Name: Hermitano, Johnny C.	Date Performed: 12/10/22
Course/Section: CPE31S23	Date Submitted: 12/10/22
Instructor: Engr. Jonathan Taylar	Semester and SY: 1st sem sy 2022

Activity 14: OpenStack Installation (Keystone, Glance, Nova)

1. Objectives

Create a workflow to install OpenStack using Ansible as your Infrastructure as Code (IaC).

2. Intended Learning Outcomes

1. Analyze the advantages and disadvantages of cloud services
2. Evaluate different Cloud deployment and service models
3. Create a workflow to install and configure OpenStack base services using Ansible as documentation and execution.

3. Resources

Oracle VirtualBox (Hypervisor)

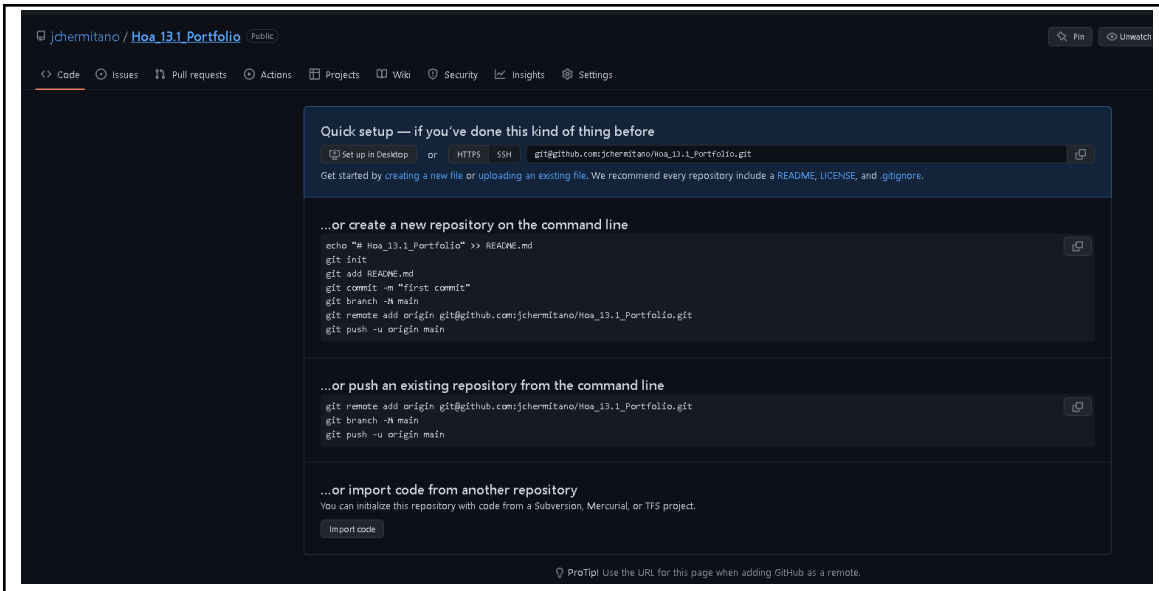
1x Ubuntu VM or Centos VM

4. Tasks

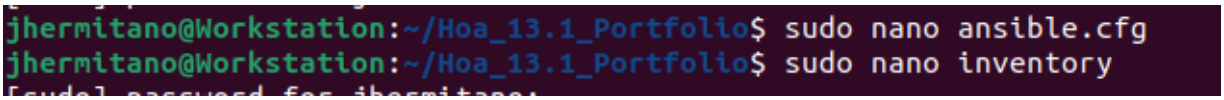
1. Create a new repository for this activity.
2. Create a playbook that converts the steps in the following items in https://docs.openstack.org/install-guide/
   a. Keystone (Identity Service)
   b. Glance (Imaging Service)
   c. Nova (Compute Service)
   d. Create different plays in installing per server type (controller, compute etc.) and identify it as a group in the Inventory file.
   e. Add, commit and push it to your GitHub repo.

