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Section: CPE31S2
Date: September 18, 2024
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Github Repository Link: https://github.com/qcchavez/Chavez_PrelimExam.git

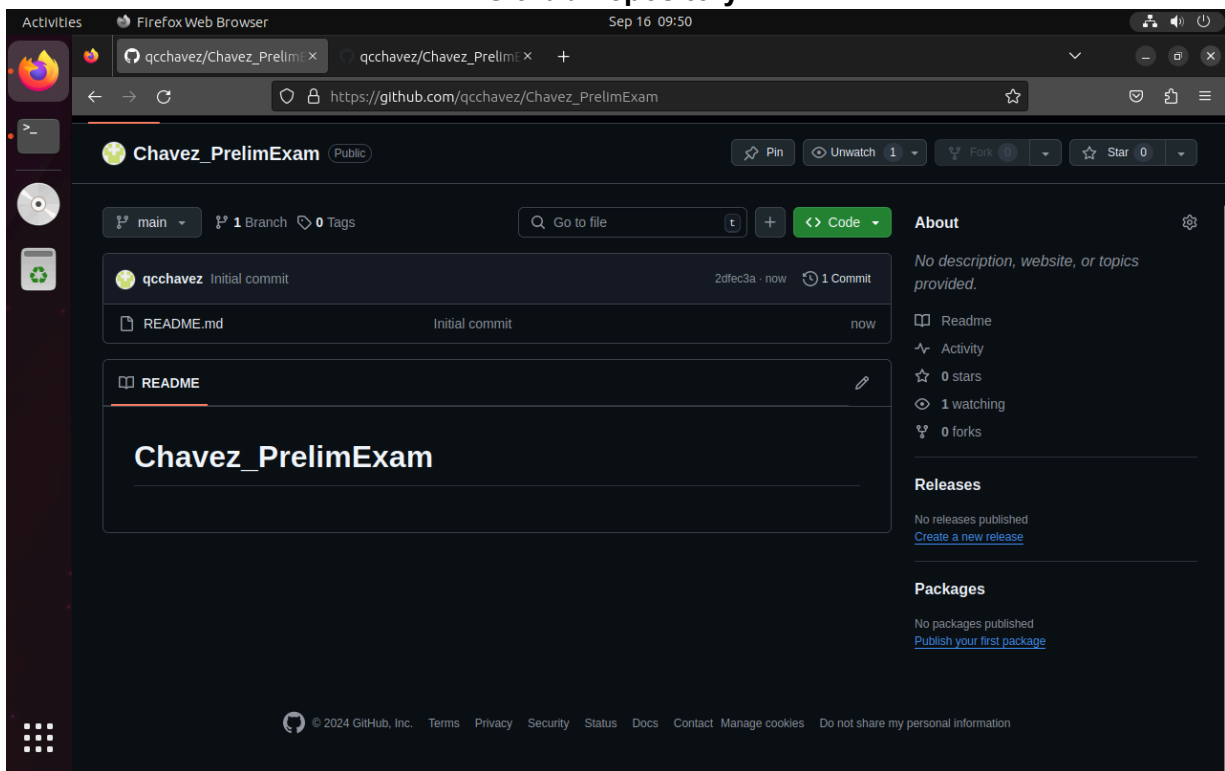
Tools Needed:

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

Github Repository



- In this screenshot, I have created my repository named **Chavez_PrelimExam** in

Github.

3. Clone your new repository in your CN.

Git Cloning Repository to Control Node

```
qcchavez@workstation:~$ git clone git@github.com:qcchavez/Chavez_PrelimExam.git
Cloning into 'Chavez_PrelimExam'...
The authenticity of host 'github.com (20.205.243.166)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCOqU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
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.
qcchavez@workstation:~$
```

- In this screenshot, I have cloned my repository to my control node by initiating a **git clone (ssh link of the repository)** in my Linux terminal.
4. In your CN, create an inventory file and ansible.cfg files.

Creating ansible.cfg and inventory file/s

The screenshot shows an Ubuntu Desktop environment running in Oracle VM VirtualBox. The window title is "Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox". The menu bar includes "File", "Machine", "View", "Input", "Devices", and "Help".

The "Activities" overview is open, showing a sidebar with icons for the Dash, Home Folder, Applications, and a Recycle Bin. The main area displays a terminal window titled "qcchavez@workstation: ~/Chavez_PrelimExam" and a nano text editor window titled "ansible.cfg".

The nano text editor shows the following content in the `ansible.cfg` file:

```
[defaults]
inventory = home/qcchavez/Chavez_PrelimExam/inventory
remote_user = qcchavez
host_key_checking = True
```

Below the nano editor, a file manager window shows the contents of the `~/Chavez_PrelimExam` directory. It includes a commit message "qcchavez Initial commit" with a hash "2dfec3a" and a timestamp "now", and a file named `README.md` with the same commit information. The `README` file is open, displaying the text "Chavez_PrelimExam".

```
Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Activities Terminal Sep 16 09:57
qcchavez@workstation: ~/Chavez_PrelimExam

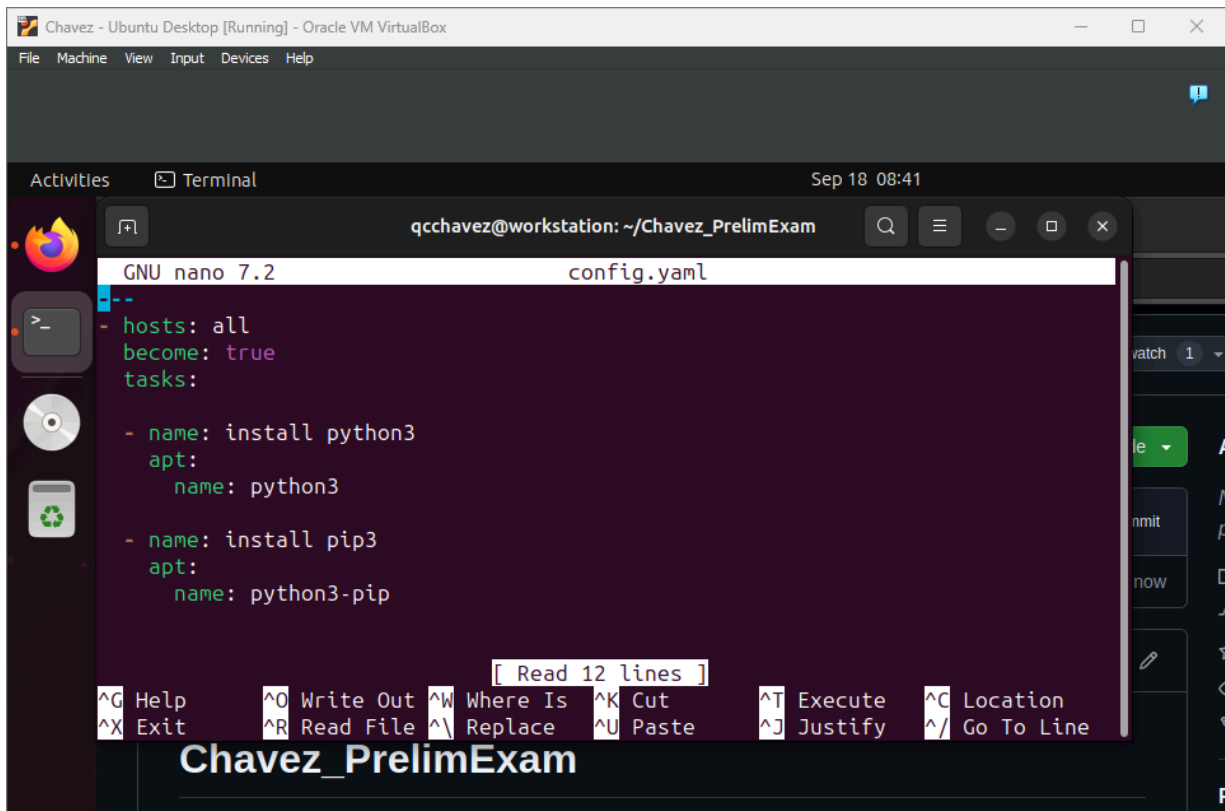
GNU nano 7.2 inventory *
[all]
192.168.56.116
192.168.56.115

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^_ Replace ^U Paste ^J Justify ^/ Go To Line
```

