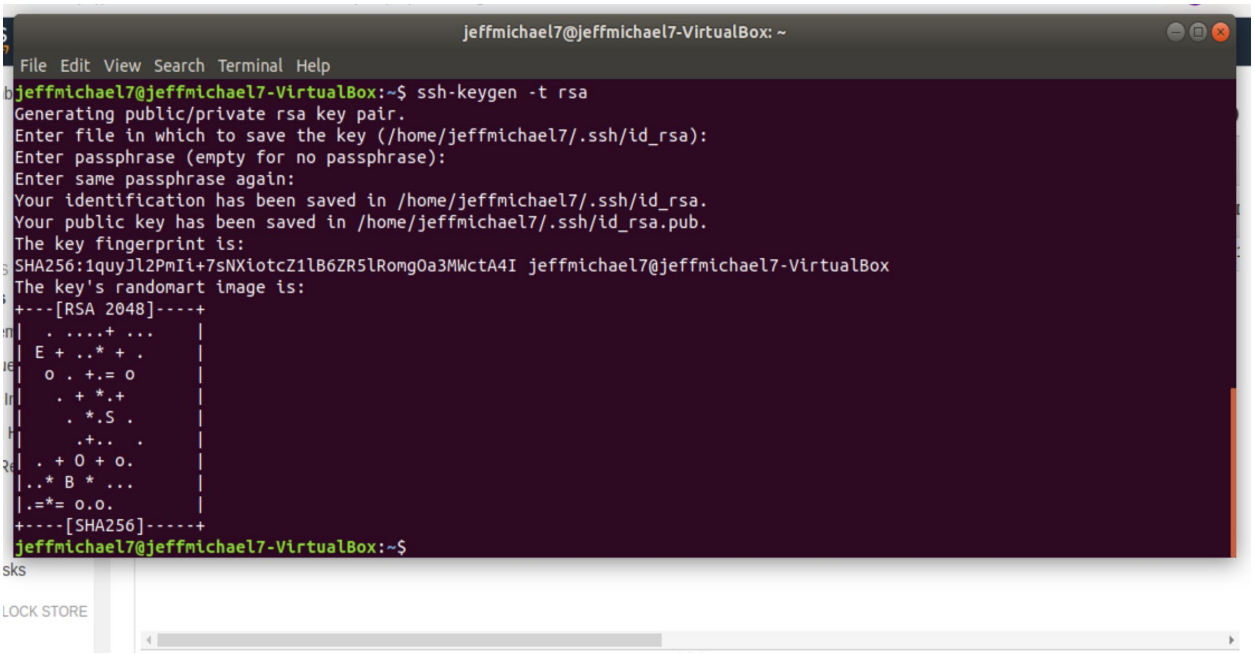
Homework 1
Team Donuts

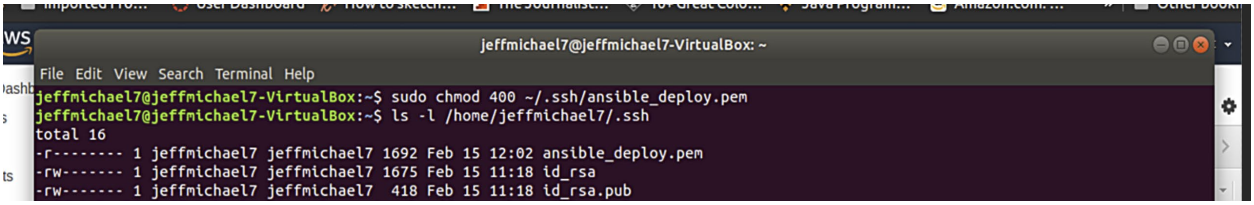
At the commencement of this assignment, we knew nothing of what it meant to deploy a webserver or how to even utilize one. Thus, in our research we found a page to reference in the following site:
https://www.bogotobogo.com/DevOps/Ansible/Ansible_SettingUp_Webservers_Nginx_Install_Env_Configure_Deploy_App.php
To a degree, we followed this procedure along with your installation guide to achieve the result. However, given our inexperience in web development, we found it very difficult to follow. We answered our own questions, as in where we needed to download Ansible, whether on the client machine or the remote server machine. Many other small obstacles like this were overcome with our own research.

