CPE212 - Hands-on Prelim Exam	
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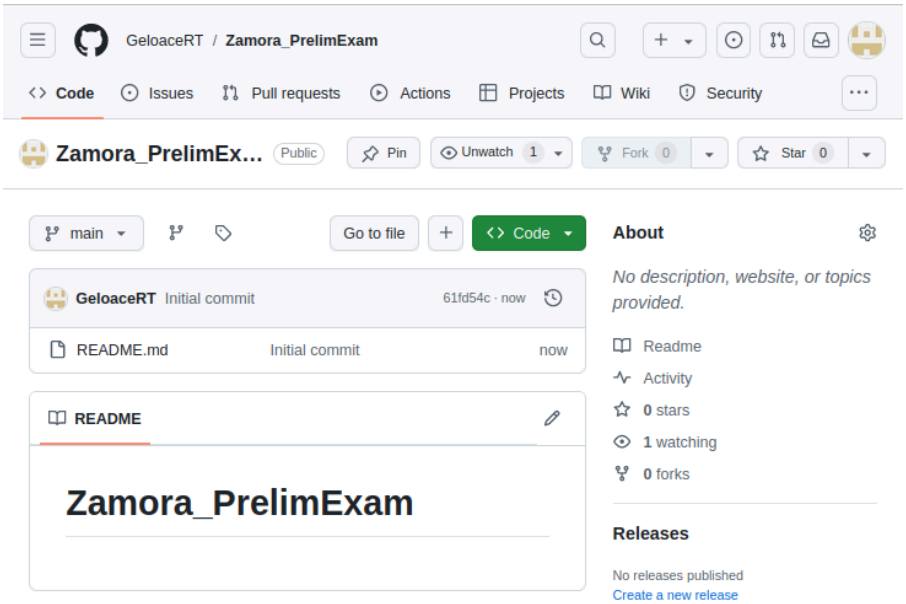
Tools Needed:

1. Control Node (CN) - 1
2. Manage Node (MN) - 1 Ubuntu
3. Manage Node (MN) - 1 CentOS

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

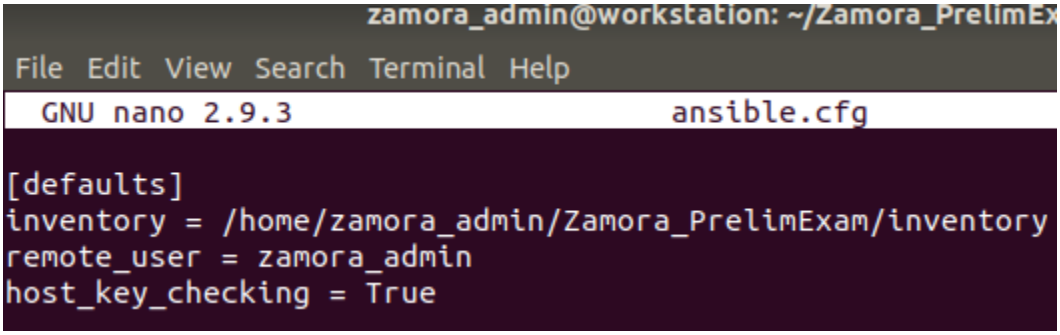


3. Clone your new repository in your CN.

```
zamora_admin@workstation:~$ git clone git@github.com:GeloaceRT/Zamora_PrelimExa
m.git
Cloning into 'Zamora_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.
zamora_admin@workstation:~$ ls
Desktop           Music      TIP_CPE212_ZAMORA_Angelo
Documents         Pictures   TIP_HOA-4.1_ZAMORA_Angelo
Downloads         Public     Videos
examples.desktop  Templates  Zamora_PrelimExam
zamora_admin@workstation:~$
```