- In this part, I have entered commands **sudo nano ansible.cfg** and **sudo nano inventory** in order for me to create the required files inside the cloned repository to my control node.

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

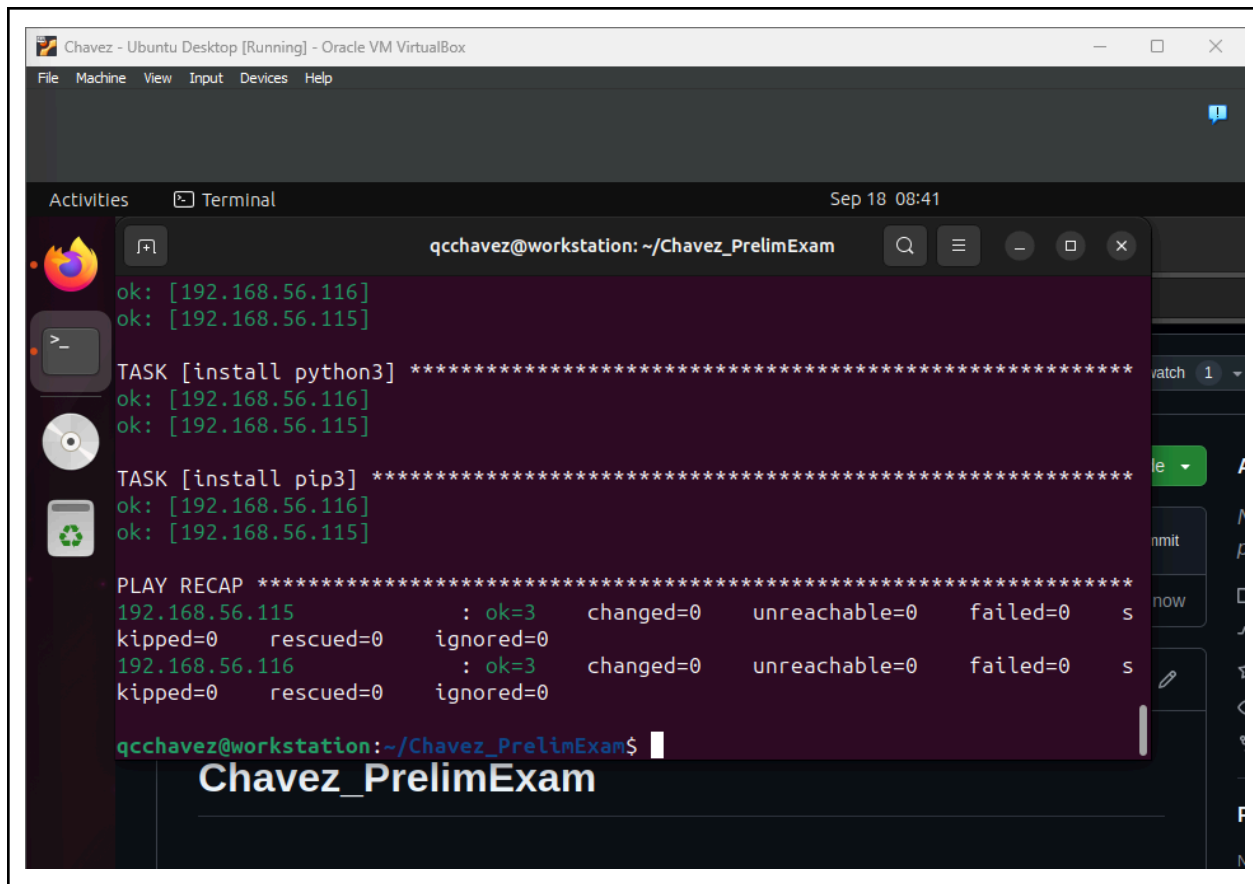
- Installs the latest python3 and pip3

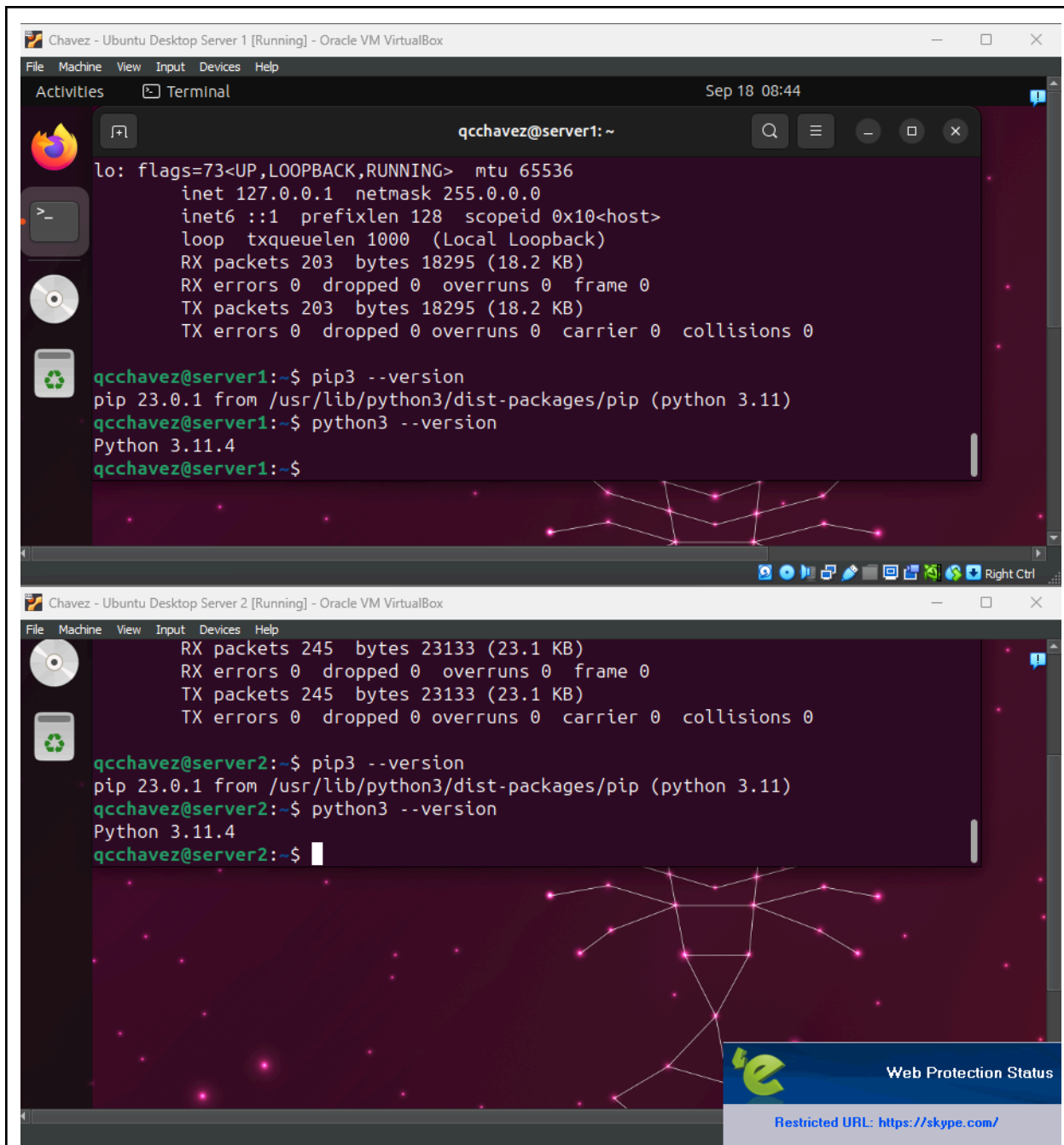


The screenshot shows a terminal window titled "Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox". The terminal is running the GNU nano 7.2 editor, editing a file named "config.yaml". The content of the file is an Ansible playbook with the following structure:

```
--
- hosts: all
  become: true
  tasks:
    - name: install python3
      apt:
        name: python3
    - name: install pip3
      apt:
        name: python3-pip
```

At the bottom of the terminal, there is a prompt "Chavez_PrelimExam" and a status bar showing "Read 12 lines".





- ❖ In these screenshots, I inserted a set of line of codes inside the **config.yaml** for the **pip** and **python3**, I also ran them by initiating the syntax **ansible-playbook -become -ask-become-pass** for me to check if the newly configured **config.yaml** will do its tasks. I also double-checked if the **pip3** and **python3** were installed on both managed nodes.

- use pip3 as default pip
- use python3 as default python
- Install Java open-jdk

Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Sep 18 08:57

qcchavez@workstation: ~/Chavez_PrelimExam

GNU nano 7.2 config.yaml

```
name: python3-pip

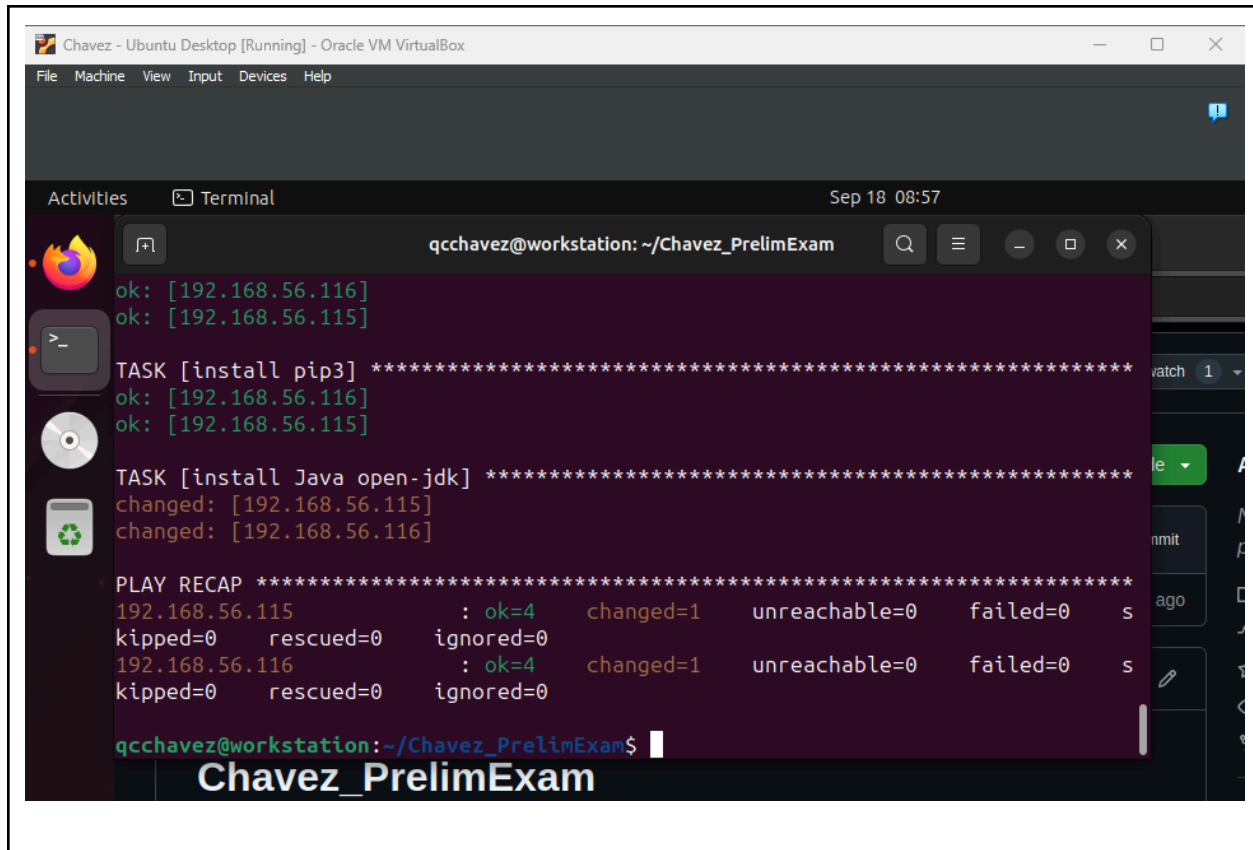
# - name: use pip3 as default pip
#   apt:
#     name:

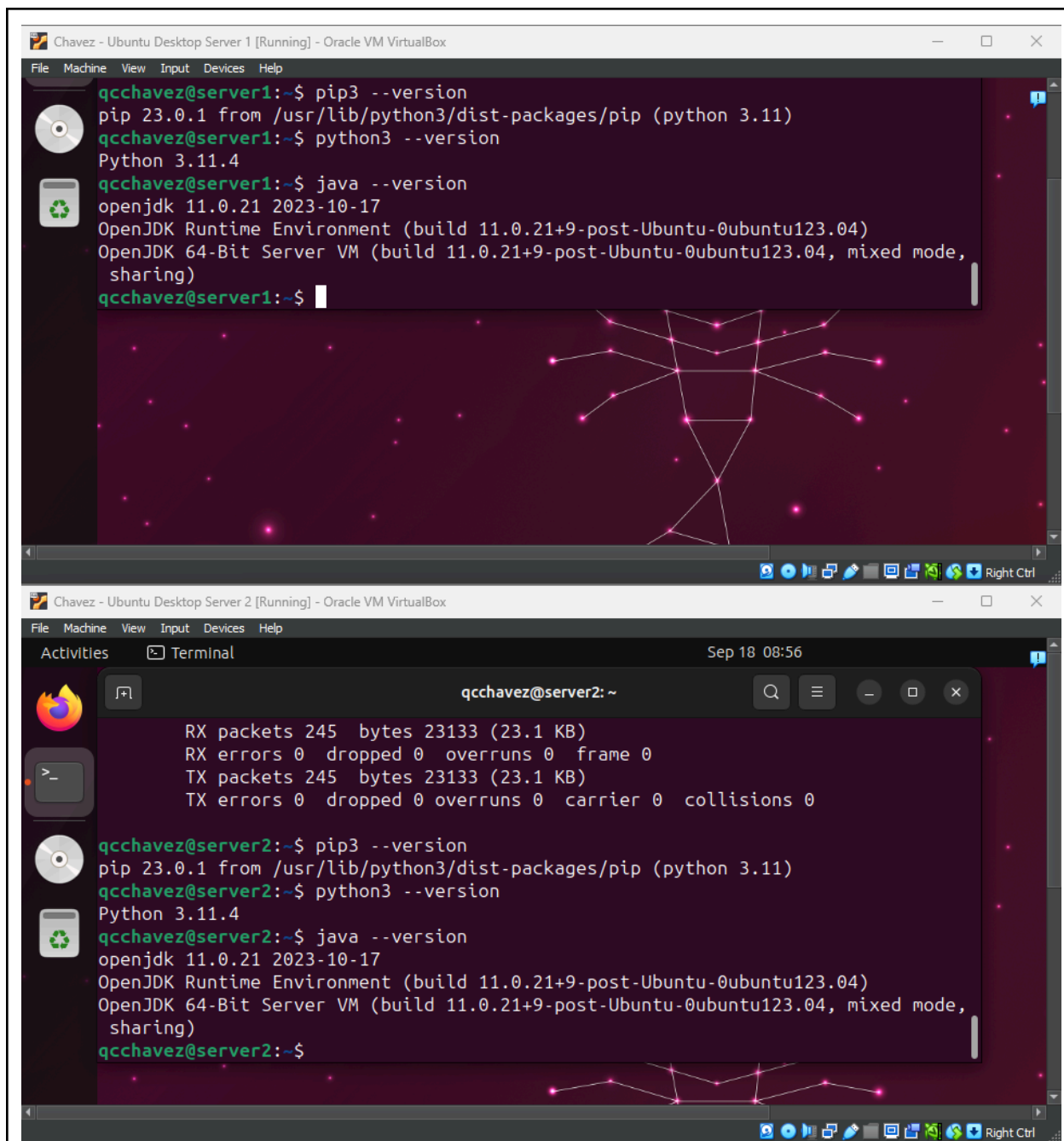
# - name: use python3 as default python
#   apt:
#     name:

- name: install Java open-jdk
  apt:
    name: openjdk-11-jdk
```

