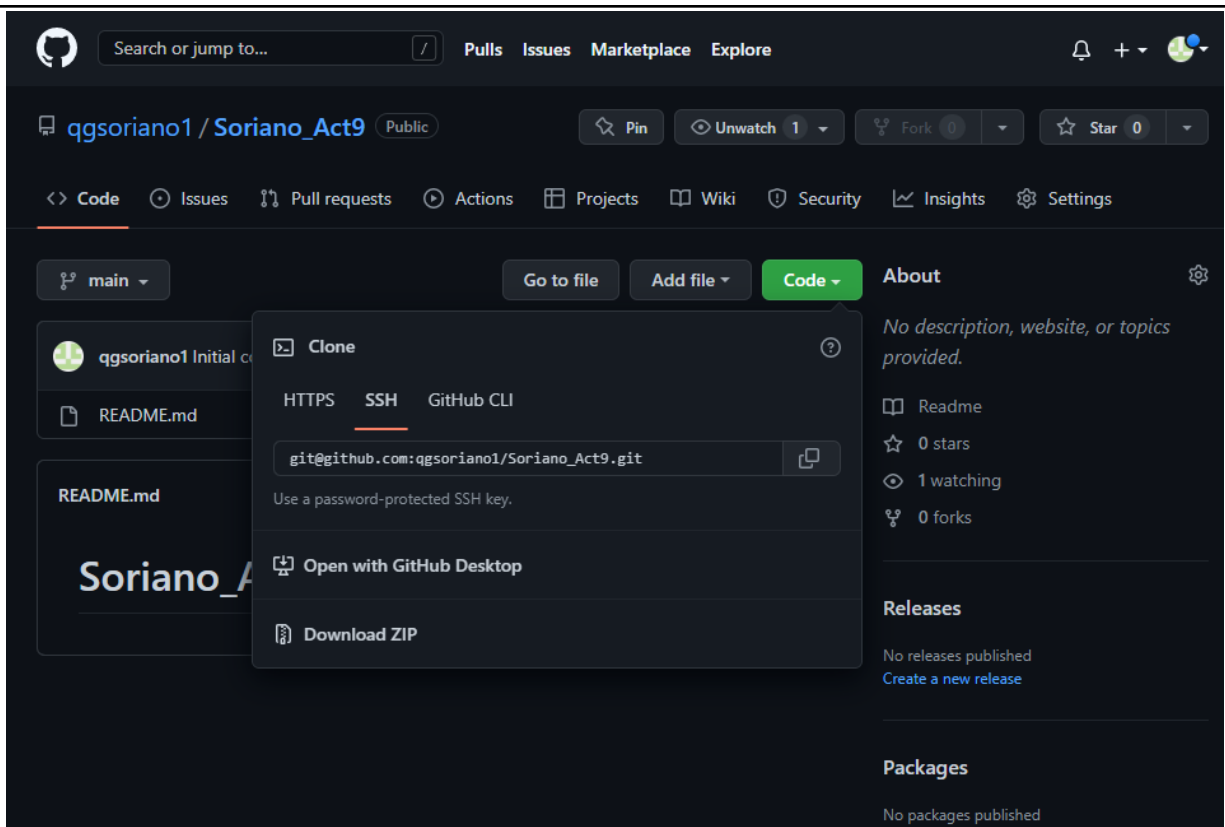


<b>Name: Gabriel Soriano</b>	<b>Date Performed: October 25, 2022</b>
<b>Course/Section: CPE232 - CPE31S23</b>	<b>Date Submitted: October 25, 2022</b>
<b>Instructor: Engr. Taylar</b>	<b>Semester and SY: 1st Sem/SY 2022-2023</b>
<b>Activity 9: Install, Configure, and Manage Performance Monitoring tools</b>	
<b>1. Objectives</b>	
Create and design a workflow that installs, configure and manage enterprise performance tools using Ansible as an Infrastructure as Code (IaC) tool.	
<b>2. Discussion</b>	
<p>Performance monitoring is a type of monitoring tool that identifies current resource consumption of the workload, in this page we will discuss multiple performance monitoring tool.</p> <p><b>Prometheus</b></p> <p>Prometheus fundamentally stores all data as timeseries: streams of timestamped values belonging to the same metric and the same set of labeled dimensions. Besides stored time series, Prometheus may generate temporary derived time series as the result of queries. Source: <a href="#">Prometheus - Monitoring system &amp; time series database</a></p> <p><b>Cacti</b></p> <p>Cacti is a complete network graphing solution designed to harness the power of RRDTool's data storage and graphing functionality. Cacti provides a fast poller, advanced graph templating, multiple data acquisition methods, and user management features out of the box. All of this is wrapped in an intuitive, easy to use interface that makes sense for LAN-sized installations up to complex networks with thousands of devices. Source: <a href="#">Cacti® - The Complete RRDTool-based Graphing Solution</a></p>	
<b>3. Tasks</b>	
<b>SCREENSHOT:</b>	



- This shows the creation of a new repository named Soriano\_Act9. This is to isolate the files from the other playbook files from the other previous activities.

1. Create a playbook that installs Prometheus in both Ubuntu and CentOS. Apply the concept of creating roles.

### SCREENSHOTS:

```
qgsoriano1@cloudshell:~/Soriano_Act9$ ls
ansible.cfg  inventory  prome.yml  README.md  roles
qgsoriano1@cloudshell:~/Soriano_Act9$
```

- This shows the successful git cloning of the create repository in the github site names Soriano\_Act9. Also the creation of the files ansible.cfg, inventory file, the prome.yml file and the roles directory, which deep inside contains the main.yml file.

