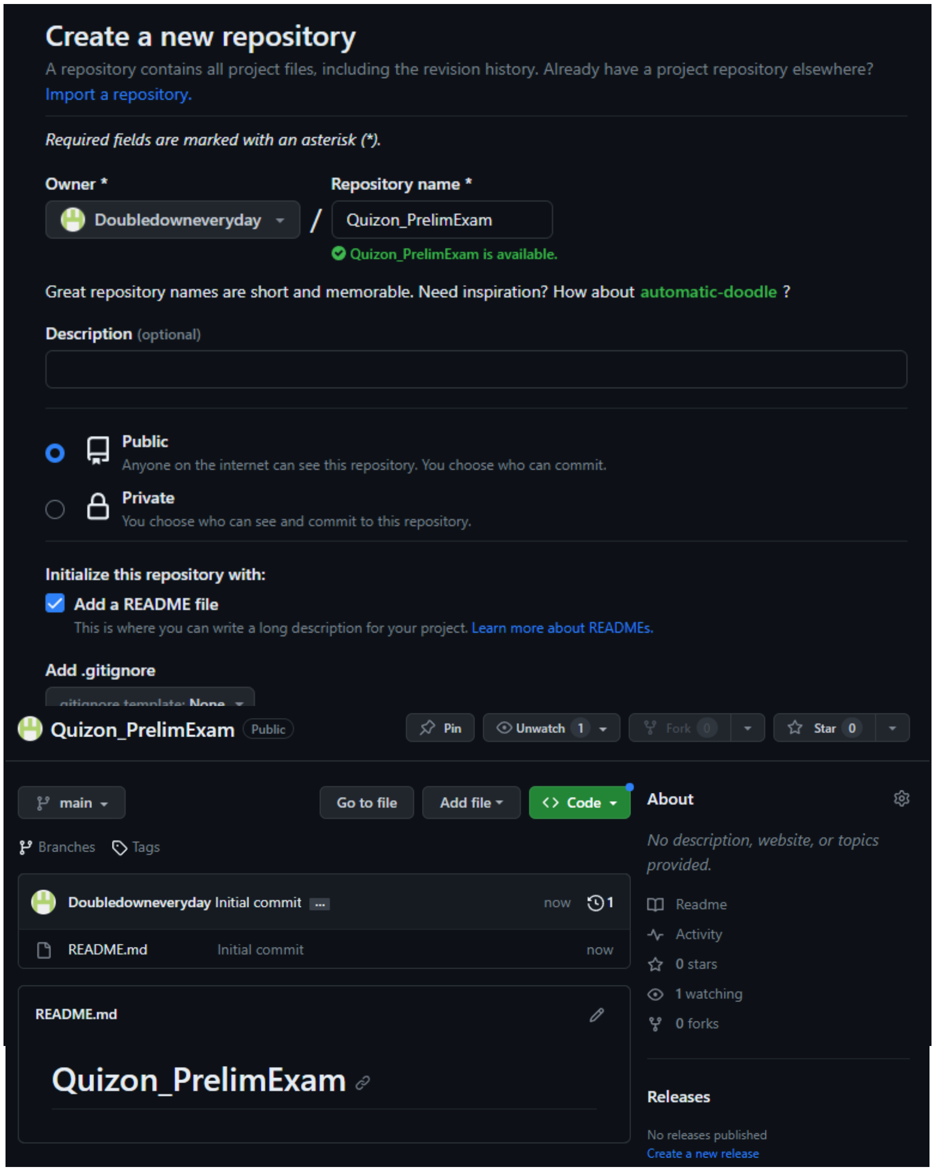
Name: Quizon, Nowell Gabriel C.	**Date Performed:** 10/1/2023
Course/Section: CPE31S5	**Date: Submitted:** 10/2/2023
Instructor: Engr. Roman Richard	**Semester and SY:** 1st and 2023-2024
Managing Enterprise Servers: Hands-on Prelim Exam	
Procedure:	

- **Note: You are required to create a document report of the steps you will do for this exam. All screenshots should be labeled and explained properly.**
- **Create a repository in your GitHub account and label it as Surname_PrelimExam**



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Required fields are marked with an asterisk (*).

Owner *: Doubledowneveryday / Repository name *: Quizon_PrelimExam

Quizon_PrelimExam is available.

Great repository names are short and memorable. Need inspiration? How about automatic-doodle ?

Description (optional)

● Public
Anyone on the internet can see this repository. You choose who can commit.

○ Private
You choose who can see and commit to this repository.

Initialize this repository with:

☑ Add a README file
This is where you can write a long description for your project. Learn more about READMEs.

Add .gitignore

.gitignore template: None

Quizon_PrelimExam Public

Doubledowneveryday Initial commit now 1

README.md Initial commit now

README.md

Quizon_PrelimExam

About

No description, website, or topics provided.

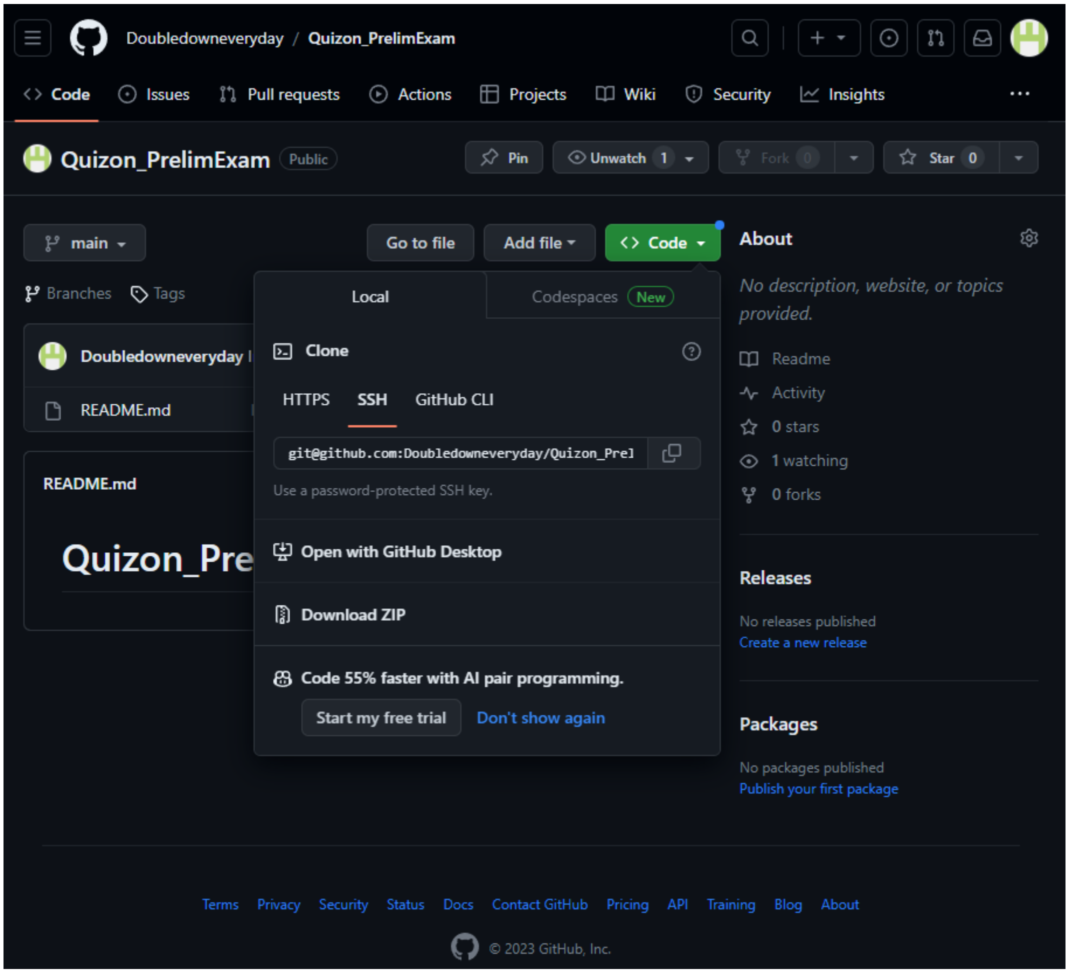
Readme
Activity
0 stars
1 watching
0 forks