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^_ Go To Line

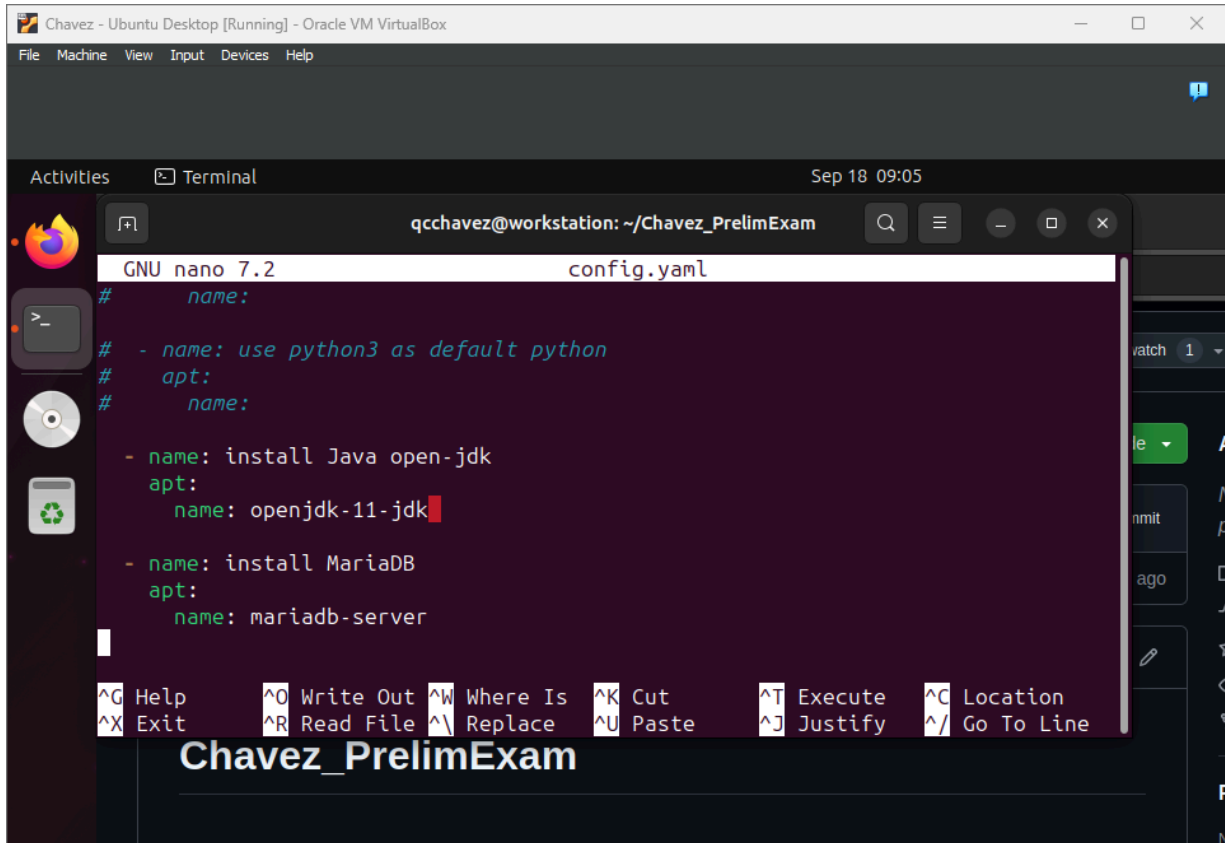
Chavez_PrelimExam





- In these screenshots, I inserted a set of line of codes inside the **config.yaml** for the **openjdk-11-jdk**, I also ran them by initiating the syntax **ansible-playbook -become -ask-become-pass** for me to check if the newly configured **config.yaml** will do its tasks. I also double-checked if the **Java 11 OpenJDK** was installed on both managed 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

