

Cruz, Patrick Danielle C.

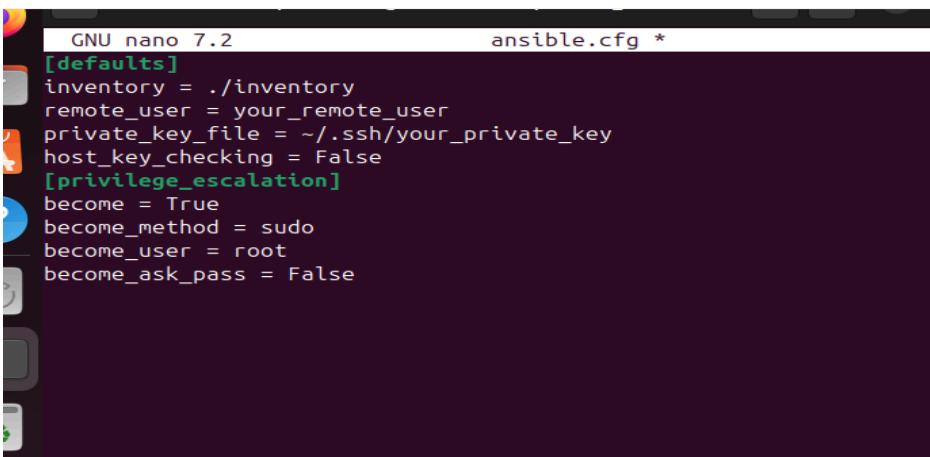
Procedure:

1. 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. **LABLED AND EXPLAIN EACH CODE (PLAYBOOK)** No explanation = Minus Points
2. Create a repository in your GitHub account and label it as Surname_PrelimExam

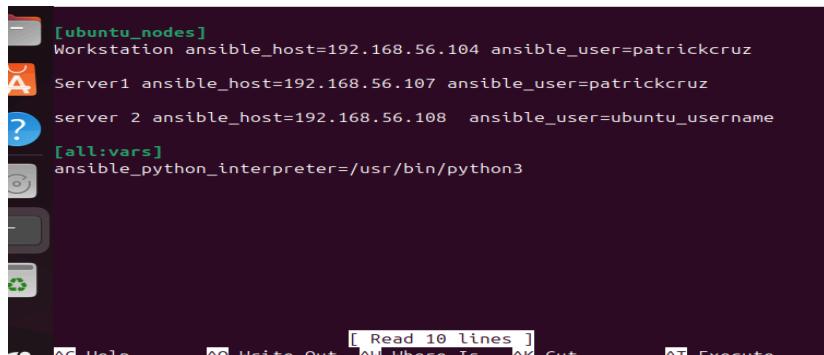
The screenshot shows a GitHub repository named 'Cruz_PrelimExam'. The repository has 1 branch, 0 tags, and 1 commit. The commit was made by 'Patrickcruz14' with the message 'Initial commit'. The repository contains files 'README.md' and 'README'. The repository has 0 stars, 0 forks, and no releases. There are links for Readme, Activity, and Packages.

```
patrickcruz@Workstation:~/CPE232_Patrickcruz$ git clone git@github.com:Patrickcruz14/Cruz_PrelimExam.git
Cloning into 'Cruz_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 (from 0)
Receiving objects: 100% (3/3), done.
```

3. Clone your new repository in your CN.
4. In your CN, create an inventory file and ansible.cfg files.



```
GNU nano 7.2          ansible.cfg *
[defaults]
inventory = ./inventory
remote_user = your_remote_user
private_key_file = ~/.ssh/your_private_key
host_key_checking = False
[privilegeEscalation]
become = True
become_method = sudo
become_user = root
become_ask_pass = False
```



```
[ubuntu_nodes]
Workstation ansible_host=192.168.56.104 ansible_user=patrickcruz
Server1 ansible_host=192.168.56.107 ansible_user=patrickcruz
server2 ansible_host=192.168.56.108 ansible_user=ubuntu_username
[all:vars]
ansible_python_interpreter=/usr/bin/python3
```

* This inventory defines two Ubuntu servers with their IP addresses and specifies that Ansible should use Python 3 on all nodes.