Releases

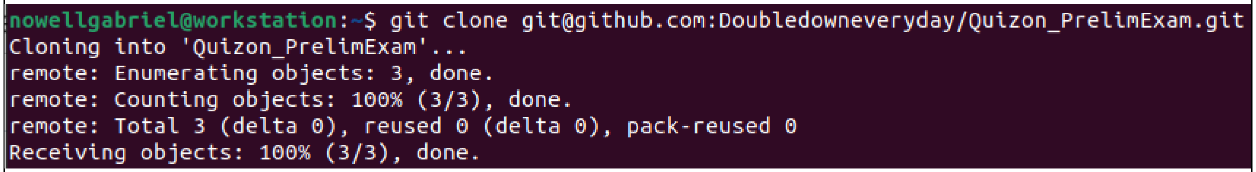
No releases published
Create a new release

- Successfully created a repository with its setting as public and includes a README file.

- **Clone your new repository in your CN.**

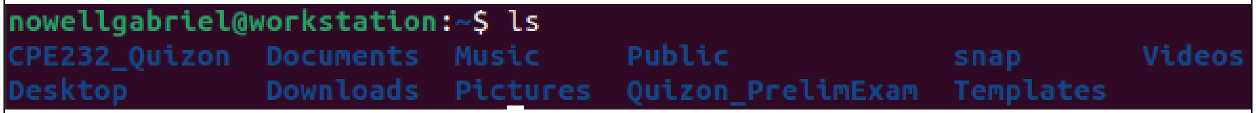


- The first step in cloning the repository is accessing the ssh link which is in the code tab.



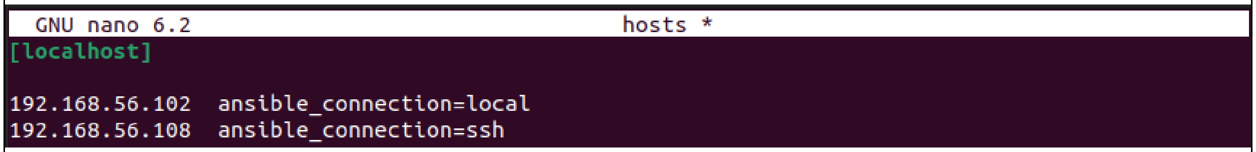
```
nowellgabriel@workstation:~$ git clone git@github.com:Doubledowneveryday/Quizon_PrelimExam.git
Cloning into 'Quizon_PrelimExam'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
```

- Then, with the use of the ***git clone*** command and the ssh link, the cloning of the repository is done successfully.
- We can see the directory of cloned repository.



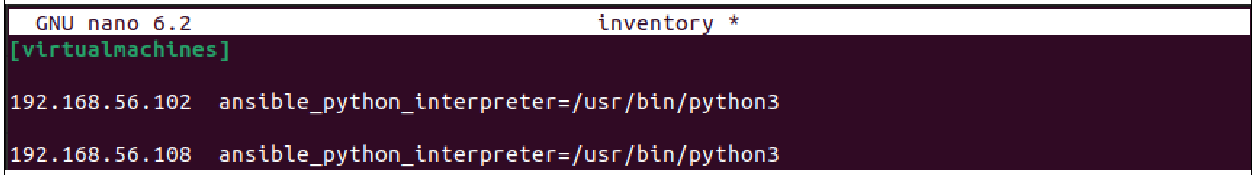
```
nowellgabriel@workstation:~$ ls
CPE232_Quizon  Documents  Music     Public             snap       Videos
Desktop        Downloads  Pictures  Quizon_PrelimExam  Templates
```

- **In your CN, create an inventory file and ansible.cfg files.**



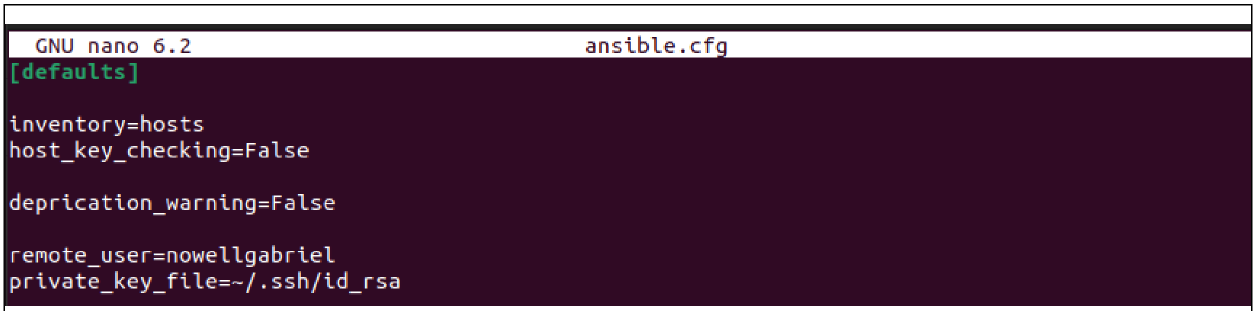
```
  GNU nano 6.2                                        hosts *
[localhost]

192.168.56.102  ansible_connection=local
192.168.56.108  ansible_connection=ssh
```

- The ***hosts*** file is important because it establishes the connections of the managed nodes and the control node.