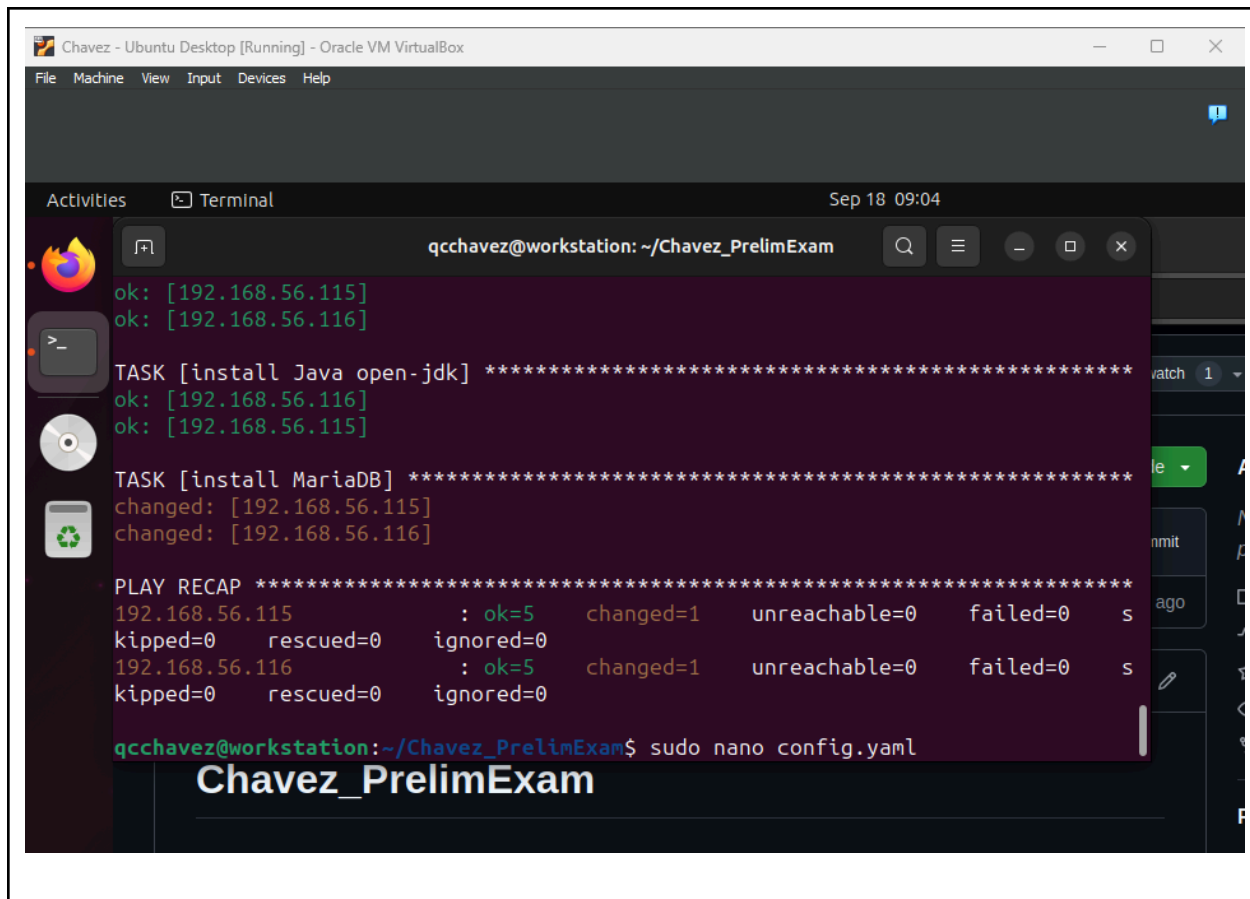


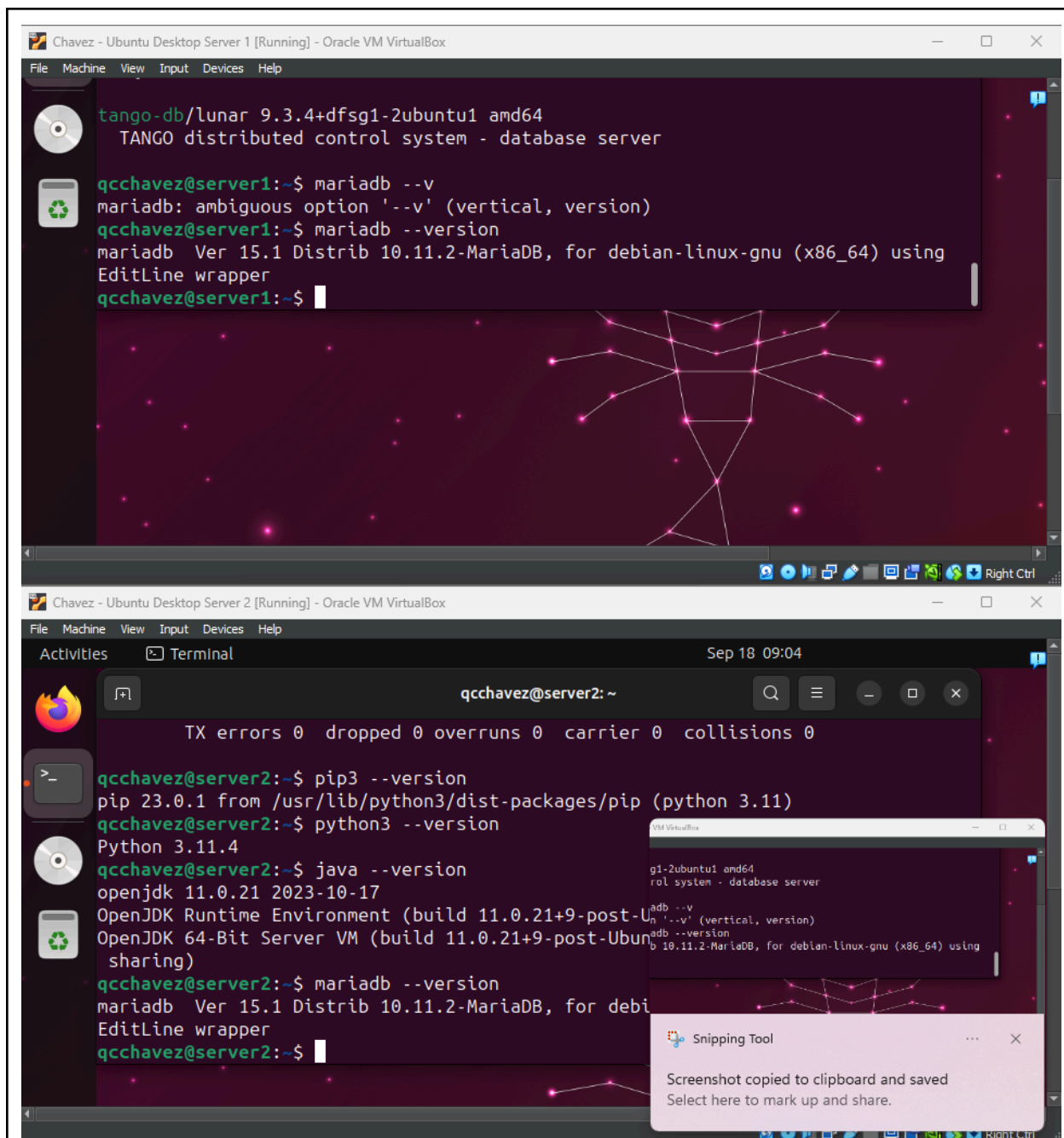
The screenshot shows a terminal window titled "Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox". The terminal is running a nano editor on a file named "config.yaml". The file content is an Ansible playbook with the following tasks:

```
GNU nano 7.2 config.yaml
#   name:
#
# - name: use python3 as default python
#   apt:
#     name:
#
- name: install Java open-jdk
  apt:
    name: openjdk-11-jdk
- name: install MariaDB
  apt:
    name: mariadb-server
```

At the bottom of the terminal, there is a prompt "Chavez_PrelimExam" and a list of nano editor shortcuts:

^G Help	^O Write Out	^W Where Is	^K Cut	^T Execute	^C Location
^X Exit	^R Read File	^_ Replace	^U Paste	^J Justify	^_ Go To Line