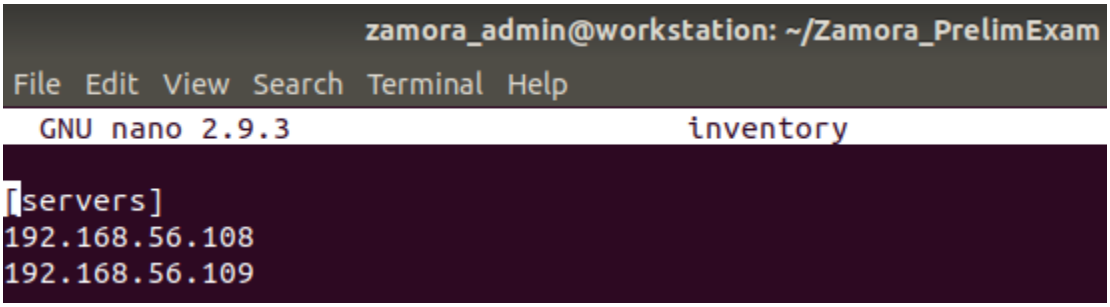
   Explanation: *git clone* command is used to copy or give access to your github repo using ssh key or connection.

4. In your CN, create an inventory file and ansible.cfg files.
   Ansible.cfg



   Explanation: This code is more of a configuration or setup in determining the main user where is the location of your inventory

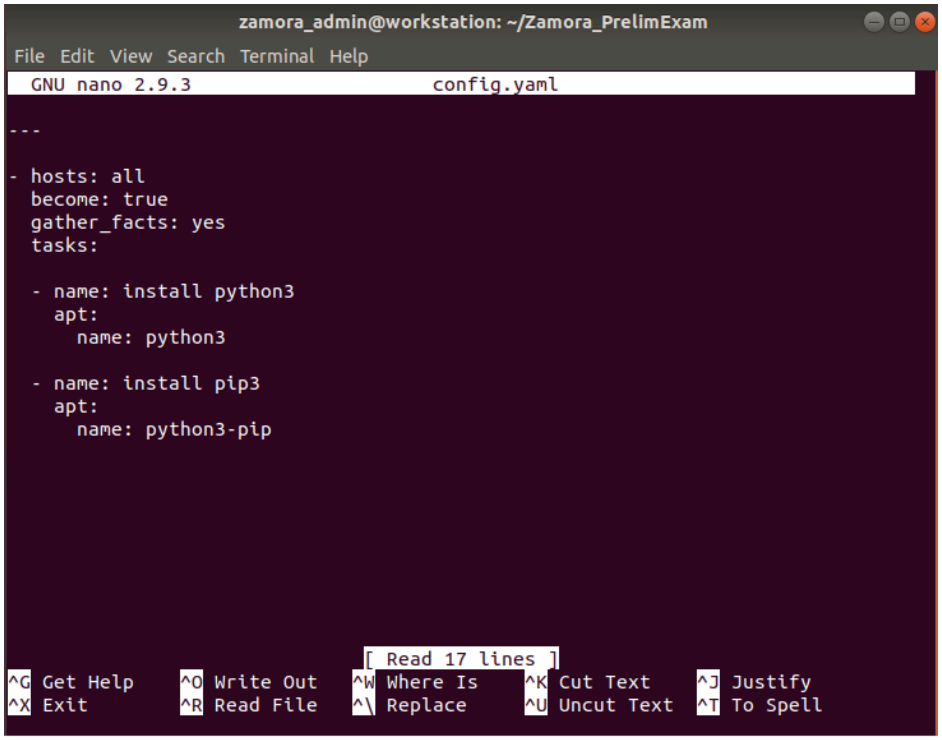
   Inventory:



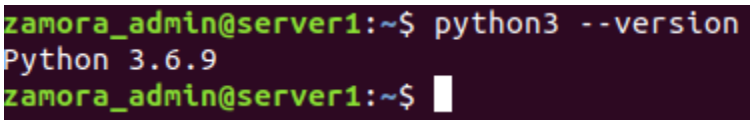
   Explanation: The inventory serves as a way to let the CN know where to ping or operate or what server is the CN is controlling.