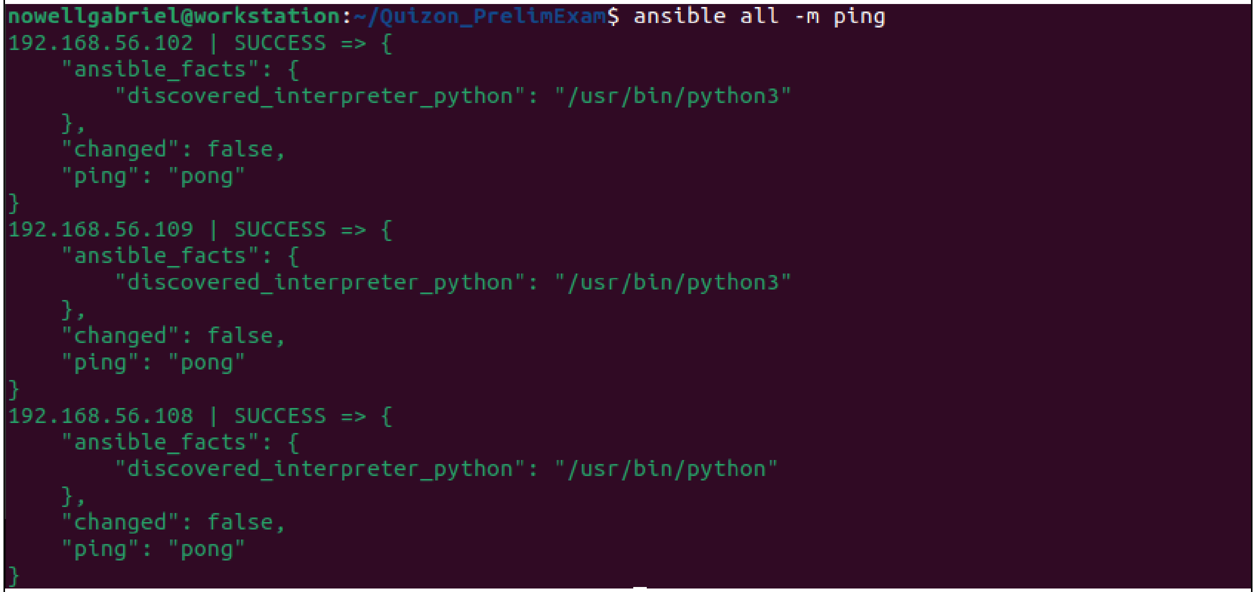
```
  GNU nano 6.2                                      inventory *
[virtualmachines]

192.168.56.102  ansible_python_interpreter=/usr/bin/python3

192.168.56.108  ansible_python_interpreter=/usr/bin/python3
```

- The creation of the ***inventory*** file and it includes the needed information to be used later on.



```
  GNU nano 6.2                                    ansible.cfg
[defaults]

inventory=hosts
host_key_checking=False

deprication_warning=False

remote_user=nowellgabriel
private_key_file=~/.ssh/id_rsa
```

- ❖ With the creation of the ***ansible.cfg*** file, we can customize what ansible will do.

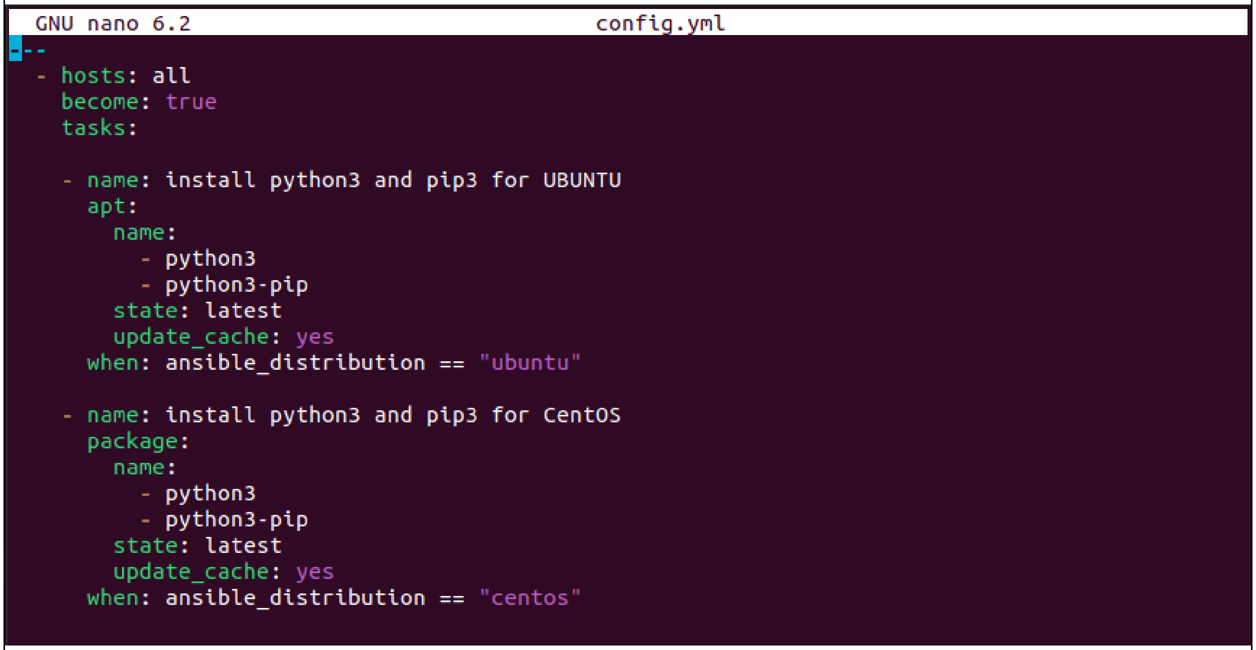


```
nowellgabriel@workstation:~/Quizon_PrelimExam$ ansible all -m ping
192.168.56.102 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
192.168.56.109 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
192.168.56.108 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python"
    },
    "changed": false,
    "ping": "pong"
}
```

- ❖ Using this command will confirm that the connections are working.

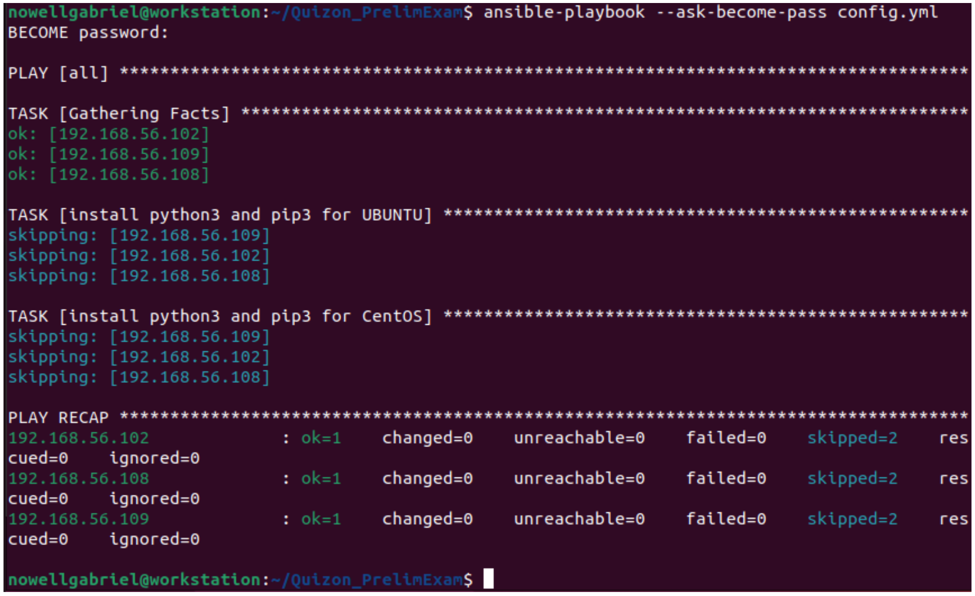
- **Create an Ansible playbook that does the following with an input of a config.yaml file for both Manage Nodes**

- Installs the latest python3 and pip3



```
GNU nano 6.2                                    config.yml
---
 - hosts: all
   become: true
   tasks:

   - name: install python3 and pip3 for UBUNTU
     apt:
       name:
         - python3
         - python3-pip
       state: latest
       update_cache: yes
     when: ansible_distribution == "ubuntu"

   - name: install python3 and pip3 for CentOS
     package:
       name:
         - python3
         - python3-pip
       state: latest
       update_cache: yes
     when: ansible_distribution == "centos"
```