5. Create an Ansible playbook that does the following with an input of a config.yaml file for both Manage Nodes
 - o Installs the latest python3 and pip3

```
git:(master) 1.4          Prelim_Exam_Playbook.yaml
-->
- name: Prelim Exam Ansible Playbook for Ubuntu
  hosts: all_servers
  vars_files:
    - config.yaml
  vars:
    mode_default: "Ansible Managed node by {{ ansible_user_id }}"
  tasks:
    - name: Update package cache
      apt:
        update_cache: yes
        cache_valid_time: 3600
      become: yes
      # Explanation: Updates the package cache to ensure we can install latest packages
    - name: Install latest Python 3 and pip3
      apt:
        name:
```

```
tasks:
  - name: Update package cache
    apt:
      update_cache: yes
      cache_valid_time: 3600
    become: yes
    # Explanation: Updates the package cache to ensure we can install latest packages

  - name: Install latest Python 3 and pip3
    apt:
      name:
        - python3
        - python3-pip
        - python3-venv
      state: latest
      force_apt_get: yes
    become: yes
```

- * Updates the package cache to ensure we can install latest packages
- * use pip3 as default pip

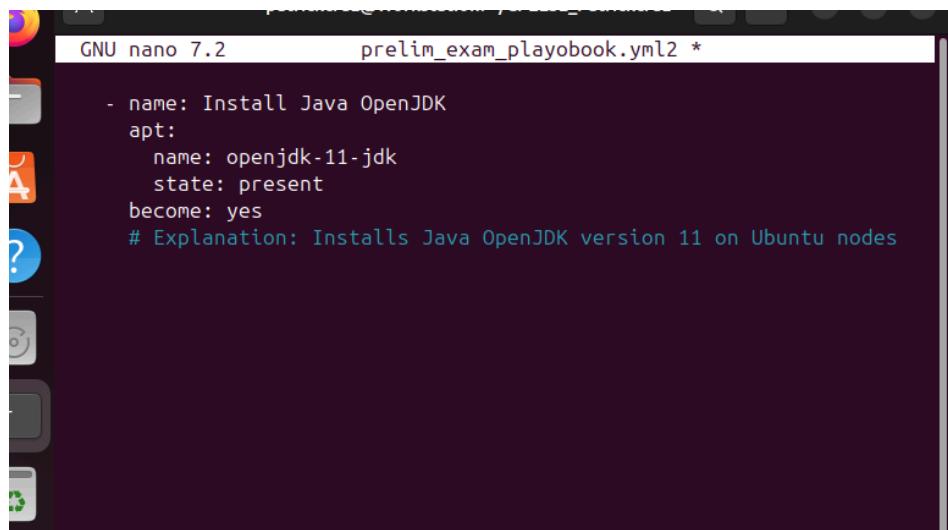
```
- name: Install latest Python 3 and pip3
  apt:
    name:
      - python3
      - python3-pip
      - python3-venv
    state: latest
    force_apt_get: yes
  become: yes
```

- use python3 as default python

```
GNU nano 7.2          prelim_exam_playobook.yml5 *
name: Set python3 as default python
  alternatives:
    name: python
    path: /usr/bin/python3
  become: yes
# Explanation: Configures the system to use python3 when the 'py
```

* Installs the latest versions of Python 3, pip3, and virtual environment package