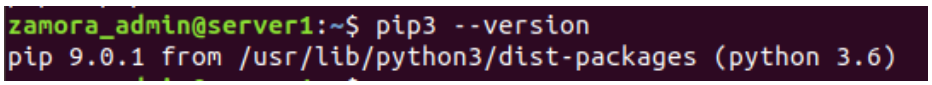
5. Create an Ansible playbook that does the following with an input of a config.yaml file for both Manage Nodes

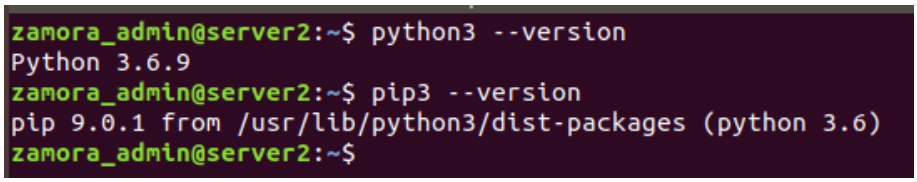
- Installs the latest python3 and pip3



Explanation: What it does that we create a playbook to install python3 and pip3 into our servers server 1 and 2.







Working:

```
zamora_admin@workstation:~/Zamora_PrelimExam$ ansible-playbook --ask-become-pas
s config.yaml
SUDO password:

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

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

TASK [install python3] *********************************************************
*
ok: [192.168.56.108]
ok: [192.168.56.109]

TASK [install pip3] ************************************************************
*
ok: [192.168.56.108]
ok: [192.168.56.109]

PLAY RECAP *********************************************************************
*
192.168.56.108             : ok=3    changed=0    unreachable=0    failed=0
192.168.56.109             : ok=3    changed=0    unreachable=0    failed=0

zamora_admin@workstation:~/Zamora_PrelimExam$
```

- use pip3 as default pip

```
zamora_admin@workstation: ~/Zamora_PrelimExam
File  Edit  View  Search  Terminal  Help
  GNU nano 2.9.3                    config.yaml

---

- hosts: all
  become: true
  gather_facts: yes
  tasks:

  - name: install python3 and pip3
    apt:
      name: python3
      name: python3-pip

  - name: Using pip3 as default pip
    shell: update-alternatives --install /usr/bin/pip pip /usr/bin/pip3 1
```

Explanation: The next syntax making the pip3 as the default pip of the VM

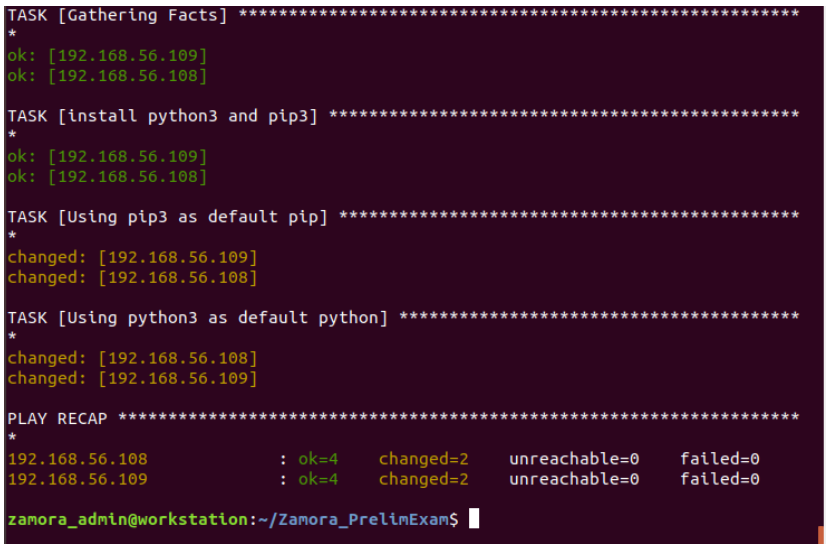
Machine via package install in its location.