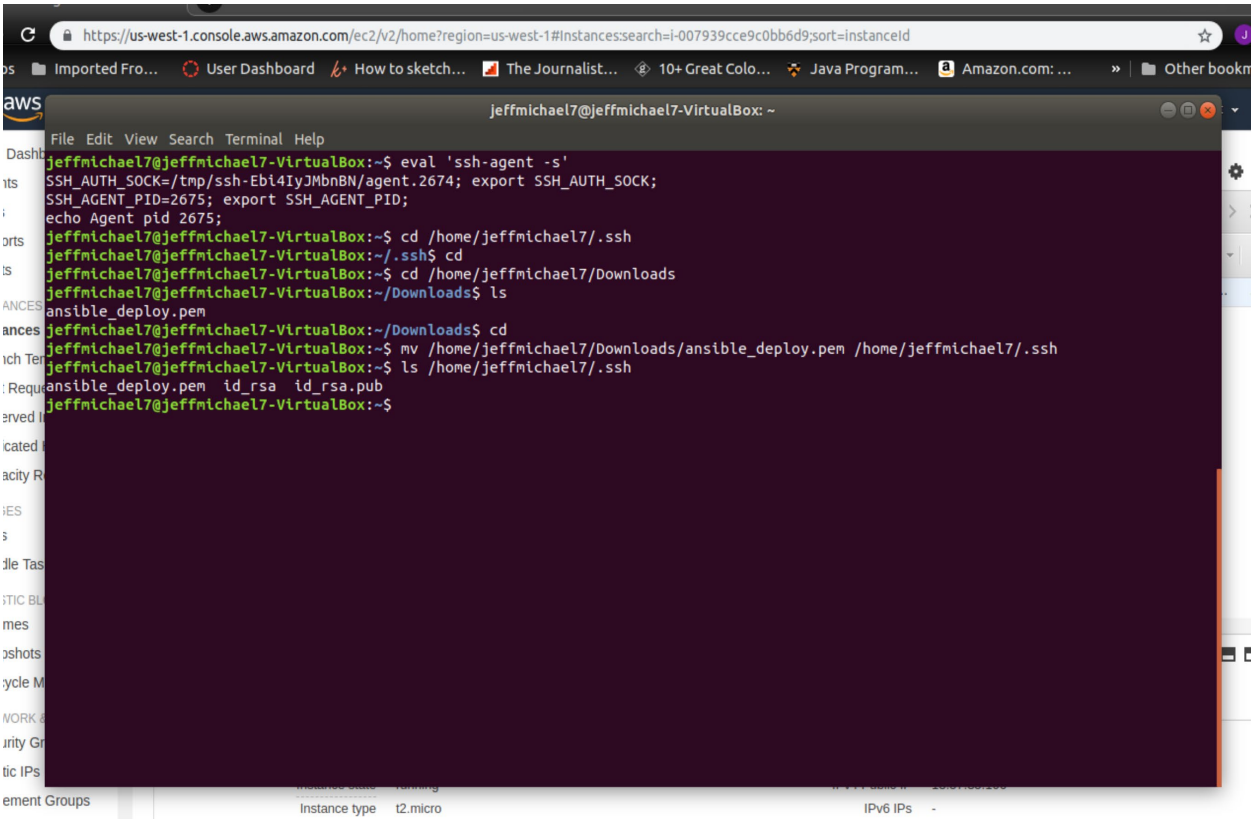
The code can be found at https://github.com/jeffmiguel7/CMPE172_HW1

First, we generated the key pair utilizing ssh-keygen -t rsa (type rsa).