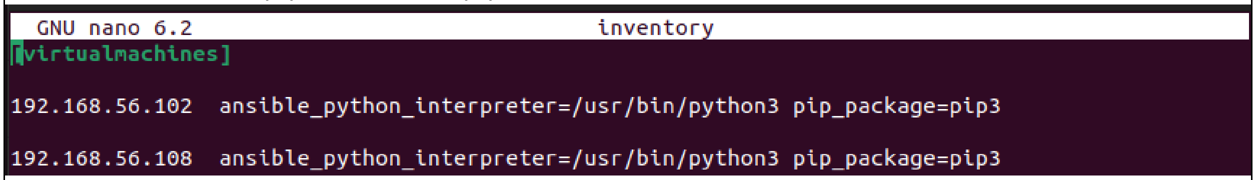
❖ With this script, it will be able to install the latest python3 and pip3.



```
nowellgabriel@workstation:~/Quizon_PrelimExam$ ansible-playbook --ask-become-pass config.yml
BECOME password:

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

TASK [Gathering Facts] ***************************************************************
ok: [192.168.56.102]
ok: [192.168.56.109]
ok: [192.168.56.108]

TASK [install python3 and pip3 for UBUNTU] *******************************************
skipping: [192.168.56.109]
skipping: [192.168.56.102]
skipping: [192.168.56.108]

TASK [install python3 and pip3 for CentOS] *******************************************
skipping: [192.168.56.109]
skipping: [192.168.56.102]
skipping: [192.168.56.108]

PLAY RECAP ***************************************************************************
192.168.56.102             : ok=1    changed=0    unreachable=0    failed=0    skipped=2    res
cued=0    ignored=0
192.168.56.108             : ok=1    changed=0    unreachable=0    failed=0    skipped=2    res
cued=0    ignored=0
192.168.56.109             : ok=1    changed=0    unreachable=0    failed=0    skipped=2    res
cued=0    ignored=0

nowellgabriel@workstation:~/Quizon_PrelimExam$ 
```

❖ It successfully installed the latest versions in both Ubuntu and CentOS.

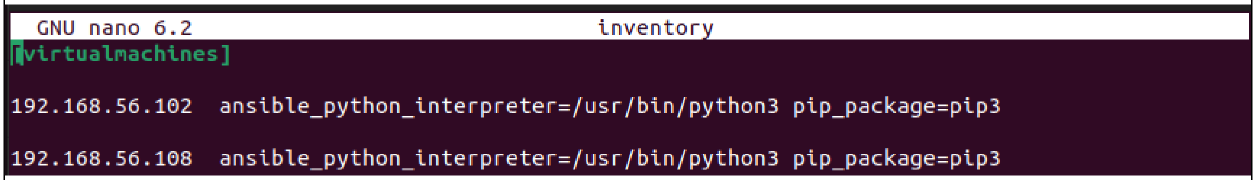
- use pip3 as default pip



```
GNU nano 6.2                                    inventory
[virtualmachines]

192.168.56.102  ansible_python_interpreter=/usr/bin/python3 pip_package=pip3

192.168.56.108  ansible_python_interpreter=/usr/bin/python3 pip_package=pip3
```

❖ Setting pip3 as the default pip.

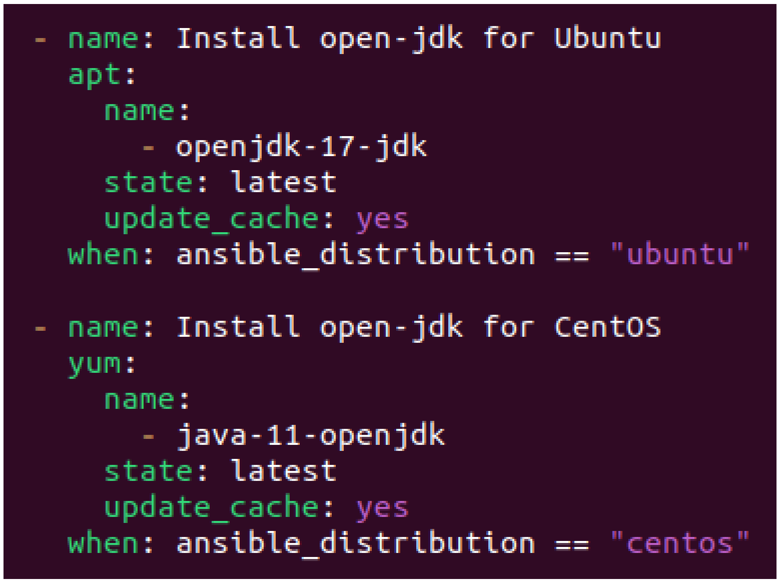
- Use python 3 as default python



```
  GNU nano 6.2                                 inventory
[virtualmachines]

192.168.56.102  ansible_python_interpreter=/usr/bin/python3 pip_package=pip3

192.168.56.108  ansible_python_interpreter=/usr/bin/python3 pip_package=pip3
```

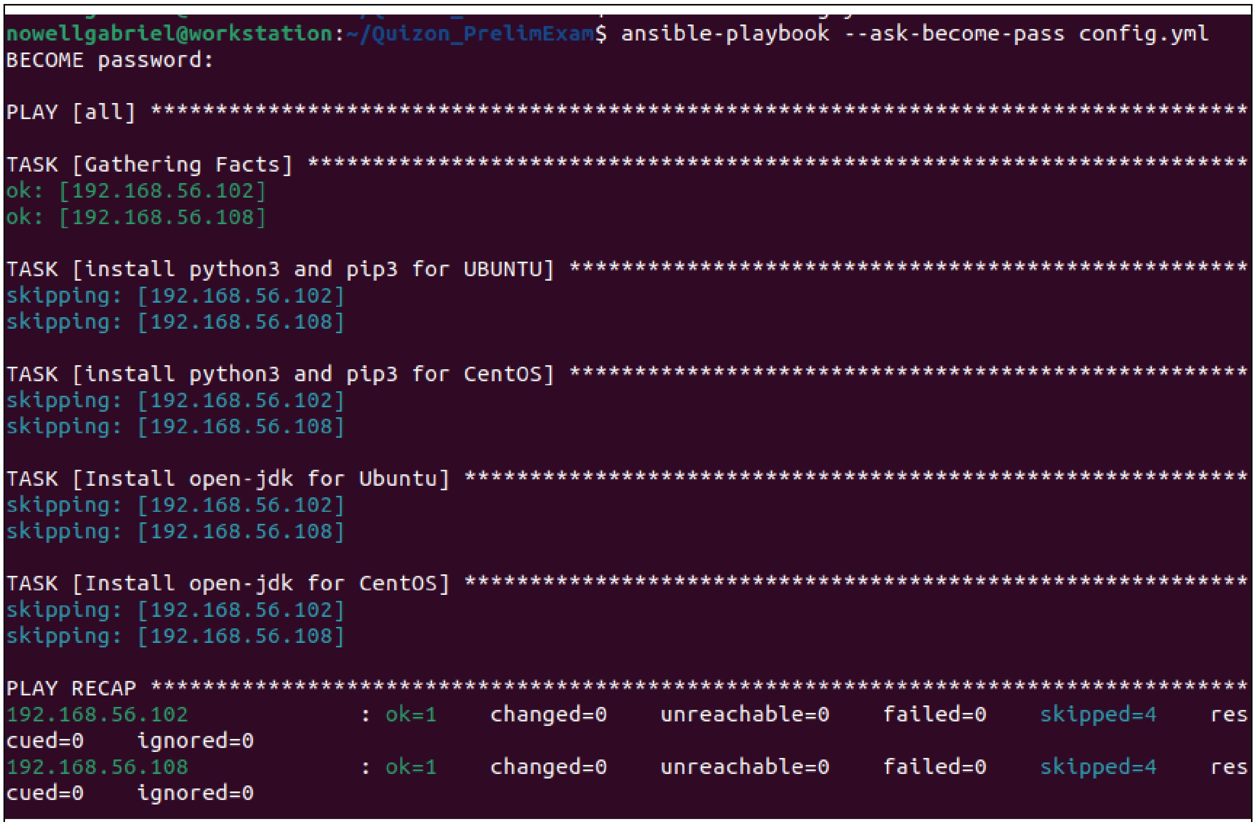
❖ Setting python3 as the default python.