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

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

TASK [install python3 and pip3] ************************************************
*
ok: [192.168.56.108]
ok: [192.168.56.109]

TASK [Using pip3 as default pip] ***********************************************
*
changed: [192.168.56.108]
changed: [192.168.56.109]

PLAY RECAP *********************************************************************
*
192.168.56.108             : ok=3    changed=1    unreachable=0    failed=0
192.168.56.109             : ok=3    changed=1    unreachable=0    failed=0

zamora_admin@workstation:~/Zamora_PrelimExam$ sudo nano config.yaml
zamora_admin@workstation:~/Zamora_PrelimExam$
```

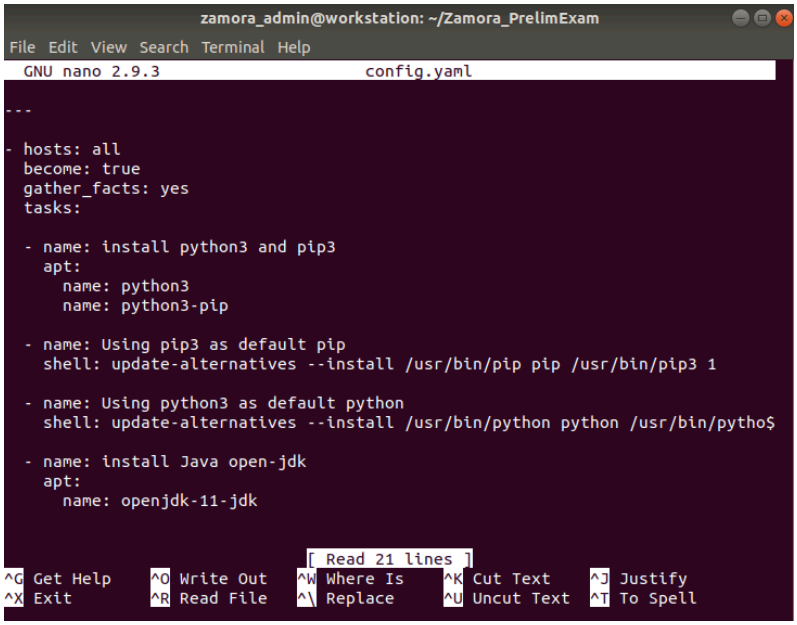
- use python3 as default python

```
zamora_admin@workstation: ~/Zamora_PrelimExam
File  Edit  View  Search  Terminal  Help
  GNU nano 2.9.3                    config.yaml

---

- hosts: all
  become: true
  gather_facts: yes
  tasks:

  - name: install python3 and pip3
    apt:
      name: python3
      name: python3-pip

  - name: Using pip3 as default pip
    shell: update-alternatives --install /usr/bin/pip pip /usr/bin/pip3 1

  - name: Using python3 as default python
    shell: update-alternatives --install /usr/bin/python python /usr/bin/pytho$