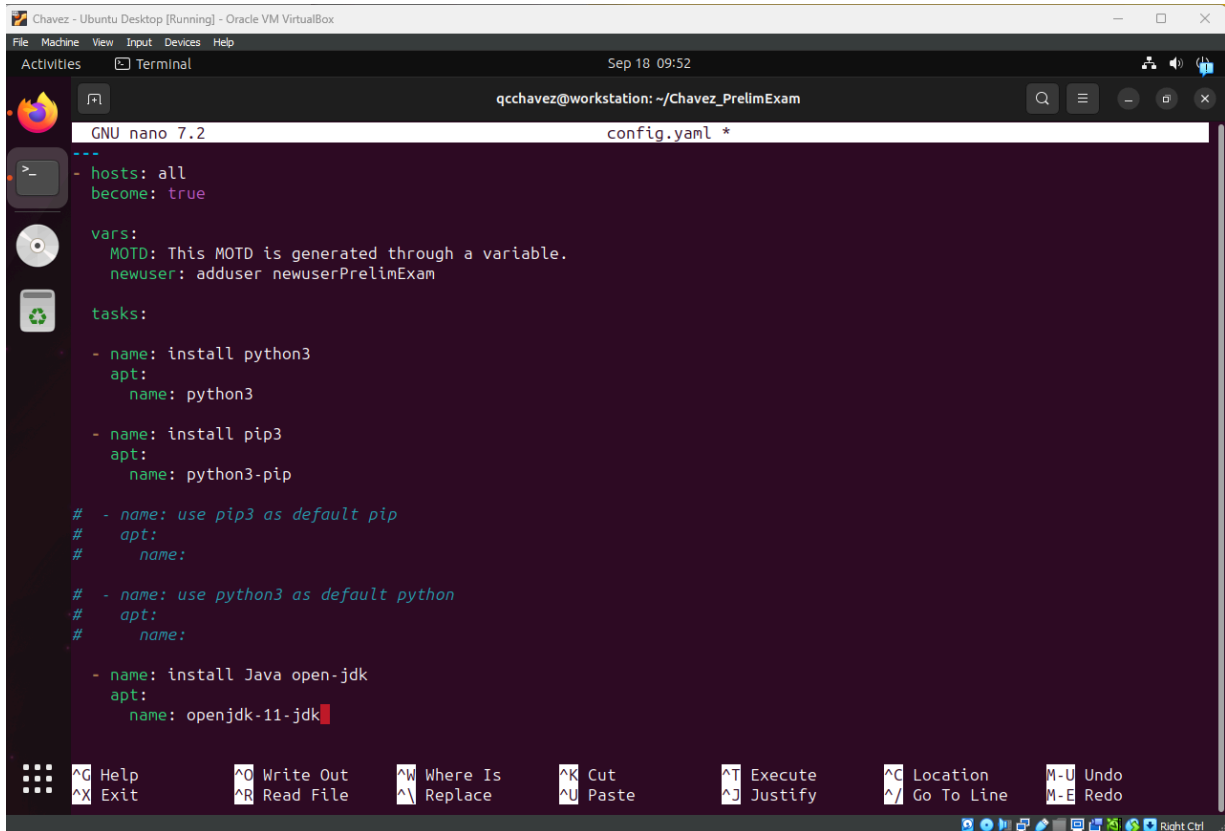




- In these screenshots, I inserted a set of line of codes inside the **config.yaml** for the **mariadb-server**, I also ran them by initiating the syntax **ansible-playbook -become -ask-become-pass** for me to check if the newly configured **config.yaml** will do its tasks. I also double-checked if **MariaDB** was installed on both managed nodes.

- 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)"

WITH VARIABLE INPUT



The screenshot shows a terminal window titled "Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox". The terminal is running the GNU nano 7.2 editor, editing a file named "config.yaml". The content of the file is as follows:

```
---
- hosts: all
  become: true

vars:
  MOTD: This MOTD is generated through a variable.
  newuser: adduser newuserPrelimExam

tasks:
  - name: install python3
    apt:
      name: python3

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

  # - name: use pip3 as default pip
  #   apt:
  #     name:

  # - name: use python3 as default python
  #   apt:
  #     name:

  - name: install Java open-jdk
    apt:
      name: openjdk-11-jdk
```

The terminal window includes a sidebar with icons for file manager, terminal, and other applications. The bottom of the window features a status bar with various keyboard shortcuts like ^G Help, ^O Write Out, ^W Where Is, ^K Cut, ^T Execute, ^C Location, ^U Undo, ^X Exit, ^R Read File, ^_ Replace, ^U Paste, ^J Justify, ^_ Go To Line, ^_ Redo, and a Right Ctrl button.

Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Sep 18 09:54 qcchavez@workstation: ~/Chavez_PrelimExam

```
GNU nano 7.2 config.yaml
name: python3-pip

# - name: use pip3 as default pip
# apt:
#   name:

# - name: use python3 as default python
# apt:
#   name:

- name: install Java open-jdk
  apt:
    name: openjdk-11-jdk

- name: install MariaDB
  apt:
    name: mariadb-server

# - name: Message of the Day (without variable input)
# debug:
#   msg: "Ansible Managed node by qcchavez"

- name: Message of the Day (with variable input)