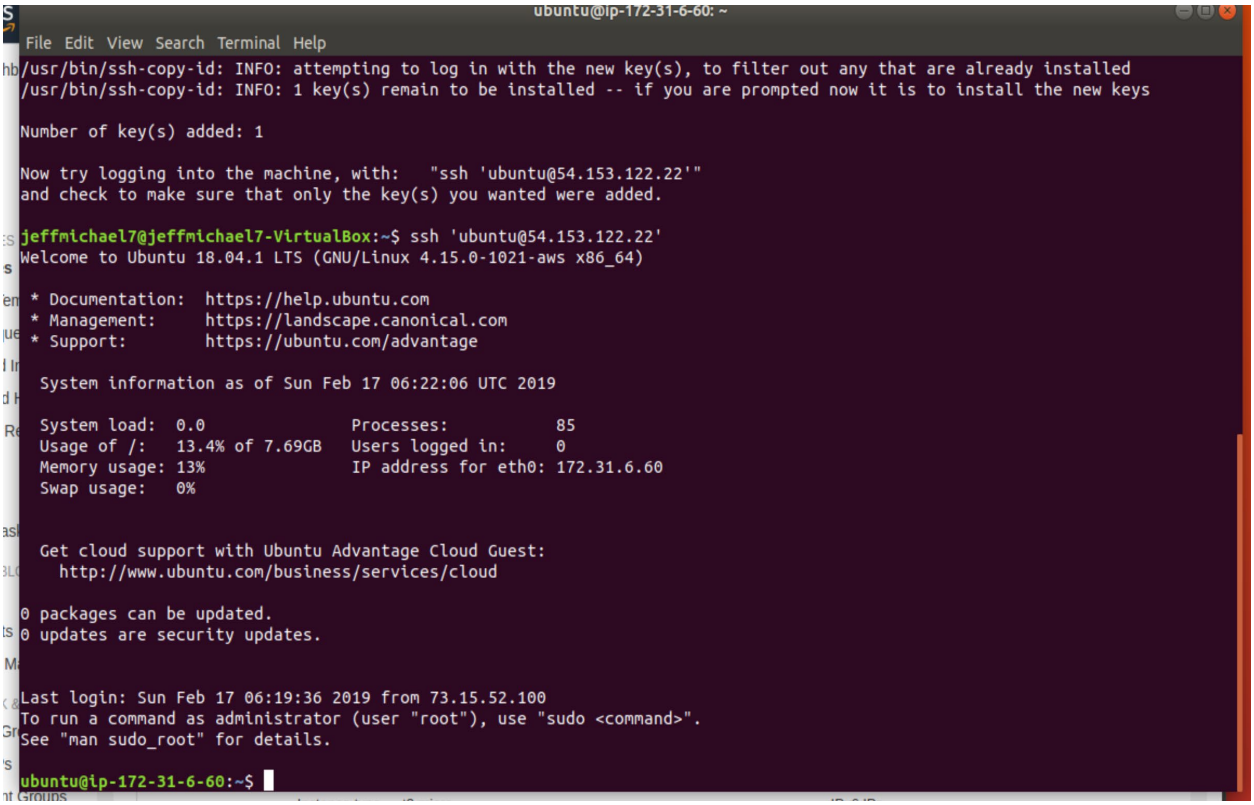
We then created an AWS EC2 instance to function as our remote server.
We downloaded the .pem file (the remote servers key pair). In order to use an SSH client, we changed the .pem files permission to 400, only readable by the owner. In the following images, you can see the process we traversed to connect to the server via ssh.



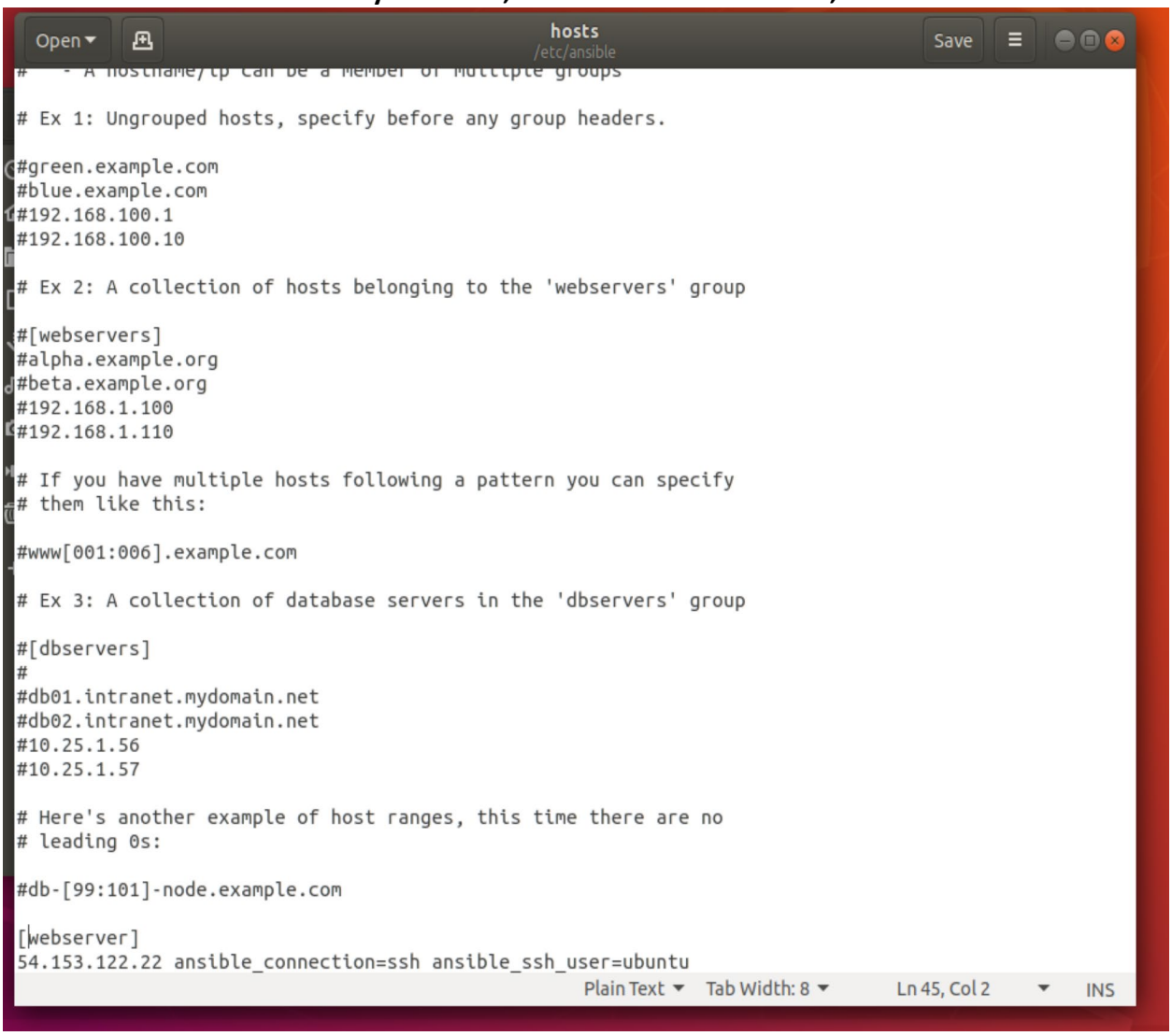


```
jeffmichael7@jeffmichael7-VirtualBox:~$ ssh-add ~/.ssh/ansible_deploy.pem
Identity added: /home/jeffmichael7/.ssh/ansible_deploy.pem (/home/jeffmichael7/.ssh/ansible_deploy.pem)
jeffmichael7@jeffmichael7-VirtualBox:~$ ssh-add -l
2048 SHA256:lIJoLPgySGnaBPth1ulHnu7nryD7Ajuu51Dy+gBwZQg /home/jeffmichael7/.ssh/ansible_deploy.pem (RSA)
2048 SHA256:0ARILgOXSxoWSfErQjnQp29m5jMmq6DU8pvEOF7I3Uo jeffmichael7@jeffmichael7-VirtualBox (RSA)
jeffmichael7@jeffmichael7-VirtualBox:~$
```

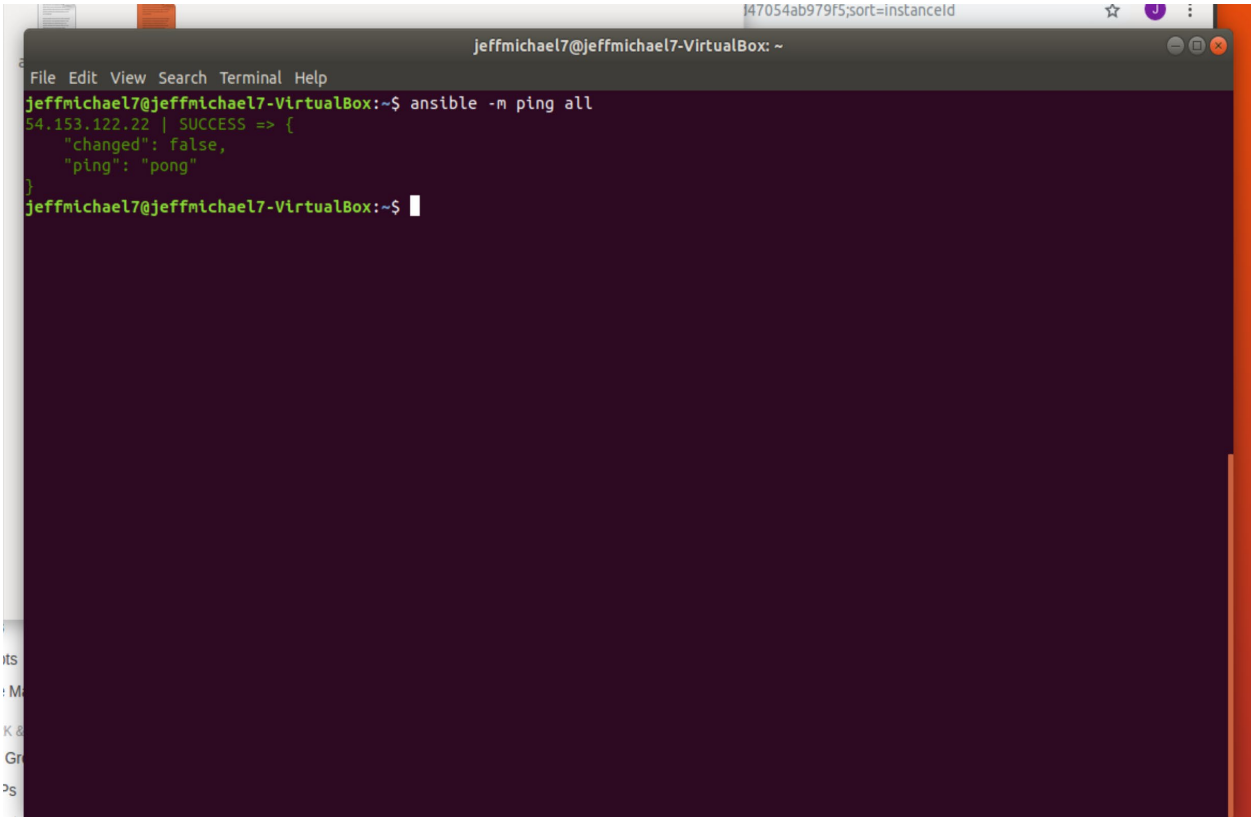
```
ubuntu@ip-172-31-1-229: ~