- Install Java open-jdk



```
- name: Install open-jdk for Ubuntu
  apt:
    name:
      - openjdk-17-jdk
    state: latest
    update_cache: yes
  when: ansible_distribution == "ubuntu"

- name: Install open-jdk for CentOS
  yum:
    name:
      - java-11-openjdk
    state: latest
    update_cache: yes
  when: ansible_distribution == "centos"
```

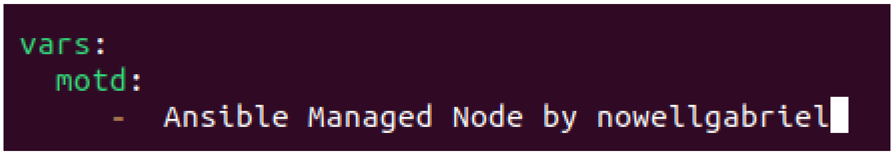
❖ Using this script to install the Java open-jdk for both CentOS and Ubuntu.



```
nowellgabriel@workstation:~/Quizon_PrelimExam$ ansible-playbook --ask-become-pass config.yml
BECOME password:

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

TASK [Gathering Facts] ************************************************************************
ok: [192.168.56.102]
ok: [192.168.56.108]

TASK [install python3 and pip3 for UBUNTU] ****************************************************
skipping: [192.168.56.102]
skipping: [192.168.56.108]

TASK [install python3 and pip3 for CentOS] ****************************************************
skipping: [192.168.56.102]
skipping: [192.168.56.108]

TASK [Install open-jdk for Ubuntu] ************************************************************
skipping: [192.168.56.102]
skipping: [192.168.56.108]

TASK [Install open-jdk for CentOS] ************************************************************
skipping: [192.168.56.102]
skipping: [192.168.56.108]

PLAY RECAP ************************************************************************************
192.168.56.102             : ok=1    changed=0    unreachable=0    failed=0    skipped=4    res
cued=0    ignored=0
192.168.56.108             : ok=1    changed=0    unreachable=0    failed=0    skipped=4    res
cued=0    ignored=0
```

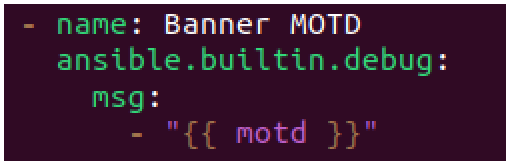
❖ Successfully installed Java open-jdk.

- Create Motd containing the text defined by a variable defined in config.yaml file and if there is no variable input the default motd is "Ansible Managed node by (your user name)"



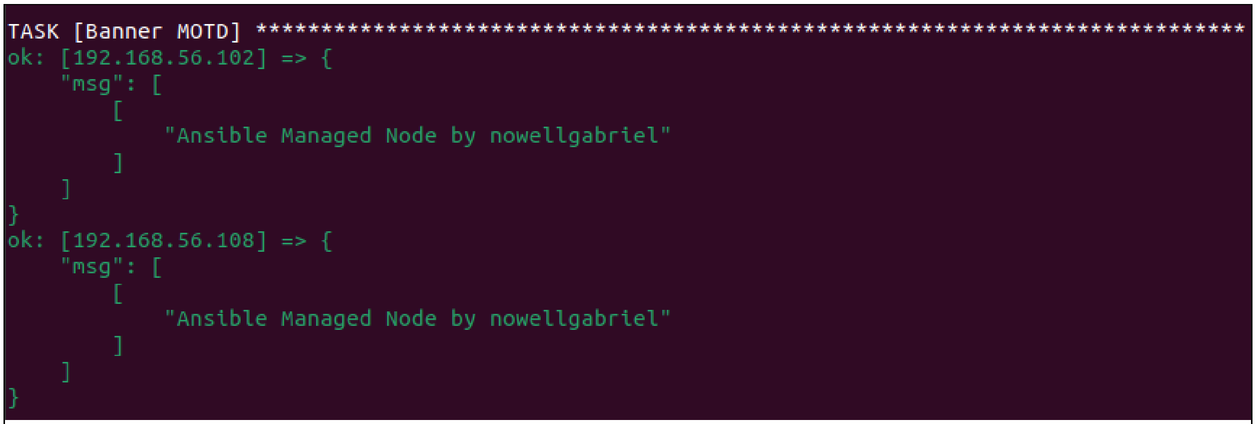
```
vars:
  motd:
     -  Ansible Managed Node by nowellgabriel
```

❖ Created an MOTD banner.



```
- name: Banner MOTD
  ansible.builtin.debug:
    msg:
      - "{{ motd }}"
```

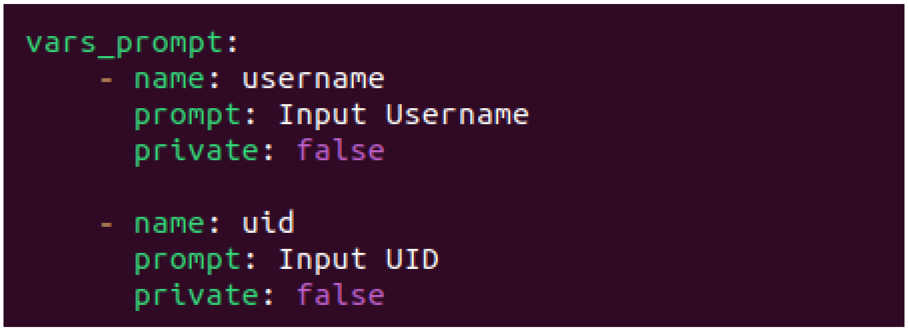
❖ Used to print the banner



```
TASK [Banner MOTD] ******************************************************************************
ok: [192.168.56.102] => {
    "msg": [
        [
            "Ansible Managed Node by nowellgabriel"
        ]
    ]
}
ok: [192.168.56.108] => {
    "msg": [
        [
            "Ansible Managed Node by nowellgabriel"
        ]
    ]
}
```

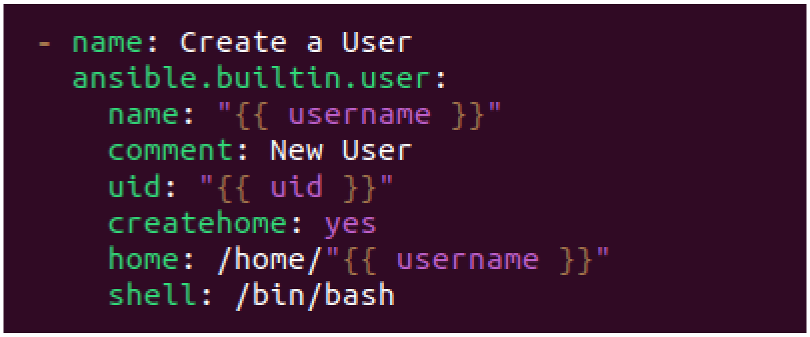
- ❖ Successfully created an MOTD banner.