```
qgsoriano1@cloudshell:~/Soriano_Act9$ tree
```

```
.
├── ansible.cfg
├── inventory
├── prome.yml
├── README.md
└── roles
    ├── install
    │   └── tasks
    │       └── main.yml
```

```
3 directories, 5 files
```

```
qgsoriano1@cloudshell:~/Soriano_Act9$
```

- This shows the tree directory path of all of the files and other directories within the directory name Soriano\_Act9. Under the directory roles, directories install and tasks are created, and the tasks directory contains the main.yml.

```
qgsoriano1@cloudshell:~/Soriano_Act9$ ls
```

```
ansible.cfg  inventory  prome.yml  README.md  roles
```

```
qgsoriano1@cloudshell:~/Soriano_Act9$ cat ansible.cfg
[defaults]
```

```
inventory = inventory
```

```
host_key_checking = False
```

```
deprecation_warnings = False
```

```
remote_user = qgsoriano1
```

```
private_key_file = ~/.ssh/
```

```
qgsoriano1@cloudshell:~/Soriano_Act9$
```

- This shows the content of the ansible.cfg file.

```
qgsoriano1@cloudshell:~/Soriano_Act9$ ls
```

```
ansible.cfg  inventory  prome.yml  README.md  roles
```

```
qgsoriano1@cloudshell:~/Soriano_Act9$ cat inventory
```

```
[remote_servers]
```

```
192.168.56.105
```

```
192.168.56.118
```

```
qgsoriano1@cloudshell:~/Soriano_Act9$
```

- This shows the content of the inventory file which contains the ip addresses of the ubuntu desktop and centos desktop back at the cisco lab. (I cannot access these desktops because I performed this activity at home and cannot access virtual box because of lack of memory.)

```
qgsoriano1@cloudshell:~/Soriano_Act9$ ls
ansible.cfg  inventory  prome.yml  README.md  roles
qgsoriano1@cloudshell:~/Soriano_Act9$ cat prome.yml
---
- hosts: all
  become: true
  become_method: sudo
  become_user: root
  pre_tasks:

    - name: update repository index (CentOS)
      tags: always
      dnf:
        update_cache: yes
        changed_when: false
        when: ansible_distribution == "CentOS"

    - name: install updates (Ubuntu)
      tags: always
      apt:
        update_cache: yes
        changed_when: false
        when: ansible_distribution == "Ubuntu"

- hosts: all
  become: true
  roles:
    - install
qgsoriano1@cloudshell:~/Soriano_Act9$
```