File  Edit  View  Search  Terminal  Help
jeffmichael7@jeffmichael7-VirtualBox:~$ ssh-copy-id -f ubuntu@13.57.35.106
The authenticity of host '13.57.35.106 (13.57.35.106)' can't be established.
ECDSA key fingerprint is SHA256:d0NIw+WOYYb/n1cz49yg14gDO01GYGB4CYvfD2Tb9/w.
Are you sure you want to continue connecting (yes/no)? yes

Number of key(s) added: 2

Now try logging into the machine, with:   "ssh 'ubuntu@13.57.35.106'"
and check to make sure that only the key(s) you wanted were added.

jeffmichael7@jeffmichael7-VirtualBox:~$ ssh ubuntu@13.57.35.106
Welcome to Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-1021-aws x86_64)

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

  System information as of Fri Feb 15 20:34:06 UTC 2019

  System load:  0.0               Processes:           85
  Usage of /:   13.4% of 7.69GB   Users logged in:     0
  Memory usage: 13%               IP address for eth0: 172.31.1.229
  Swap usage:   0%


  Get cloud support with Ubuntu Advantage Cloud Guest:
    http://www.ubuntu.com/business/services/cloud

0 packages can be updated.
0 updates are security updates.


To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```


ubuntu@ip-172-31-6-60: ~
File Edit View Search Terminal Help
/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
Number of key(s) added: 1
Now try logging into the machine, with: "ssh 'ubuntu@54.153.122.22'"
and check to make sure that only the key(s) you wanted were added.
jeffmichael7@jeffmichael7-VirtualBox:~$ ssh 'ubuntu@54.153.122.22'
Welcome to Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-1021-aws x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage
System information as of Sun Feb 17 06:22:06 UTC 2019
System load: 0.0 Processes: 85
Usage of /: 13.4% of 7.69GB Users logged in: 0
Memory usage: 13% IP address for eth0: 172.31.6.60
Swap usage: 0%
Get cloud support with Ubuntu Advantage Cloud Guest:
http://www.ubuntu.com/business/services/cloud
0 packages can be updated.