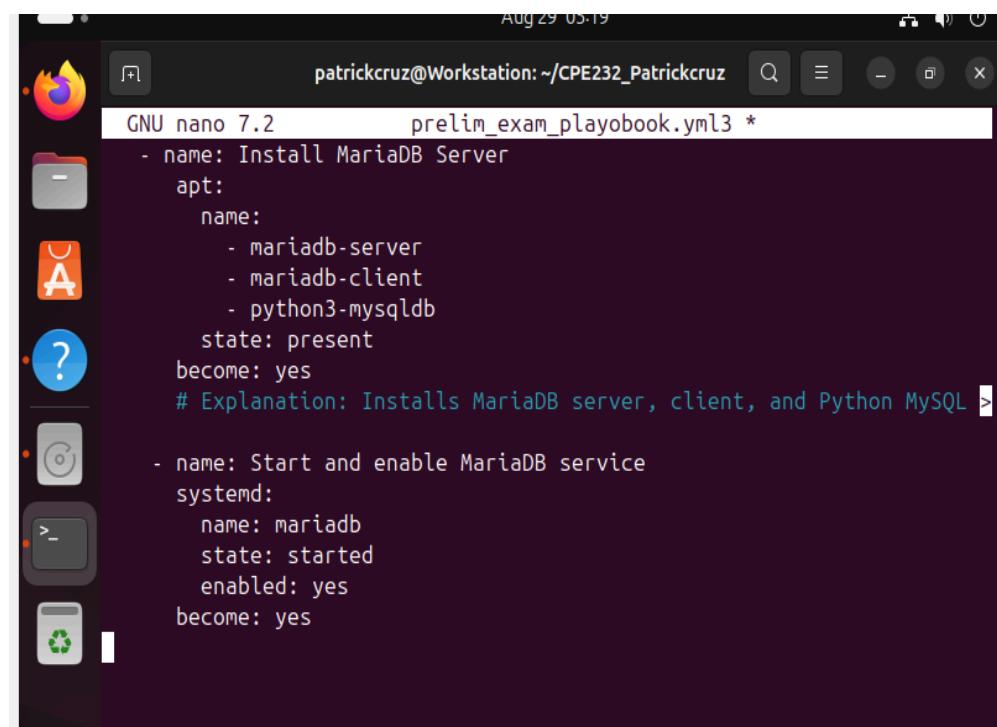
- Install Java open-jdk



```
GNU nano 7.2          prelim_exam_playobook.yml2 *
```

```
- name: Install Java OpenJDK
  apt:
    name: openjdk-11-jdk
    state: present
  become: yes
# Explanation: Installs Java OpenJDK version 11 on Ubuntu nodes
```