- Create a user with a variable defined in config.yaml



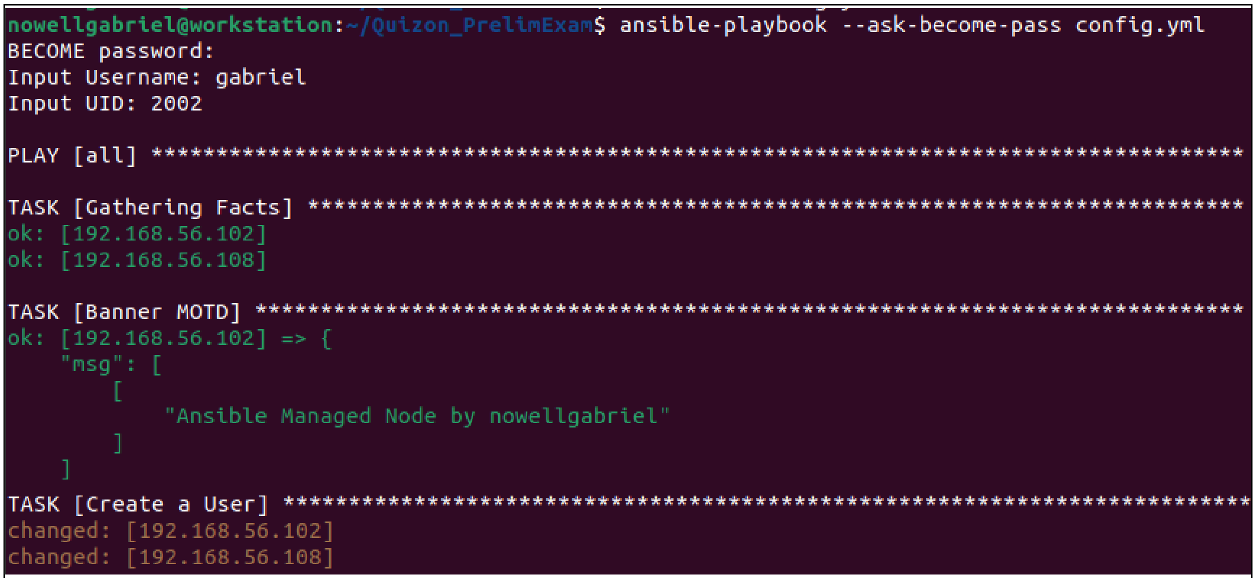
```
vars_prompt:
    - name: username
      prompt: Input Username
      private: false

    - name: uid
      prompt: Input UID
      private: false
```

- ❖ The prompt for the user to specify the user name and uid.



```
- name: Create a User
  ansible.builtin.user:
    name: "{{ username }}"
    comment: New User
    uid: "{{ uid }}"
    createhome: yes
    home: /home/"{{ username }}"
    shell: /bin/bash
```

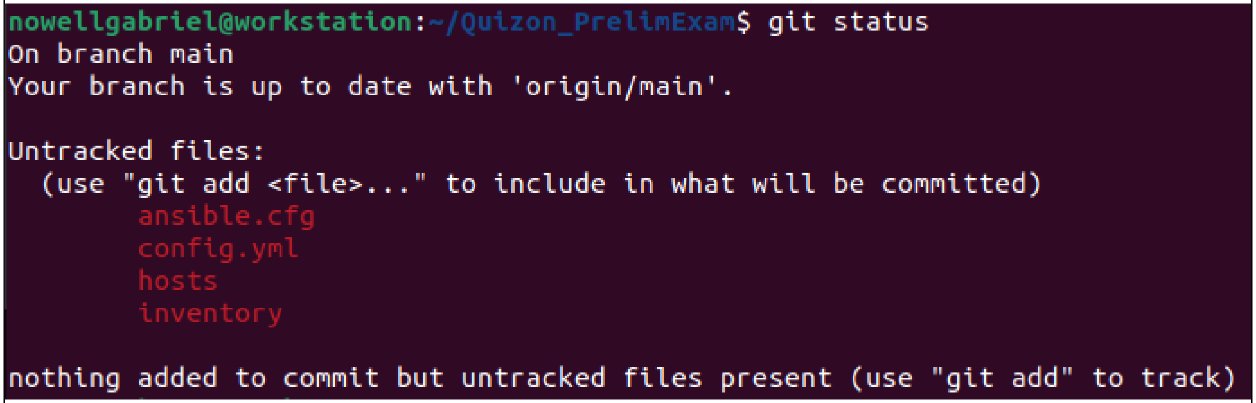
- ❖ This will be the location of the newly created user.



```
nowellgabriel@workstation:~/Quizon_PrelimExam$ ansible-playbook --ask-become-pass config.yml
BECOME password:
Input Username: gabriel
Input UID: 2002

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

TASK [Gathering Facts] **********************************************************************
ok: [192.168.56.102]
ok: [192.168.56.108]

TASK [Banner MOTD] **************************************************************************
ok: [192.168.56.102] => {
    "msg": [
        [
            "Ansible Managed Node by nowellgabriel"
        ]
    ]
TASK [Create a User] ************************************************************************
changed: [192.168.56.102]
changed: [192.168.56.108]
```

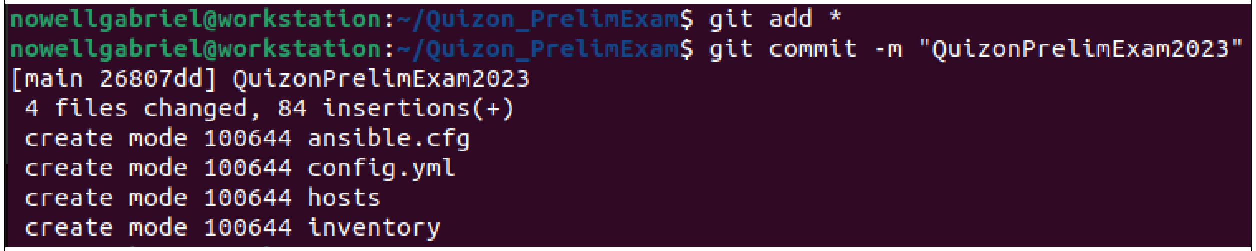
❖ Successfully prompted, created and saved a new user.