0 updates are security updates.
Last login: Sun Feb 17 06:19:36 2019 from 73.15.52.100
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
ubuntu@ip-172-31-6-60:~$

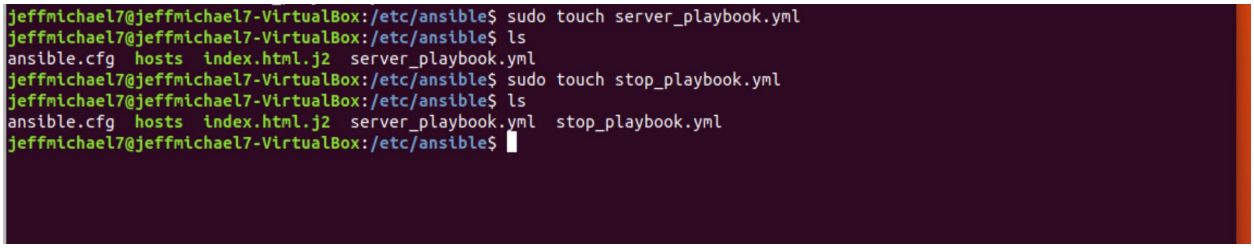
We then downloaded Ansible via apt-get. Once downloaded we entered /etc/ansible and modified the default inventory file *hosts*, to add our remote server, as seen below.



We then pinged Ansible for a successful ping.



We then created the Ansible playbooks necessary to perform tasks:



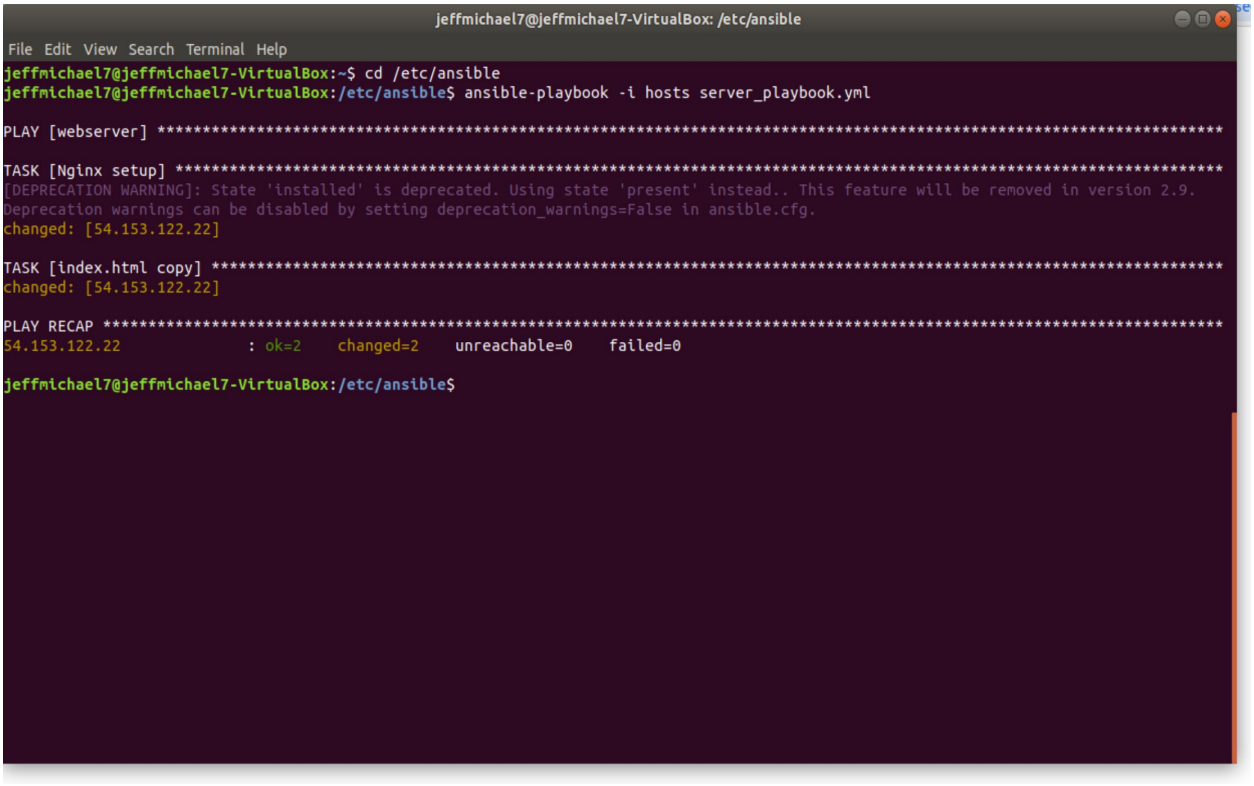
At this junction, there was much difficulty in solving the Nginx issue, given that our page continued to show the default Nginx greeting page. Nonetheless, we solved it.