- Install MariaDB as well as starting the server, create a database and a table using mariaDB and input one record into a table USING ANSIBLE ONLY



```
Aug 29 05:19
patrickcruz@Workstation: ~/CPE232_Patrickcruz
```

```
GNU nano 7.2          prelim_exam_playobook.yml3 *
```

```
- name: Install MariaDB Server
  apt:
    name:
      - mariadb-server
      - mariadb-client
      - python3-mysqldb
    state: present
  become: yes
# Explanation: Installs MariaDB server, client, and Python MySQL >

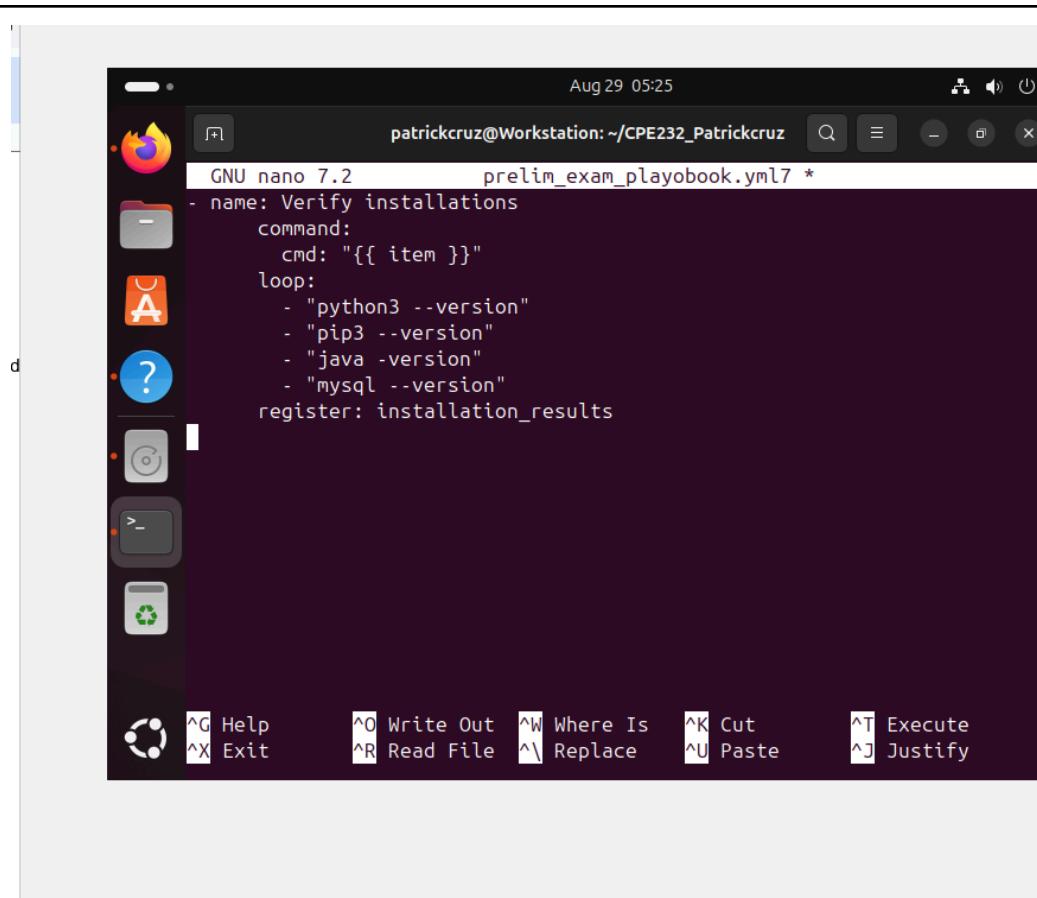
- name: Start and enable MariaDB service
  systemd:
    name: mariadb
    state: started
    enabled: yes
  become: yes
```

- 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)"

```
GNU nano 7.2          prelim_exam_playobook.yml6
- name: Pat
  user:
    name: "{{ pat }}"
    password: "{{ user_password | password_hash('sha512') }}"
    groups: sudo
    append: yes
    shell: /bin/bash
    create_home: yes
  become: yes
```

[[Read 9 lines](#)]

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



The screenshot shows a terminal window titled "GNU nano 7.2" with the command "patrickcruz@Workstation: ~/CPE232_Patrickcruz". The file being edited is "prelim_exam_playobook.yml". The content of the file is:

```
name: Verify installations
  command:
    cmd: "{{ item }}"
  loop:
    - "python3 --version"
    - "pip3 --version"
    - "java -version"
    - "mysql --version"
  register: installation_results
```

The terminal has a dark theme and includes standard nano key bindings at the bottom.

5. PUSH and COMMIT your PrelimExam in your GitHub repo

https://github.com/Patrickcruz14/Cruz_PrelimExam#

```
patrickcruz@Workstation:~/CPE232_Patrickcruz$ git clone git@github.com:Patrickcruz14/Cruz_PrelimExam.git
Cloning into 'Cruz_PrelimExam'...
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remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
```

6. Your document report should be submitted here.

7. For your prelim exam to be counted, please paste your repository link here. (Failure to submit will result in ZERO)

8. NO USE OF EXTERNAL WEBSITES SUCH AS , REDDIT, CHATGPT, GITHUB, GEMINI, CLAUDE, FORUMS, AND DOCUMENTATIONS. FAILURE TO COMPLY WITH RESULT IN ZERO.