                          [ Read 19 lines ]
^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify
^X Exit        ^R Read File   ^\ Replace     ^U Uncut Text  ^T To Spell
```

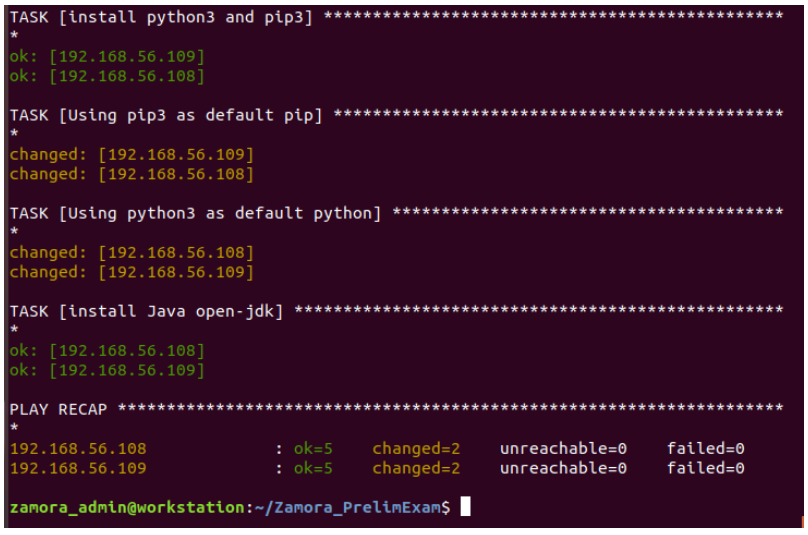
Explanation: The next syntax making the python3 as the default python of the VM Machine via package install in its location.

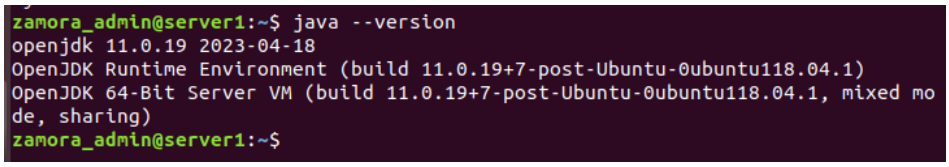

TASK [Gathering Facts] ***
*
ok: [192.168.56.109]
ok: [192.168.56.108]
TASK [install python3 and pip3] ***
*
ok: [192.168.56.109]
ok: [192.168.56.108]
TASK [Using pip3 as default pip] **
*
changed: [192.168.56.109]
changed: [192.168.56.108]
TASK [Using python3 as default python] **
*
changed: [192.168.56.108]
changed: [192.168.56.109]
PLAY RECAP **
*
192.168.56.108 : ok=4 changed=2 unreachable=0 failed=0
192.168.56.109 : ok=4 changed=2 unreachable=0 failed=0
zamora_admin@workstation:~/Zamora_PrelimExam$

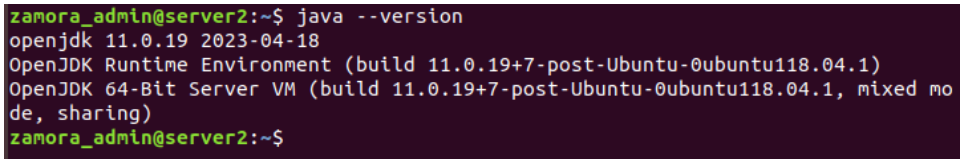
- Install Java open-jdk



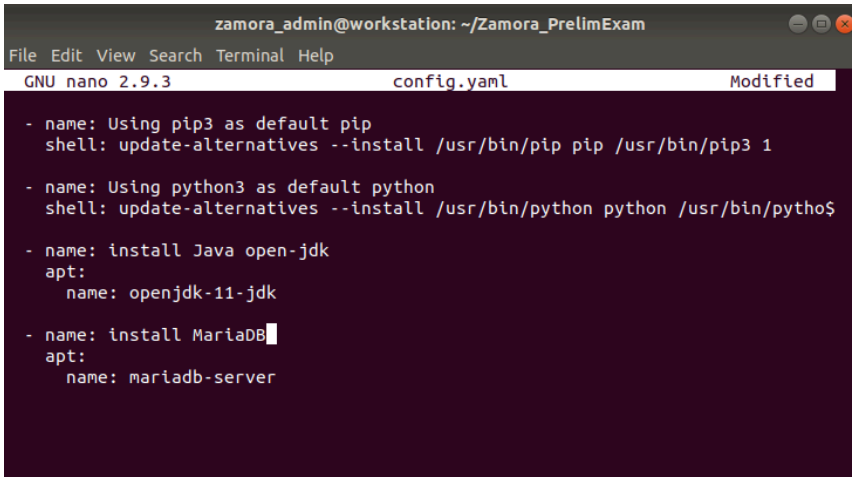
Explanation: The syntax above here is that I added a syntax to install the Java open-jdk.







- 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