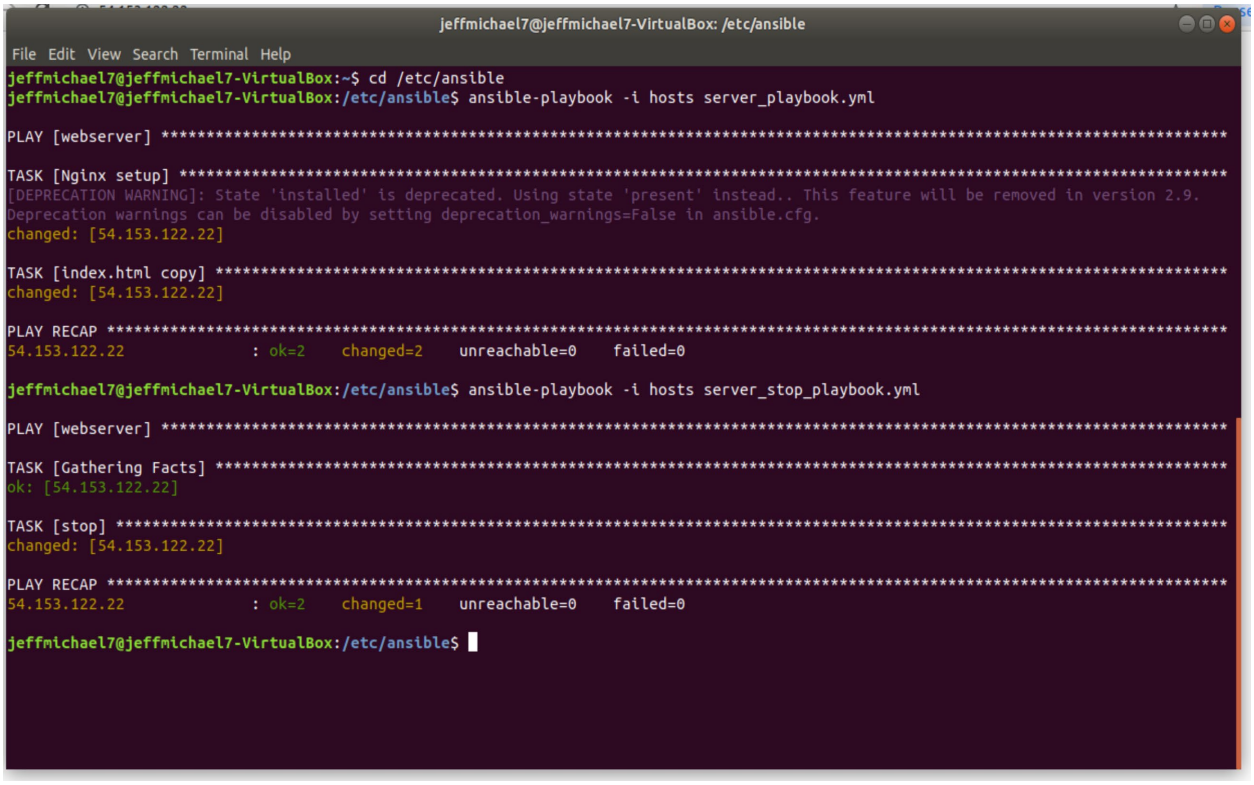
These are the playbooks to deploy and un-deploy the resources.