  debug:
    msg: "{{ MOTD }}"

# - name: Creating new user
# debug:
#   command: {{ newuser }}
```

[Wrote 45 lines]

^G Help	^O Write Out	^W Where Is	^K Cut	^T Execute	^C Location	M-U Undo
^X Exit	^R Read File	^_ Replace	^U Paste	^J Justify	^_ Go To Line	M-E Redo

Right Ctrl ...

```
Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities Terminal Sep 18 09:54
qcchavez@workstation: ~/Chavez_PrelimExam

TASK [Gathering Facts] *****
ok: [192.168.56.116]
ok: [192.168.56.115]

TASK [install python3] *****
ok: [192.168.56.116]
ok: [192.168.56.115]

TASK [install pip3] *****
ok: [192.168.56.115]
ok: [192.168.56.116]

TASK [install Java open-jdk] *****
ok: [192.168.56.115]
ok: [192.168.56.116]

TASK [install MariaDB] *****
ok: [192.168.56.115]
ok: [192.168.56.116]

TASK [Message of the Day (with variable input)] *****
ok: [192.168.56.116] => {
  "msg": "This MOTD is generated through a variable."
}
ok: [192.168.56.115] => {
  "msg": "This MOTD is generated through a variable."
}

PLAY RECAP *****
192.168.56.115      : ok=6    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
192.168.56.116      : ok=6    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

qcchavez@workstation:~/Chavez_PrelimExam$
```

WITHOUT VARIABLE INPUT

Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Sep 18 09:52

qcchavez@workstation: ~/Chavez_PrelimExam

```
GNU nano 7.2 config.yaml *
name: python3

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

# - name: use pip3 as default pip
#   apt:
#     name:

# - name: use python3 as default python
#   apt:
#     name:

- name: install Java open-jdk
  apt:
    name: openjdk-11-jdk

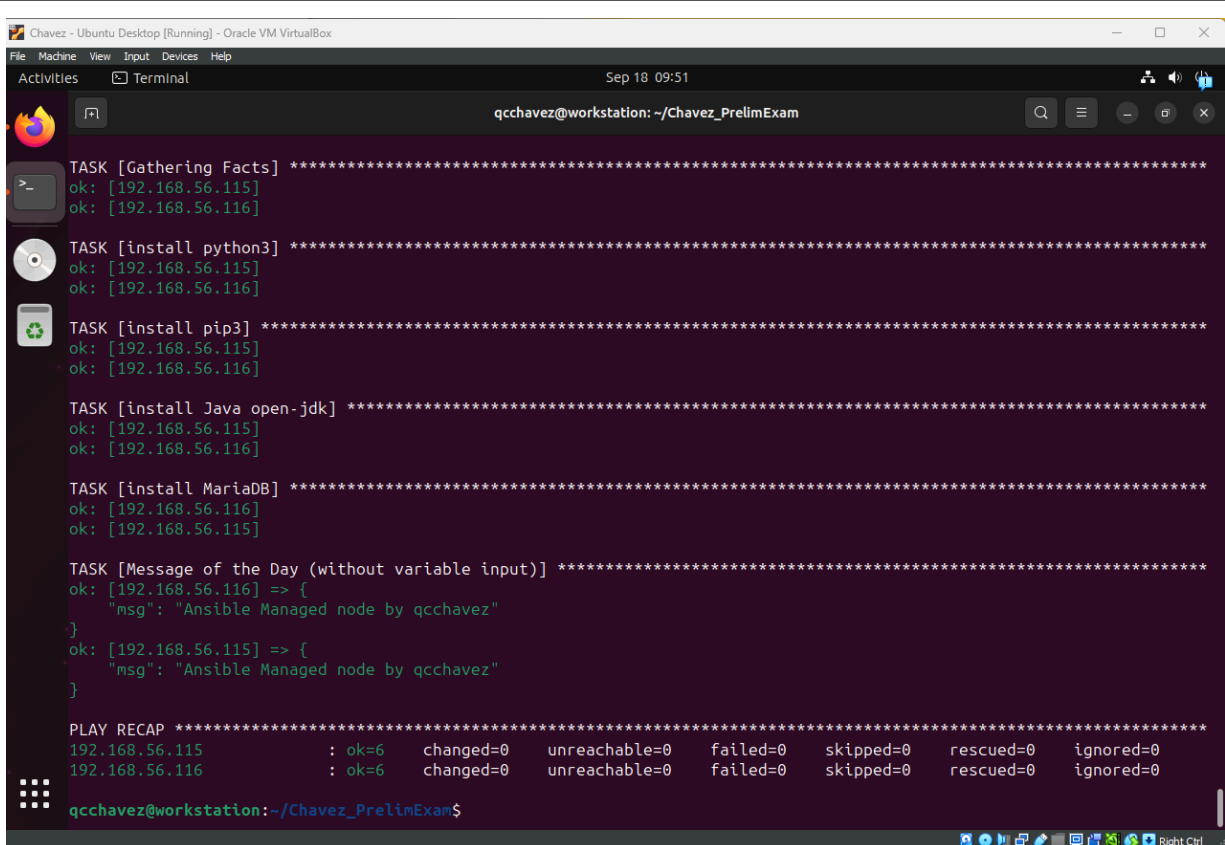
- name: install MariaDB
  apt:
    name: mariadb-server

- name: Message of the Day (without variable input)
  debug:
    msg: "Ansible Managed node by qcchavez"

# - name: Creating new user
#   debug:
#     command: {{ newuser }}
```

Help Write Out Where Is Cut Execute Location M-U Undo
Exit Read File Replace Paste Justify Go To Line M-E Redo

Right Ctrl



The screenshot shows a terminal window titled "Chavez - Ubuntu Desktop [Running] - Oracle VM VirtualBox". The terminal displays the output of an Ansible playbook. The tasks and their results are as follows:

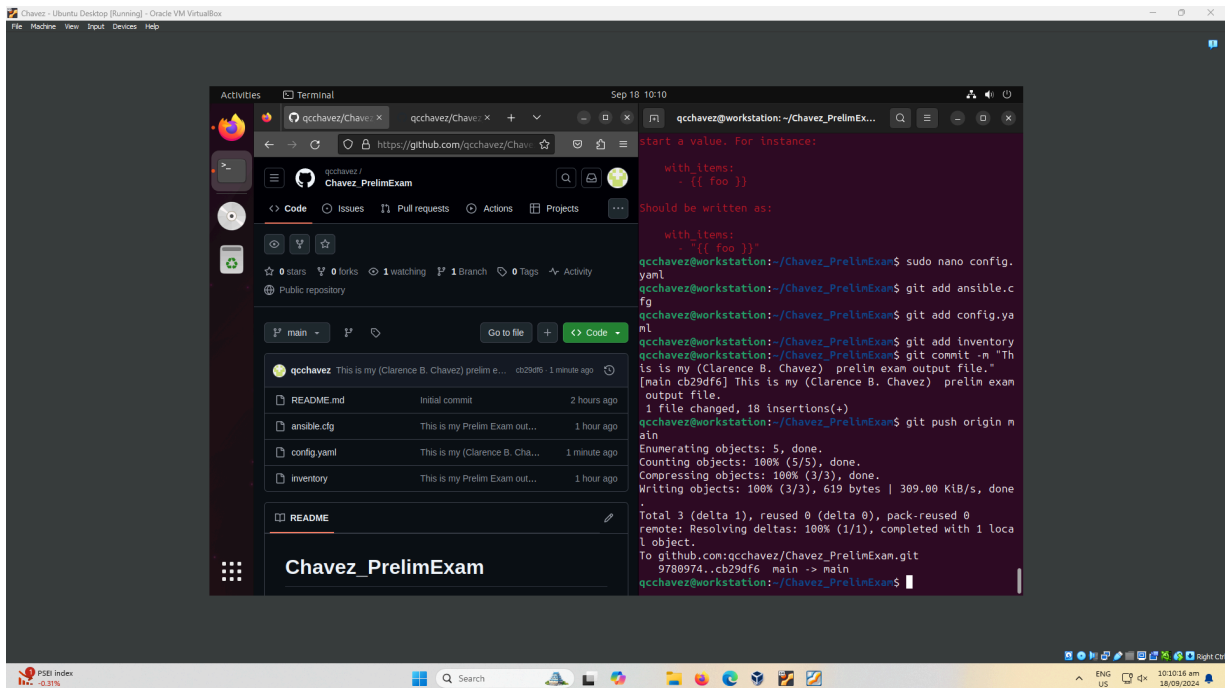
- TASK [Gathering Facts]**: ok: [192.168.56.115], ok: [192.168.56.116]
- TASK [install python3]**: ok: [192.168.56.115], ok: [192.168.56.116]
- TASK [install pip3]**: ok: [192.168.56.115], ok: [192.168.56.116]
- TASK [install Java open-jdk]**: ok: [192.168.56.115], ok: [192.168.56.116]
- TASK [install MariaDB]**: ok: [192.168.56.115], ok: [192.168.56.116]
- TASK [Message of the Day (without variable input)]**:
 - ok: [192.168.56.116] => { "msg": "Ansible Managed node by qcchavez" }
 - ok: [192.168.56.115] => { "msg": "Ansible Managed node by qcchavez" }
- PLAY RECAP**:

Host	ok	changed	unreachable	failed	skipped	rescued	ignored
192.168.56.115	6	0	0	0	0	0	0
192.168.56.116	6	0	0	0	0	0	0

The terminal prompt is `qcchavez@workstation: ~/Chavez_PrelimExam$`.

- In this screenshot, I entered a variable (vars) for MOTD, I presented screenshots for both scenarios where I run the ansible playbook with and without variable initiation. If I need to show a message with the use of a variable, I must initiate the variable (in the screenshot, the variable is **MOTD**). And if I don't need to initiate the variable, I must create a quotation message directly.
 - Create a user with a variable defined in config.yaml

5. PUSH and COMMIT your PrelimExam in your GitHub repo



- In this screenshot, I entered **git add (filenames)** to track which files are going to be added to my repository in the github, and also to make sure that I can see that there's any changes on the website, I've added a message in the **git commit** command and also used **git push** to make the changes happen.

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)

https://github.com/qcchavez/Chavez_PrelimExam.git

https://github.com/qcchavez/Chavez_PrelimExam

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