok: [192.168.56.10] => (item=gnupg)
ok: [192.168.56.10] => (item=software-properties-common)

TASK [Add Docker GPG key] *****
ok: [192.168.56.10]

TASK [Add Docker repository] *****
ok: [192.168.56.10]

TASK [Update apt cache] *****
ok: [192.168.56.10]

TASK [Install Docker] *****
changed: [192.168.56.10]

TASK [Install Docker Compose] *****
fatal: [192.168.56.10]: FAILED! => {"changed": false, "msg": "Unable to find any of pip3 to use. pip needs to be installed."}

PLAY RECAP *****
192.168.56.10 : ok=5 changed=1 unreachable=0 failed=1 skipped=0 rescued=0 ignored=0

drsgtm@Ubuntu: ~/Hazesoft_Internship/T2/HAZES0FT-T1/t2-final$

```

```

drsgtm@Ubuntu: ~/Hazesoft_Inter... x drsgtm@Ubuntu: ~/Hazesoft_Inter... x drsgtm@Ubuntu: /opt/vagrant x drsgtm@Ubuntu: /opt x
TASK [Install Docker dependencies] *****
ok: [192.168.56.10]

TASK [Add Docker GPG key] *****
ok: [192.168.56.10]

TASK [Add Docker repository] *****
ok: [192.168.56.10]

TASK [Update apt cache] *****
ok: [192.168.56.10]

TASK [Install Docker] *****
ok: [192.168.56.10]

TASK [Install Python and pip] *****
ok: [192.168.56.10]

TASK [Upgrade pip] *****
ok: [192.168.56.10]

TASK [Install Docker Compose] *****
ok: [192.168.56.10]

TASK [Clone repository] *****
ok: [192.168.56.10]

TASK [Copy site folder to nginx document root] *****
An exception occurred during task execution. To see the full traceback, use -vvv. The error was: If you are using a module and expect the file
to exist on the remote, see the remote_src option
fatal: [192.168.56.10]: FAILED! => {"changed": false, "msg": "Could not find or access '/opt/task/site' on the Ansible Controller.\nIf you are
using a module and expect the file to exist on the remote, see the remote_src option"}

PLAY RECAP *****
192.168.56.10 : ok=9 changed=0 unreachable=0 failed=1 skipped=0 rescued=0 ignored=0

```

```
drngtm@Ubuntu: ~/Hazesoft_Inter... x drngtm@Ubuntu: ~/Hazesoft_Inter... x drngtm@Ubuntu: /opt/vagrant x drngtm@Ubuntu: /opt x
-55336849246450 "" && echo ansible-tmp-1687163170.7614326-12363-55336849246450="" echo /home/vagrant/.ansible/tmp/ansible-tmp-1687163170.76143
26-12363-55336849246450 "" ) && sleep 0""""
<192.168.56.10> (0, b'ansible-tmp-1687163170.7614326-12363-55336849246450=/home/vagrant/.ansible/tmp/ansible-tmp-1687163170.7614326-12363-5533
6849246450\n', b'')
<192.168.56.10> ESTABLISH SSH CONNECTION FOR USER: vagrant
<192.168.56.10> SSH: EXEC ssh -o ControlMaster=auto -o ControlPersist=60s -o UserKnownHostsFile=/dev/null -o ServerAliveInterval=20 -o StrictH
ostKeyChecking=no -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-with-mic,gssapi-keyex,hostbased,publickey -o PasswordA
uthentication=no -o 'User="vagrant"' -o ConnectTimeout=10 -o 'ControlPath=/home/drngtm/.ansible/cp/c1779e6473' 192.168.56.10 'bin/sh -c "'
"rm -f -r /home/vagrant/.ansible/tmp/ansible-tmp-1687163170.7614326-12363-55336849246450/ > /dev/null 2>&1 && sleep 0""""
<192.168.56.10> (0, b' ', b'')
The full traceback is:
Traceback (most recent call last):
  File "/usr/lib/python3/dist-packages/ansible/plugins/action/copy.py", line 466, in run
    source = self._find_needle('files', source)
  File "/usr/lib/python3/dist-packages/ansible/plugins/action/__init__.py", line 1431, in _find_needle
    return self._loader.path_dwim_relative_stack(path_stack, dirname, needle)
  File "/usr/lib/python3/dist-packages/ansible/parsing/dataloader.py", line 341, in path_dwim_relative_stack
    raise AnsibleFileNotFound(file_name=source, paths=[to_native(p) for p in search])
ansible.errors.AnsibleFileNotFound: Could not find or access '/opt/task/site' on the Ansible Controller.
If you are using a module and expect the file to exist on the remote, see the remote_src option
fatal: [192.168.56.10]: FAILED! => {
  "changed": false,
  "invocation": {
    "dest": "/var/www/html",
    "module_args": {
      "dest": "/var/www/html",
      "src": "/opt/task/site"
    },
    "src": "/opt/task/site"
  },
  "msg": "Could not find or access '/opt/task/site' on the Ansible Controller.\nIf you are using a module and expect the file to exist on th
e remote, see the remote_src option"
}

PLAY RECAP *****
192.168.56.10 : ok=9 changed=0 unreachable=0 failed=1 skipped=0 rescued=0 ignored=0
```