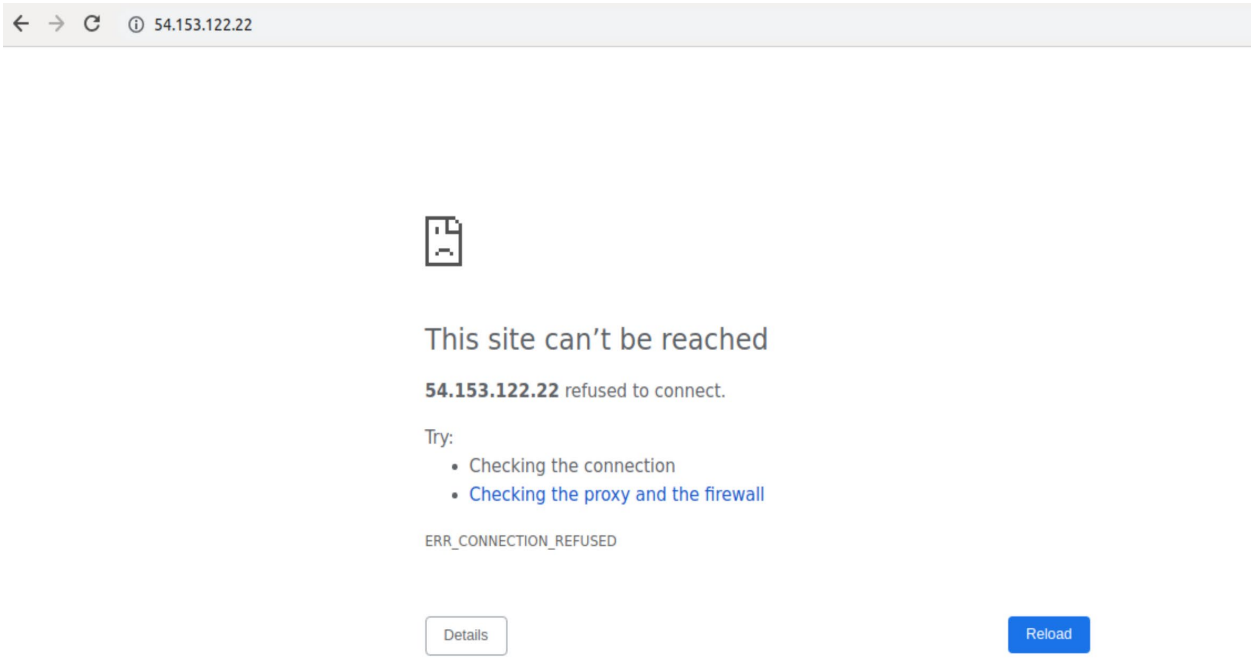
Open | server_stop_playbook.yml /etc/ansible | Save

```
hosts: webserver
remote_user: ubuntu

tasks:
 - name: stop
   become: yes
   service: name=nginx state=stopped
```

Finally, we test the deploy server playbook and the stop server playbook, of which both tests were successful.




jeffmichael7@jeffmichael7-VirtualBox: /etc/ansible
File Edit View Search Terminal Help
jeffmichael7@jeffmichael7-VirtualBox:~$ cd /etc/ansible
jeffmichael7@jeffmichael7-VirtualBox:/etc/ansible$ ansible-playbook -i hosts server_playbook.yml
PLAY [webserver] ***
TASK [Nginx setup] ***
[DEPRECATION WARNING]: State 'installed' is deprecated. Using state 'present' instead.. This feature will be removed in version 2.9.
Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
changed: [54.153.122.22]
TASK [index.html copy] ***
changed: [54.153.122.22]
PLAY RECAP ***
54.153.122.22 : ok=2 changed=2 unreachable=0 failed=0
jeffmichael7@jeffmichael7-VirtualBox:/etc/ansible$ ansible-playbook -i hosts server_stop_playbook.yml
PLAY [webserver] ***
TASK [Gathering Facts] ***
ok: [54.153.122.22]
TASK [stop] **
changed: [54.153.122.22]
PLAY RECAP ***
54.153.122.22 : ok=2 changed=1 unreachable=0 failed=0
jeffmichael7@jeffmichael7-VirtualBox:/etc/ansible$


54.153.122.22
This site can’t be reached
54.153.122.22 refused to connect.
Try:
Checking the connection
Checking the proxy and the firewall
ERR_CONNECTION_REFUSED
Details
Reload