- This shows the content of the playbook file name prome.yml

```

qgsoriano1@cloudshell:~/Soriano_Act9$ ls
ansible.cfg  inventory  prome.yml  README.md  roles
qgsoriano1@cloudshell:~/Soriano_Act9$ cd roles
qgsoriano1@cloudshell:~/Soriano_Act9/roles$ cd install
qgsoriano1@cloudshell:~/Soriano_Act9/roles/install$ cd tasks
qgsoriano1@cloudshell:~/Soriano_Act9/roles/install/tasks$ ls
main.yml
qgsoriano1@cloudshell:~/Soriano_Act9/roles/install/tasks$ cat main.yml
---

- name: Installation of Prometheus for Ubuntu
  tags: ubuntu, prometheus
  apt:
    name: prometheus
    state: latest
  when: ansible_distribution == "Ubuntu"

- name: Pre-req os installation for CentOS
  tags: centos, snapd, epel-release
  yum:
    name:
      - epel-release
      - snapd
    state: latest
  when: ansible_distribution == "CentOS"

- name: Enabling snapd sockets for CentOS
  tags: snapd, centos
  command: systemctl enable --now snapd.socket
  when: ansible_distribution == "CentOS"

- name: Installation of Prometheus for CentOS
  tags: centos, prometheus
  command: snap install prometheus --classic
  when: ansible_distribution == "CentOS"
qgsoriano1@cloudshell:~/Soriano_Act9/roles/install/tasks$

```

- This shows the accessing of the directories beneath the roles directory. This also shows the content of the playbook file named main.yml. This playbook file contains the process of installation of the prometheus for ubuntu and centOS desktops.

```

qgsoriano1@cloudshell:~$ cd Soriano_Act9
qgsoriano1@cloudshell:~/Soriano_Act9$ ls
ansible.cfg  inventory  prome.yml  README.md  roles
qgsoriano1@cloudshell:~/Soriano_Act9$ ansible-playbook --ask-become-pass prome.yml
/home/qgsoriano1/.local/lib/python2.7/site-packages/ansible/parsing/vault/_init_.py:44: CryptographyDeprecationWarning: Python 2 is no longer supported by the Python core team. Support for it is now deprecated in cryptography, and will be removed in the next release.
  from cryptography.exceptions import InvalidSignature
BECOME password:

PLAY [all] *****

TASK [Gathering Facts] *****
fatal: [192.168.56.105]: UNREACHABLE! => ("changed": false, "msg": "Failed to connect to the host via ssh: ssh: connect to host 192.168.56.105 port 22: Connection timed out", "unreachable": true)
fatal: [192.168.56.118]: UNREACHABLE! => ("changed": false, "msg": "Failed to connect to the host via ssh: ssh: connect to host 192.168.56.118 port 22: Connection timed out", "unreachable": true)

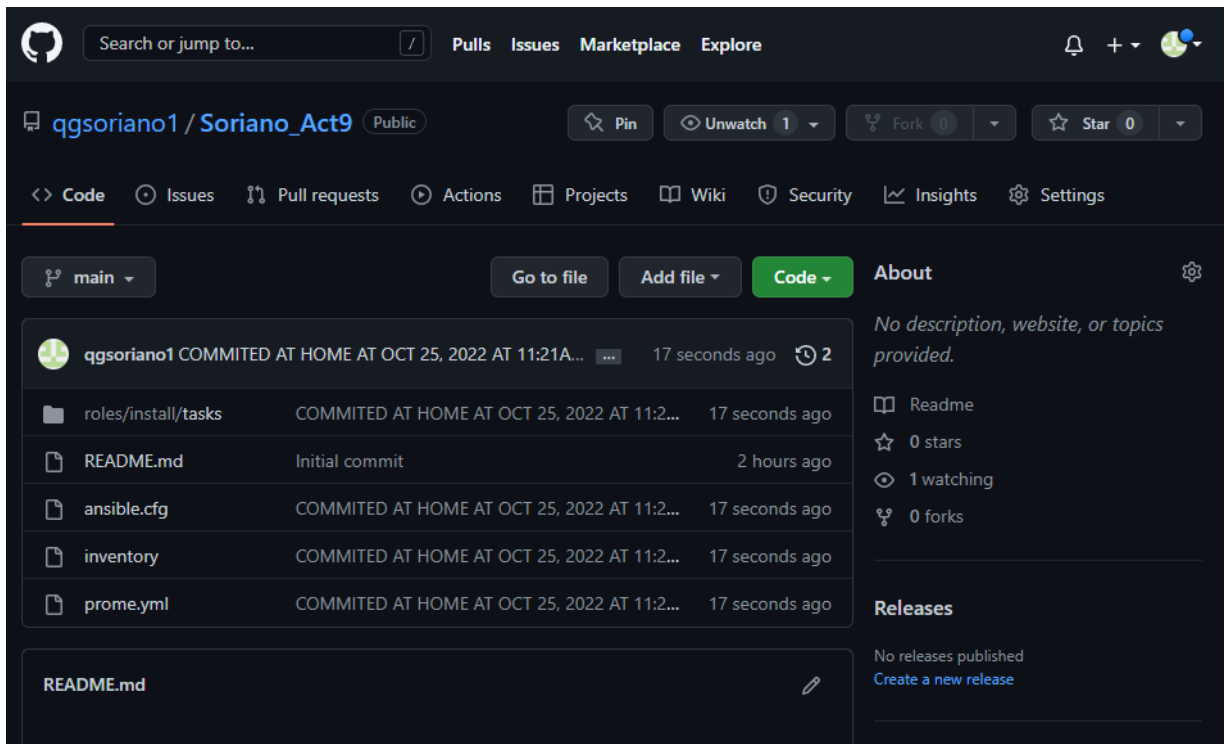
PLAY RECAP *****
192.168.56.105      : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescued=0    ignored=0
192.168.56.118    : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescued=0    ignored=0

qgsoriano1@cloudshell:~/Soriano_Act9$

```

- This shows the running of the prome.yml playbook file to install the prometheus to the ubuntu and CentOS desktops. The run was unsuccessful because of inaccessible resources. This run will surely be successful when I perform this at the cisco lab.
2. Describe how you did step 1. (Provide screenshots and explanations in your report. Make your report detailed such that it will look like a manual.)
    - **Steps and explanations are pasted above**
  3. Show an output of the installed Prometheus for both Ubuntu and CentOS.
    - **Again, these requirements are not achieved because of lack of resources and memory. This run will surely be successful when I perform this at the cisco lab.**
  4. Make sure to create a new repository in GitHub for this activity.

#### SCREENSHOT:



- This shows the successful git adding and pushing of the performed files from the linux terminal. The files are visible at the created repository named Soriano\_Act9, which is accessible and visible.

Github repository links:

[https://github.com/qgsoriano1/Soriano\\_Act9.git](https://github.com/qgsoriano1/Soriano_Act9.git)  
`git@github.com:qgsoriano1/Soriano_Act9.git`  
`gh repo clone qgsoriano1/Soriano_Act9`

#### 4. Output (screenshots and explanations)

- Steps and explanations are pasted above

#### Reflections:

Answer the following:

1. What are the benefits of having a performance monitoring tool?
  - The capacity management of a network should also be aided by monitoring tools that can look at device and network utilization and report on trends. The ability to pinpoint locations where network bandwidth is being throttled makes this crucial to the operation. Tools for monitoring application performance assist in keeping track of user experience and offer complete application stack visibility.

#### Conclusions:

While performing this activity, there are some errors encountered. The very first error that I have encountered is the update and upgrade of the linux terminal. It took some time to be updated and to be upgraded. After this, there are genuine and honest unachieved requirements for this activity, I am able to code the playbook files name prome.yml and the main.yml, I am pretty sure that those codes will do its job and install the prometheus to the ubuntu and CentOS desktops. What I was not able to perform is the accessing of the ubuntu and CentOS desktops. This is because I performed this activity at home and my laptop is lacking the ability to run workstations at the virtual box, this is due to lack of memory. I tried to resolve this problem but sadly my laptop's memory is not upgradeable anymore. I will surely reperform this activity back at the cisco lab.