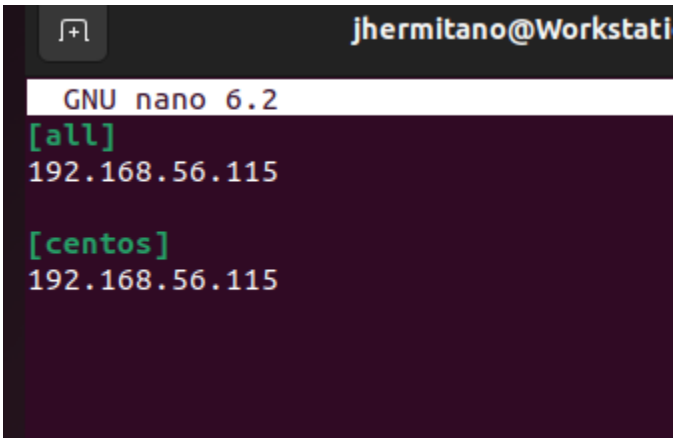
5. Output (screenshots and explanations)

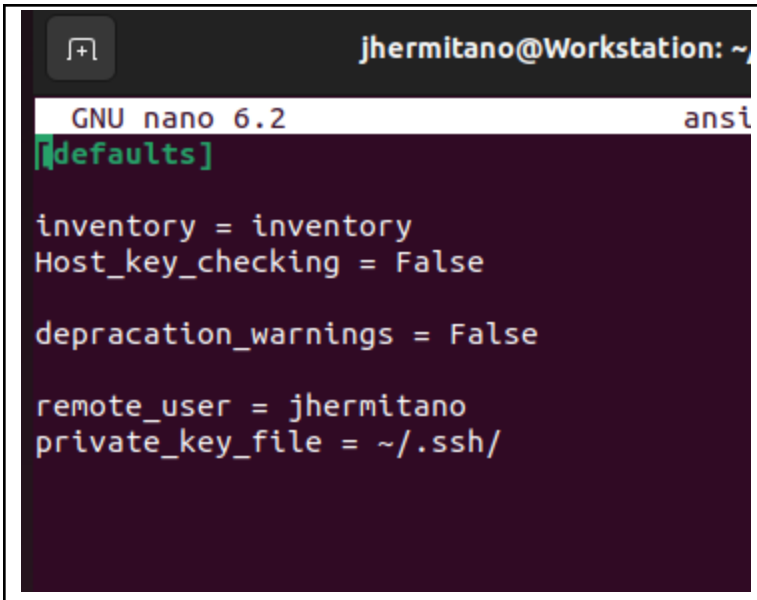
Step 1. Create your own github repository to clone.



Step 2. Clone your repository and start creating your inventory and ansible.cfg







Step 3. Create your playbook with this code to install the activities requirements.

Step 4. Run your playbook with this command: ansible-playbook –ask-become-pass yourPlaybook

```
jhermitano@Workstation:~/Hoa_14.1_Portfolio$ ansible-playbook --ask-become-pass install_openstack.yml
BECOME password:

PLAY [all] *********************************************************************

TASK [Gathering Facts] *********************************************************
ok: [192.168.56.105]

TASK [update repository index] *************************************************
changed: [192.168.56.105]

TASK [Install Glance] **********************************************************
ok: [192.168.56.105]

TASK [Install Keystone] ********************************************************
ok: [192.168.56.105]

TASK [Install Nova] ************************************************************
changed: [192.168.56.105]

PLAY RECAP *********************************************************************
192.168.56.105             : ok=5    changed=2    unreachable=0    failed=0    skipped=0    rescued=0
    ignored=0
Show Applications
:~/Hoa_14.1_Portfolio$
```

Step 5. Verify the installation.

```
jhermitano@Server1:~$ nova-compute --version
Modules with known eventlet monkey patching issues were imported prior to event
let monkey patching: urllib3. This warning can usually be ignored if the caller
 is only importing and not executing nova code.
25.0.1
jhermitano@Server1:~$ keystone-manage --version
21.0.0
jhermitano@Server1:~$ glance --version
3.6.0
jhermitano@Server1:~$
```