```
zamora_admin@server1:~$ mariadb --version
mariadb  Ver 15.1 Distrib 10.1.48-MariaDB, for debian-linux-gnu (x86_64) using
readline 5.2
```

```
zamora_admin@server2:~$ mariadb --version
mariadb  Ver 15.1 Distrib 10.1.48-MariaDB, for debian-linux-gnu (x86_64) using
readline 5.2
```

```
- name: start mariadb
  service:
    name: mariadb
    enabled: true
```

Explanation: This code starts the mariadb service

```
TASK [install MariaDB] *****************************************************
*
ok: [192.168.56.108]
ok: [192.168.56.109]

TASK [start mariadb] *******************************************************
*
ok: [192.168.56.108]
ok: [192.168.56.109]

PLAY RECAP *****************************************************************
*
192.168.56.108             : ok=7    changed=2    unreachable=0    failed=0
192.168.56.109             : ok=7    changed=2    unreachable=0    failed=0

zamora_admin@workstation:~/Zamora_PrelimExam$ sudo nano config.yaml
zamora_admin@workstation:~/Zamora_PrelimExam$
```

- 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)"

```
  - name: Message
    copy:
      content: "Ansible Manage Node by Zamora"
      dest: /etc/motd
```

```
TASK [Message] *****************************************************************
*
changed: [192.168.56.108]
changed: [192.168.56.109]

PLAY RECAP *********************************************************************
*
192.168.56.108             : ok=8    changed=3    unreachable=0    failed=0
192.168.56.109             : ok=8    changed=3    unreachable=0    failed=0

zamora_admin@workstation:~/Zamora_PrelimExam$
```

```
zamora_admin@server1:/etc$ cat motd
Ansible Manage Node by Zamorazamora_admin@server1:/etc$
```

```
zamora_admin@server2:~$ cat /etc/motd
Ansible Manage Node by Zamorazamora_admin@server2:~$
```

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

```
  - name: User
    user:
      name: angelo
      state: present
      shell: /bin/bash
      comment: "PRELIM ZAMORA"
      createhome: yes
```

Explanation: This creates a user via playbook instead of doing it in the bash or shell ansible can create a user as well.

```
TASK [User] ********************************************************************
*
changed: [192.168.56.108]
changed: [192.168.56.109]

PLAY RECAP *********************************************************************
*
192.168.56.108             : ok=9    changed=3    unreachable=0    failed=0
192.168.56.109             : ok=9    changed=3    unreachable=0    failed=0

zamora_admin@workstation:~/Zamora_PrelimExam$
```

```
angelo:x:1001:1001:PRELIM ZAMORA:/home/angelo:/bin/bash
zamora_admin@server2:~$
```

```
angelo:x:1001:1001:PRELIM ZAMORA:/home/angelo:/bin/bash
zamora_admin@server1:~$
```

5. PUSH and COMMIT your PrelimExam in your GitHub repo

```
zamora_admin@workstation:~/Zamora_PrelimExam$ git add ansible.cfg config.yaml i
nventory
zamora_admin@workstation:~/Zamora_PrelimExam$ git commit -m "Prelims"
[main d482596] Prelims
 3 files changed, 50 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 config.yaml
 create mode 100644 inventory
zamora_admin@workstation:~/Zamora_PrelimExam$ git push
Counting objects: 5, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 840 bytes | 840.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0)
To github.com:GeloaceRT/Zamora_PrelimExam.git
   61fd54c..d482596  main -> main
zamora_admin@workstation:~/Zamora_PrelimExam$
```

GitHub Link: https://github.com/GeloaceRT/Zamora_PrelimExam

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.