```
drngtm@Ubuntu: ~/Hazesoft_Inter... x drngtm@Ubuntu: ~/Hazesoft_Inter... x drngtm@Ubuntu: /opt/vagrant x drngtm@Ubuntu: /opt x
TASK [Add Docker GPG key] *****
ok: [192.168.56.10]

TASK [Add Docker repository] *****
ok: [192.168.56.10]

TASK [Update apt cache] *****
ok: [192.168.56.10]

TASK [Install Docker] *****
ok: [192.168.56.10]

TASK [Install Python and pip] *****
ok: [192.168.56.10]

TASK [Upgrade pip] *****
ok: [192.168.56.10]

TASK [Install Docker Compose] *****
ok: [192.168.56.10]

TASK [Clone repository] *****
changed: [192.168.56.10]

TASK [Build Docker image] *****
fatal: [192.168.56.10]: FAILED! => {"changed": true, "cmd": ["docker", "build", "-t", "your_image_name", "/opt/task"], "delta": "0:00:01.14311
0", "end": "2023-06-19 08:38:37.202951", "msg": "non-zero return code", "rc": 1, "start": "2023-06-19 08:38:36.059841", "stderr": "#1 [interna
l] load .dockerignore\n#1 transferring context:\n#1 transferring context: 2B 0.0s done\n#1 DONE 0.1s\n#2 [internal] load build definition fr
om Dockerfile\n#2 transferring dockerfile: 2B done\n#2 DONE 0.1s\nERROR: failed to solve: failed to read dockerfile: open /var/lib/docker/tmp/buildkit-mount3296022473/Dockerfile: no such file or directory", "stderr_lines": ["#1 [internal] load .dockerignore", "#1 transferring context
:", "#1 transferring context: 2B 0.0s done", "#1 DONE 0.1s", "", "#2 [internal] load build definition from Dockerfile", "#2 transferring docke
rfile: 2B done", "#2 DONE 0.1s", "ERROR: failed to solve: failed to read dockerfile: open /var/lib/docker/tmp/buildkit-mount3296022473/Dockerf
ile: no such file or directory"], "stdout": "", "stdout_lines": []}

PLAY RECAP *****
192.168.56.10 : ok=9 changed=1 unreachable=0 failed=1 skipped=0 rescued=0 ignored=0
```

```
drpgtm@Ubuntu: ~/Hazesoft_Inter... x drpgtm@Ubuntu: ~/Hazesoft_Inter... x drpgtm@Ubuntu: /opt/vagrant x drpgtm@Ubuntu: /opt x v
TASK [Install Docker dependencies] *****
ok: [192.168.56.10]
TASK [Add Docker GPG key] *****
ok: [192.168.56.10]
TASK [Add Docker repository] *****
ok: [192.168.56.10]
TASK [Update apt cache] *****
ok: [192.168.56.10]
TASK [Install Docker] *****
ok: [192.168.56.10]
TASK [Install Python and pip] *****
ok: [192.168.56.10]
TASK [Upgrade pip] *****
ok: [192.168.56.10]
TASK [Install Docker Compose] *****
ok: [192.168.56.10]
TASK [Clone repository] *****
changed: [192.168.56.10]
TASK [Build Docker image] *****
changed: [192.168.56.10]
TASK [Run Docker container] *****
changed: [192.168.56.10]
PLAY RECAP *****
192.168.56.10 : ok=11 changed=3 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
```

```
vagrant@ubuntu2204: /opt/task/site x drpgtm@Ubuntu: ~/Hazesoft_Internship/T1 x v
vagrant@ubuntu2204:/opt/task/site$
vagrant@ubuntu2204:/opt/task/site$
vagrant@ubuntu2204:/opt/task/site$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
vagrant@ubuntu2204:/opt/task/site$
vagrant@ubuntu2204:/opt/task/site$
vagrant@ubuntu2204:/opt/task/site$
vagrant@ubuntu2204:/opt/task/site$
vagrant@ubuntu2204:/opt/task/site$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
cb029d3ee13b task1 "nginx -g 'daemon of..." 15 seconds ago Up 15 seconds 9000/tcp, 0.0.0.0:9000->80/tcp task2
vagrant@ubuntu2204:/opt/task/site$
vagrant@ubuntu2204:/opt/task/site$ sudo docker exec -it cb029d3ee13b sh
/ # cd /etc/nginx
/etc/nginx # ls
fastcgi.conf fastcgi_params http.d mime.types modules nginx.conf scgi_params uwsgi_params
/etc/nginx #
/etc/nginx # cd http.d/
/etc/nginx/http.d # ls
default.conf
/etc/nginx/http.d # sudo nano default.conf
sh: sudo: not found
/etc/nginx/http.d # sudo vi default.conf
sh: sudo: not found
/etc/nginx/http.d # vi default.conf
/etc/nginx/http.d # vi default.conf
/etc/nginx/http.d # nginx -s reload
/etc/nginx/http.d #
/etc/nginx/http.d #
/etc/nginx/http.d # curl localhost:9000/site/index.html
sh: curl: not found
/etc/nginx/http.d # exit
vagrant@ubuntu2204:/opt/task/site$ curl localhost:9000/site/index.html
You did it, Congratulations!!
vagrant@ubuntu2204:/opt/task/site$
```

Final result:-