- **PUSH and COMMIT your PrelimExam in your GitHub repo**



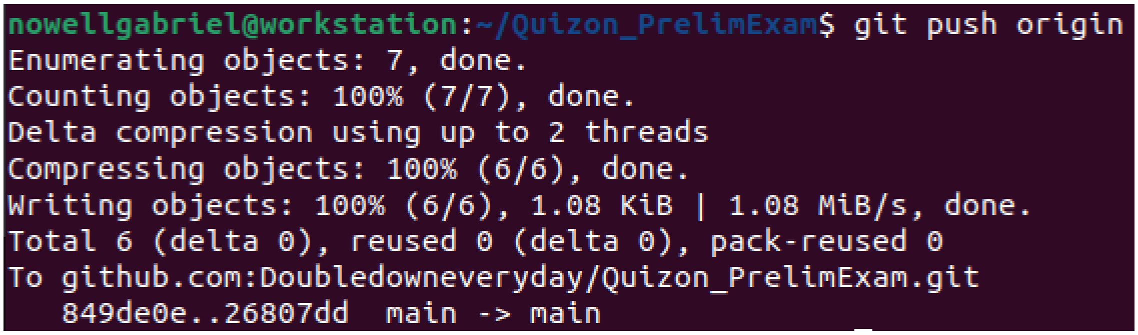
```
nowellgabriel@workstation:~/Quizon_PrelimExam$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        ansible.cfg
        config.yml
        hosts
        inventory

nothing added to commit but untracked files present (use "git add" to track)
```

❖ With the use of the ***git status*** command, we can see the untracked files which are the ones we are going to push into the repository.



```
nowellgabriel@workstation:~/Quizon_PrelimExam$ git add *
nowellgabriel@workstation:~/Quizon_PrelimExam$ git commit -m "QuizonPrelimExam2023"
[main 26807dd] QuizonPrelimExam2023
 4 files changed, 84 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 config.yml
 create mode 100644 hosts
 create mode 100644 inventory
```

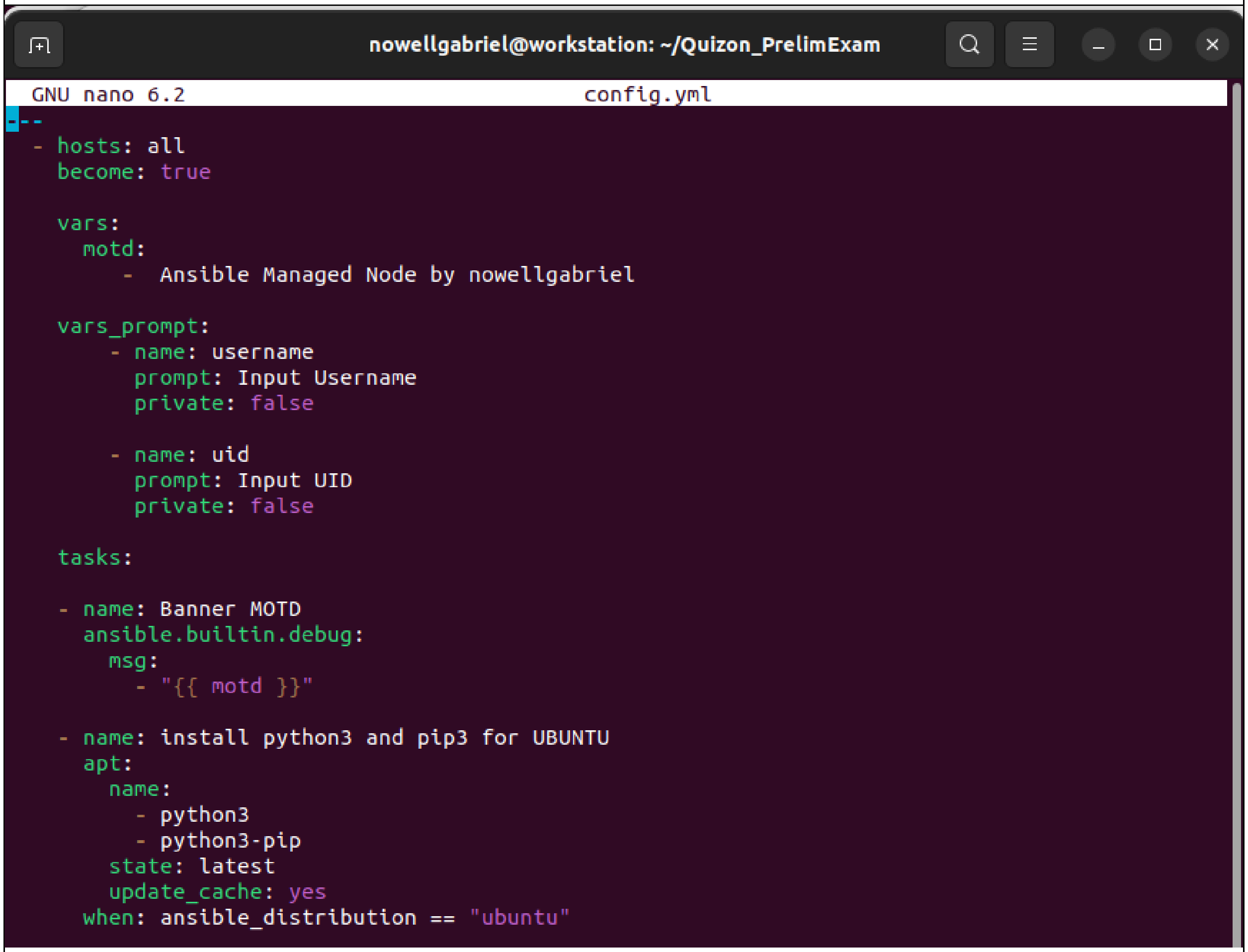
❖ Successfully added and committed the files.