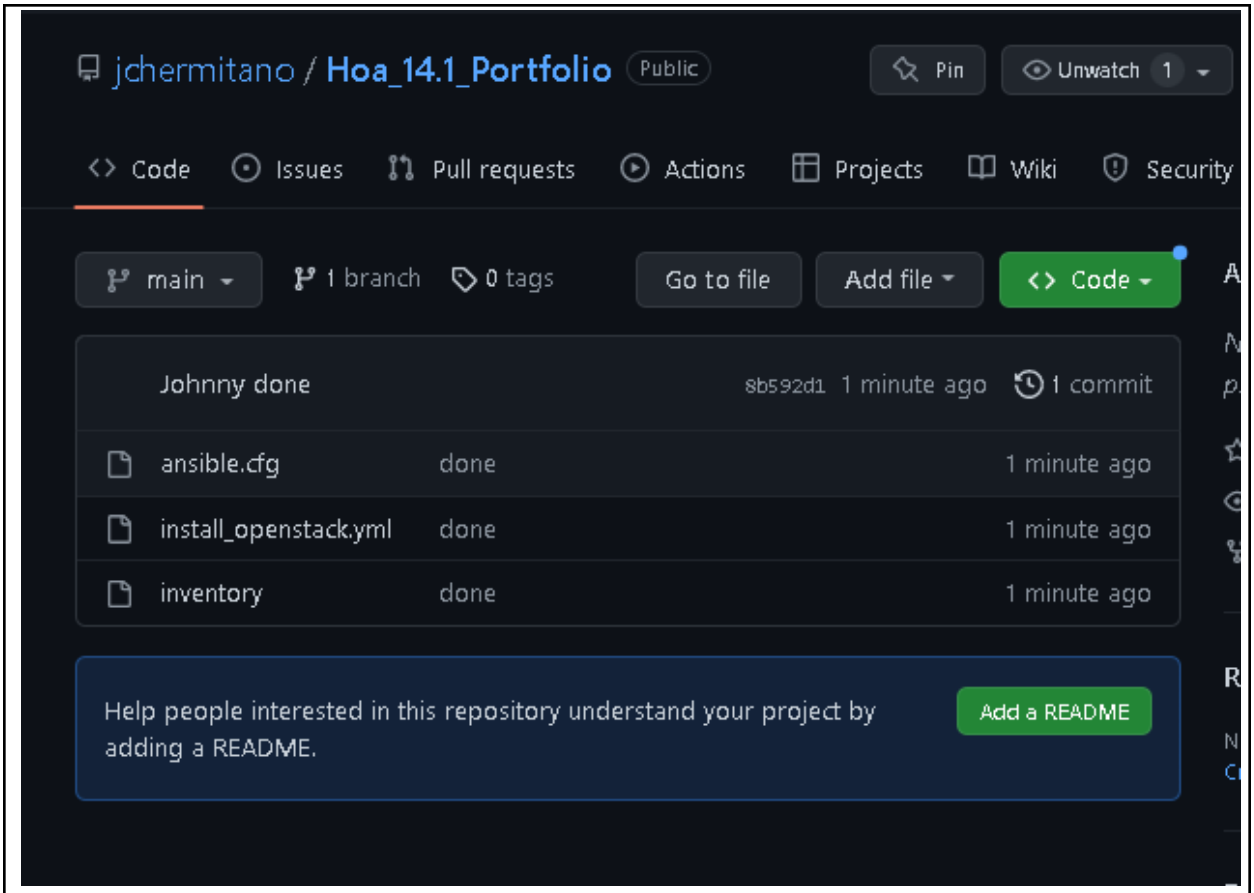
Step 6. Git add your files. You can use git status to check the status of your file.

```
jhermitano@Workstation:~/Hoa_13.1_Portfolio$ ls
ansible.cfg  install_openstack.yml  inventory
jhermitano@Workstation:~/Hoa_13.1_Portfolio$ git add ansible.cfg inventory install_openstack.yml
jhermitano@Workstation:~/Hoa_13.1_Portfolio$ git status
On branch main

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   ansible.cfg
        new file:   install_openstack.yml
        new file:   inventory
```

Step 7. Git commit and then git push.

```
jhermitano@Workstation:~/Hoa_14.1_Portfolio$ git add ansible.cfg inventory install_openstack.yml
jhermitano@Workstation:~/Hoa_14.1_Portfolio$ git commit -m done
[main (root-commit) 8b592d1] done
 3 files changed, 45 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 install_openstack.yml
 create mode 100644 inventory
jhermitano@Workstation:~/Hoa_14.1_Portfolio$ git push -u origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 633 bytes | 633.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:jchermitano/Hoa_14.1_Portfolio.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
jhermitano@Workstation:~/Hoa_14.1_Portfolio$
```

Step 8. You verify your files if successfully pushed through your github repository.



Github Repository: https://github.com/jchermitano/Hoa_14.1_Portfolio.git

Reflections:

Answer the following:

1. Describe Keystone, Glance and Nova services

   Glance hosts a metadefs catalog, whereas Keystone implements OpenStack's Identity API to offer distributed multi-tenant authorization, service discovery, and API client authentication. This gives the OpenStack community a method for calculating the names of various metadata key variables and acceptable values that can be used with OpenStack resources. The most intricate and dispersed part of OpenStack is Nova. In order to convert end user API requests into operational virtual machines, many procedures work together.

Conclusions: