Question:

Create an Ansible role that installs Python3 and deploys a custom configuration file for the application. Task:

i. Create an Ansible Role named python_app_deploy with the correct directory structure.

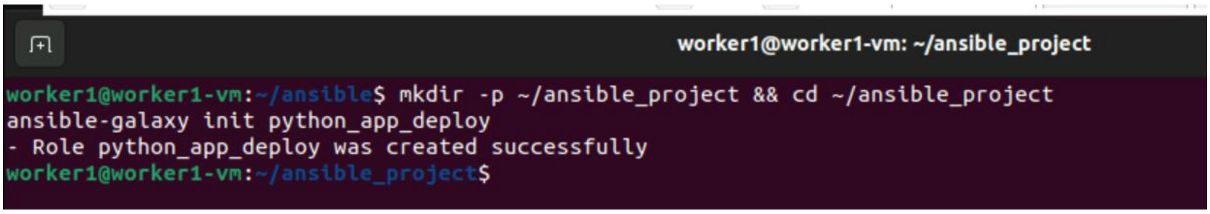
ii. Ensure Python3 is installed as part of the role.

iii. Place a template file named config.yml.j2 inside the templates/ directory.

Use the template module in the role to copy config.yml.j2 to /etc/python_app/config.yml on the target machine.

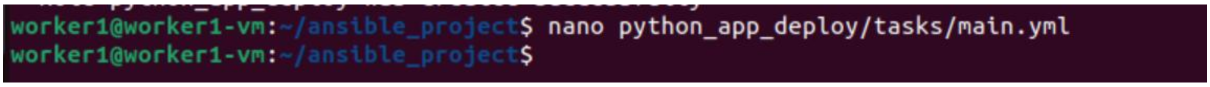
Solution:

1. Create the Role on Worker1

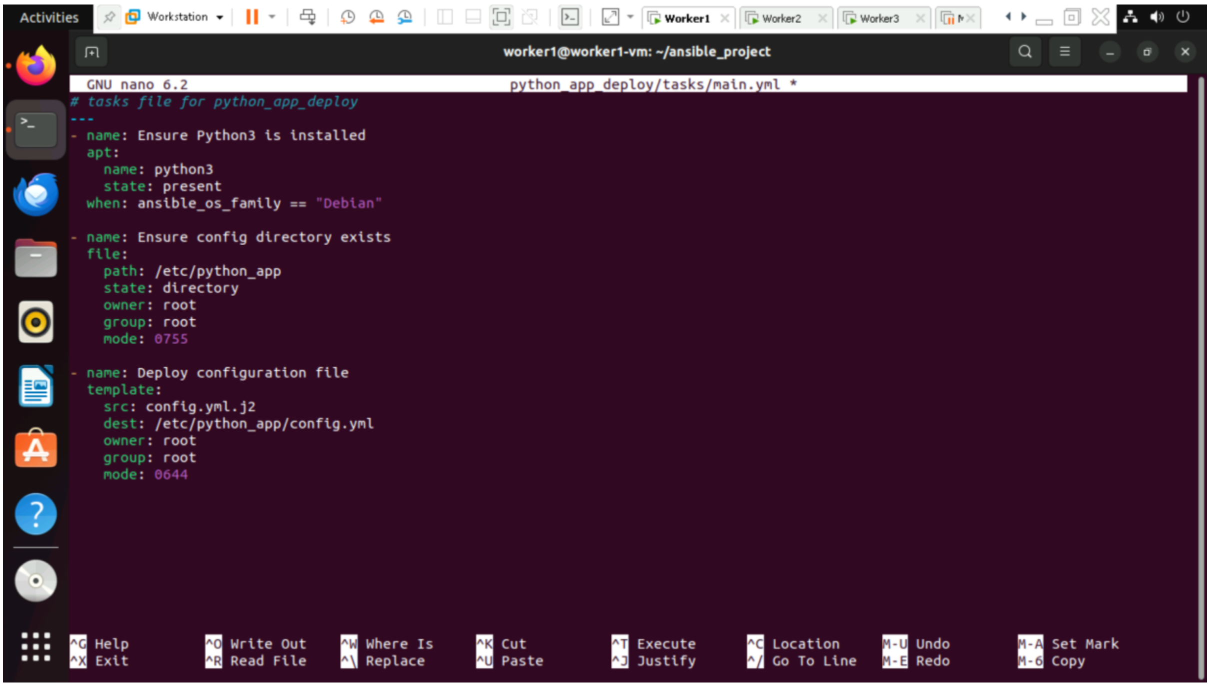


```
worker1@worker1-vm:~/ansible$ mkdir -p ~/ansible_project && cd ~/ansible_project
ansible-galaxy init python_app_deploy
- Role python_app_deploy was created successfully
worker1@worker1-vm:~/ansible_project$
```

2. Add Task to Install Python3

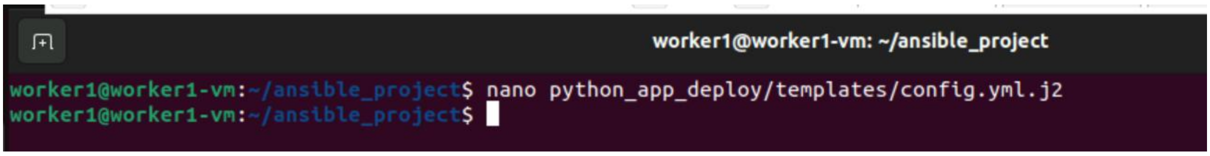


```
worker1@worker1-vm:~/ansible_project$ nano python_app_deploy/tasks/main.yml
worker1@worker1-vm:~/ansible_project$
```

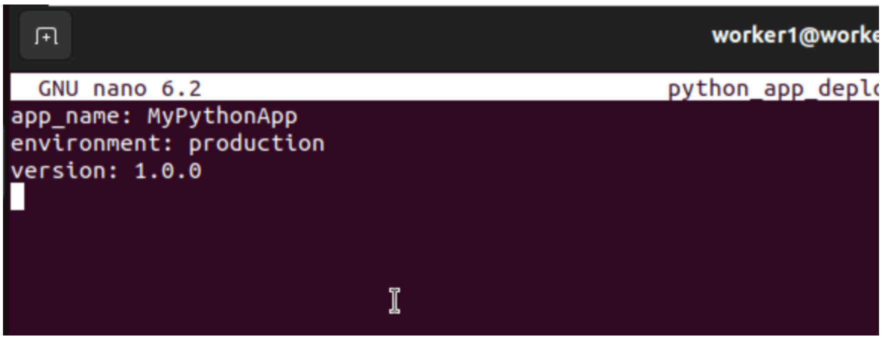


```
  GNU nano 6.2                      python_app_deploy/tasks/main.yml *
# tasks file for python_app_deploy
---
- name: Ensure Python3 is installed
  apt:
    name: python3
    state: present
  when: ansible_os_family == "Debian"

- name: Ensure config directory exists
  file:
    path: /etc/python_app
    state: directory
    owner: root
    group: root
    mode: 0755

- name: Deploy configuration file
  template:
    src: config.yml.j2
    dest: /etc/python_app/config.yml
    owner: root
    group: root
    mode: 0644

^G Help       ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo      M-A Set Mark
^X Exit       ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line M-E Redo      M-6 Copy
```

3. Add Template File

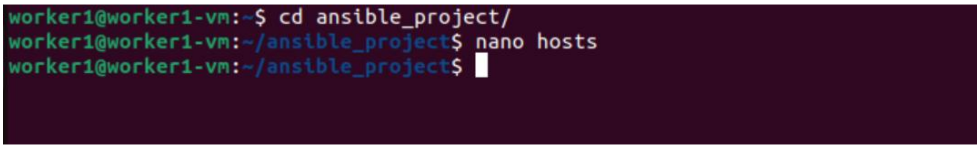


```
worker1@worker1-vm:~/ansible_project$ nano python_app_deploy/templates/config.yml.j2
worker1@worker1-vm:~/ansible_project$
```

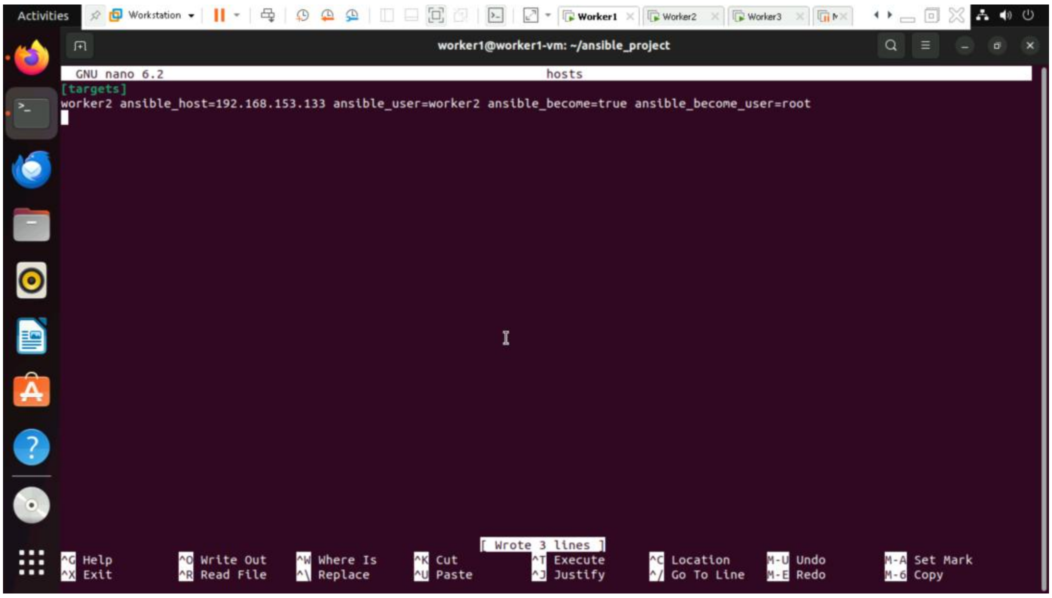


```
 GNU nano 6.2                                       python_app_deplo
app_name: MyPythonApp
environment: production
version: 1.0.0
```

4. Create Inventory file

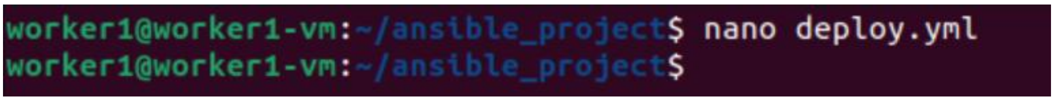


```
worker1@worker1-vm:~$ cd ansible_project/
worker1@worker1-vm:~/ansible_project$ nano hosts
worker1@worker1-vm:~/ansible_project$
```

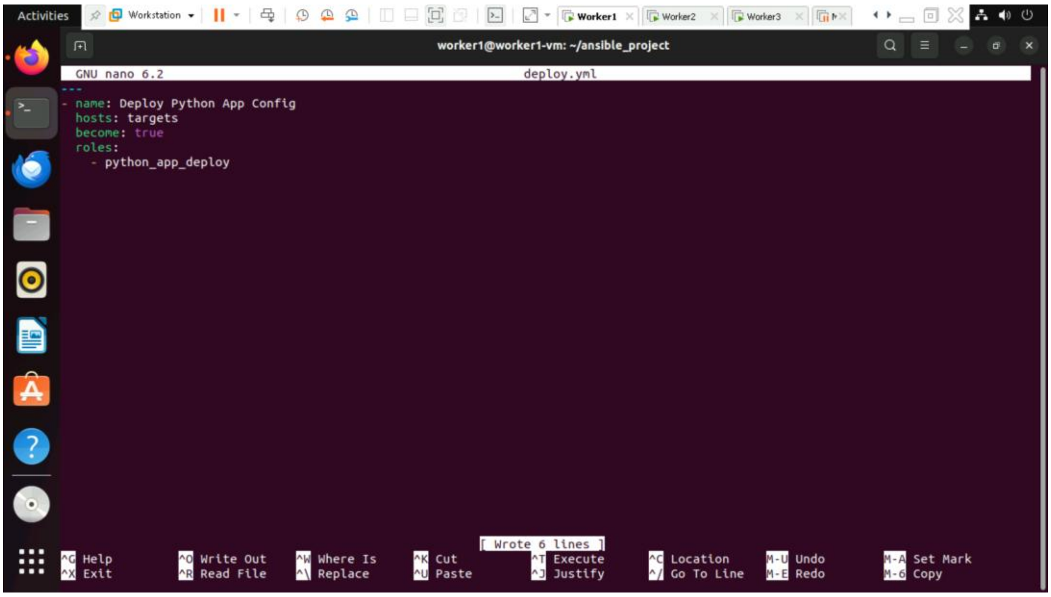


```
 GNU nano 6.2                                            hosts
[targets]
worker2 ansible_host=192.168.153.133 ansible_user=worker2 ansible_become=true ansible_become_user=root

                                              [ Wrote 3 lines ]
^G Help       ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo      M-A Set Mark
^X Exit       ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line M-E Redo      M-6 Copy
```

5. Create Playbook

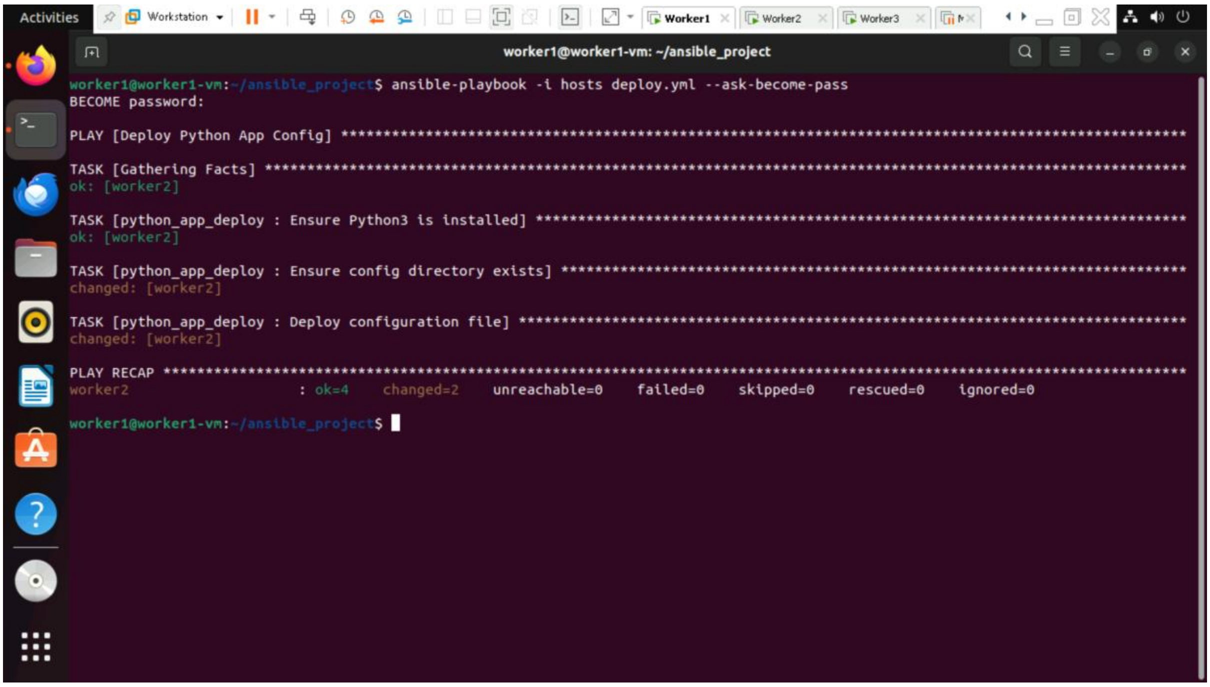


```
worker1@worker1-vm:~/ansible_project$ nano deploy.yml
worker1@worker1-vm:~/ansible_project$
```



```
  GNU nano 6.2                                    deploy.yml
---
- name: Deploy Python App Config
  hosts: targets
  become: true
  roles:
    - python_app_deploy




                                          [ Wrote 6 lines ]
^G Help        ^O Write Out   ^W Where Is    ^K Cut         ^T Execute     ^C Location    M-U Undo       M-A Set Mark
^X Exit        ^R Read File   ^\ Replace     ^U Paste       ^J Justify     ^/ Go To Line  M-E Redo       M-6 Copy
```

6. Run the playbook



```
worker1@worker1-vm:~/ansible_project$ ansible-playbook -i hosts deploy.yml --ask-become-pass
BECOME password:

PLAY [Deploy Python App Config] *****************************************************************************

TASK [Gathering Facts] **************************************************************************************
ok: [worker2]

TASK [python_app_deploy : Ensure Python3 is installed] ******************************************************
ok: [worker2]

TASK [python_app_deploy : Ensure config directory exists] ***************************************************
changed: [worker2]

TASK [python_app_deploy : Deploy configuration file] ********************************************************
changed: [worker2]

PLAY RECAP **************************************************************************************************
worker2                    : ok=4    changed=2    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

worker1@worker1-vm:~/ansible_project$ 
```