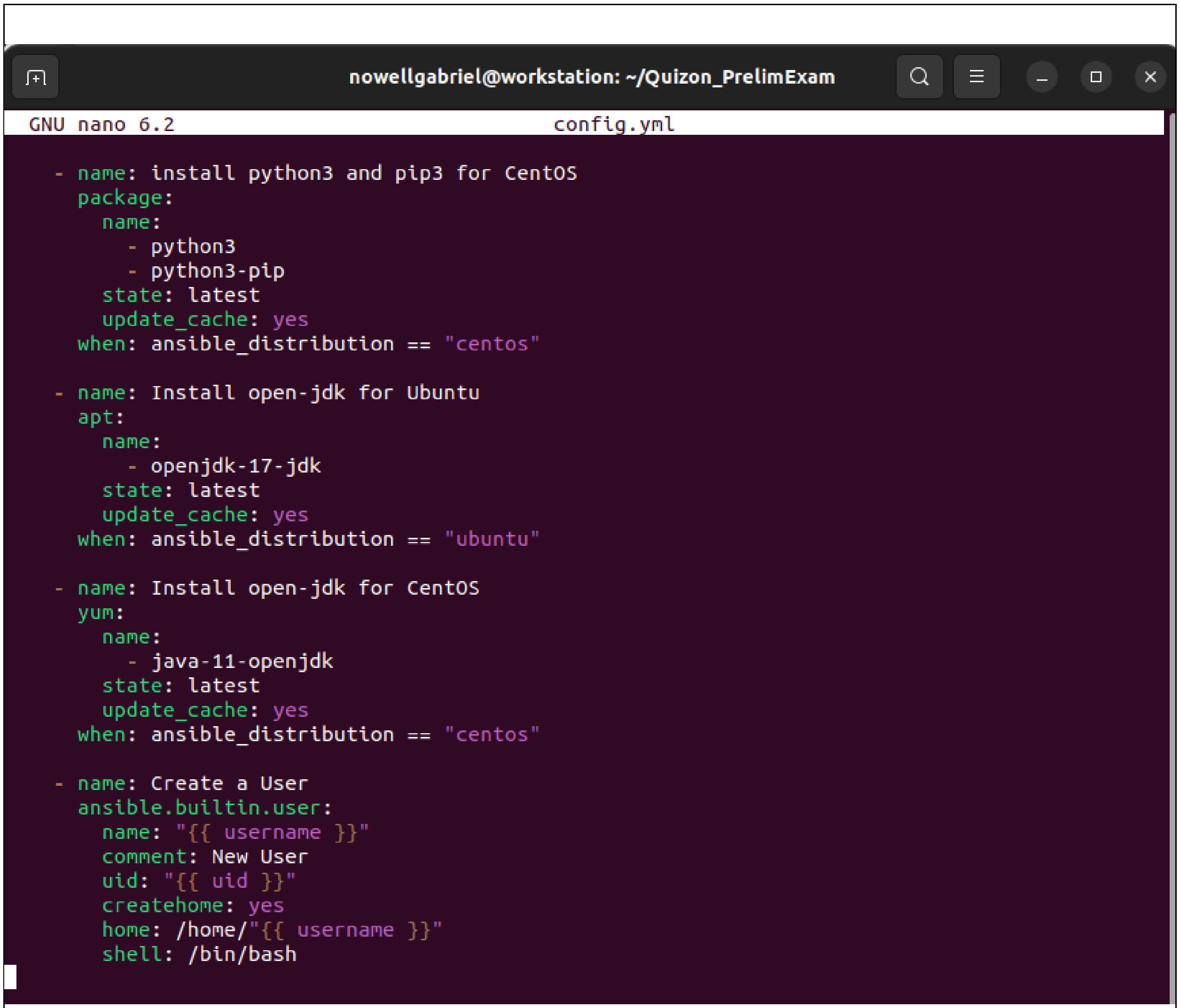
```
nowellgabriel@workstation:~/Quizon_PrelimExam$ git push origin
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 2 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1.08 KiB | 1.08 MiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:Doubledowneveryday/Quizon_PrelimExam.git
   849de0e..26807dd  main -> main
```

❖ Pushed the files into the repository.

- **Your document report should be submitted here.**

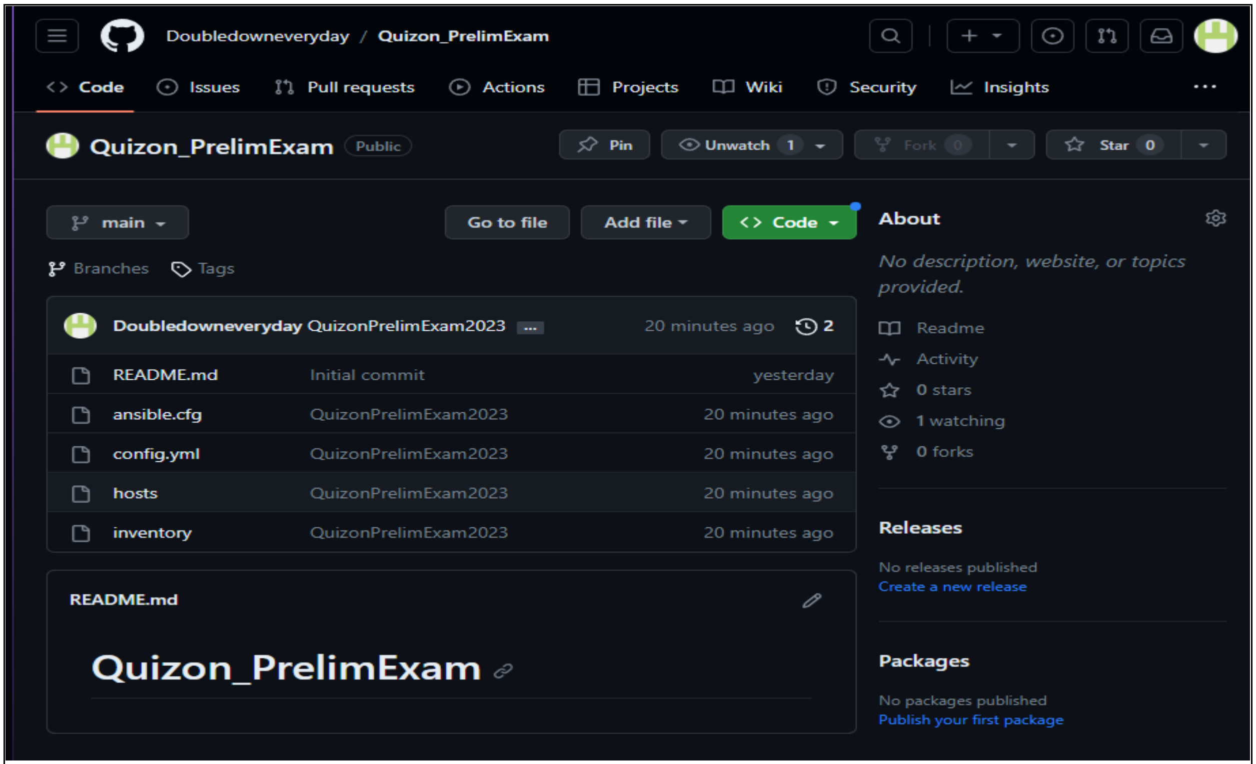


```
  GNU nano 6.2                                    config.yml
---
 - hosts: all
   become: true

   vars:
     motd:
        -  Ansible Managed Node by nowellgabriel

   vars_prompt:
       - name: username
         prompt: Input Username
         private: false

       - name: uid
         prompt: Input UID
         private: false

   tasks:

   - name: Banner MOTD
     ansible.builtin.debug:
       msg:
         - "{{ motd }}"

   - name: install python3 and pip3 for UBUNTU
     apt:
       name:
         - python3
         - python3-pip
       state: latest
       update_cache: yes
     when: ansible_distribution == "ubuntu"
```



```
  - name: install python3 and pip3 for CentOS
    package:
      name:
        - python3
        - python3-pip
      state: latest
      update_cache: yes
    when: ansible_distribution == "centos"

  - name: Install open-jdk for Ubuntu
    apt:
      name:
        - openjdk-17-jdk
      state: latest
      update_cache: yes
    when: ansible_distribution == "ubuntu"

  - name: Install open-jdk for CentOS
    yum:
      name:
        - java-11-openjdk
      state: latest
      update_cache: yes
    when: ansible_distribution == "centos"

  - name: Create a User
    ansible.builtin.user:
      name: "{{ username }}"
      comment: New User
      uid: "{{ uid }}"
      createhome: yes
      home: /home/"{{ username }}"
      shell: /bin/bash
```

❖ This is the complete content of the config.yml file.



Doubledowneveryday QuizonPrelimExam2023 ... 20 minutes ago 2

README.md	Initial commit	yesterday
ansible.cfg	QuizonPrelimExam2023	20 minutes ago
config.yml	QuizonPrelimExam2023	20 minutes ago
hosts	QuizonPrelimExam2023	20 minutes ago
inventory	QuizonPrelimExam2023	20 minutes ago

No description, website, or topics provided.

No releases published
Create a new release

No packages published
Publish your first package

README.md

Quizon_PrelimExam

- **For your prelim exam to be counted, please paste your repository link here**

https://github.com/Doubledowneveryday/Quizon_PrelimExam