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<b>Course/Section:</b> CPE31S1	<b>Date Submitted:</b> 02/27/24
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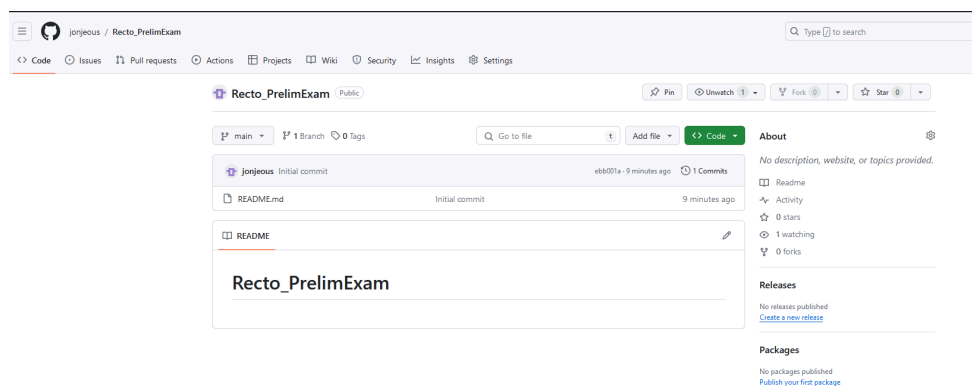
### Hands-on Prelim Exam

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.
2. Create a repository in your GitHub account and label it as Surname\_PrelimExam



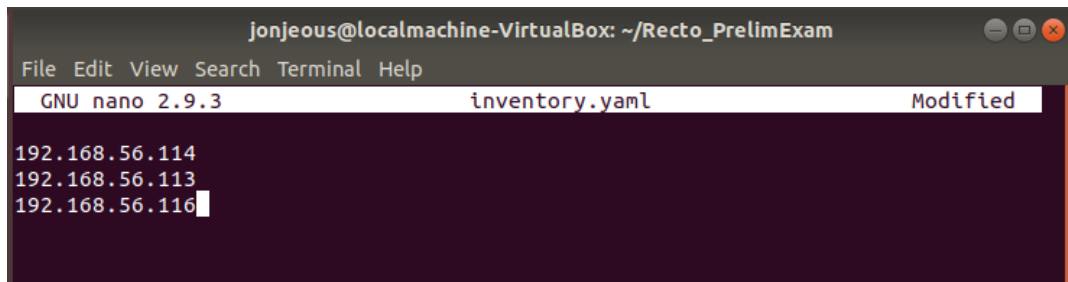
***Created a new repository named Recto\_PrelimExam***

3. Clone your new repository in your CN.

```
jonjeous@localmachine-VirtualBox:~$ git clone git@github.com:jonjeous/Recto_PrelimExam.git
Cloning into 'Recto_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.
jonjeous@localmachine-VirtualBox:~$ ls
CPE232_JonJeous  Downloads      id_rsa.pub     Public          Videos
Desktop          examples.desktop  Music          Recto_PrelimExam
Documents        id_rsa         Pictures        Templates
jonjeous@localmachine-VirtualBox:~$ cd Recto_PrelimExam
```

***Cloned my new repository to my control node***

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

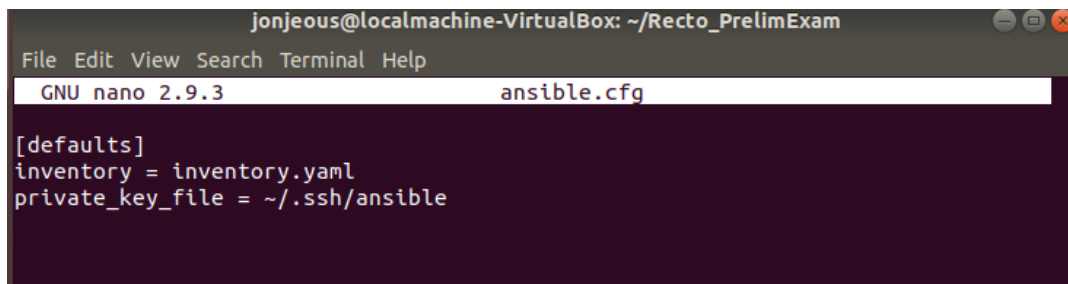


```
jonjeous@localmachine-VirtualBox: ~/Recto_PrelimExam
File Edit View Search Terminal Help
GNU nano 2.9.3 inventory.yaml Modified
192.168.56.114
192.168.56.113
192.168.56.116
```

In the inventory file I inputted the IP addresses for each nodes:  
192.168.56.114 for controlNode

192.168.56.113 for managedNode Ubuntu

192.168.56.116 for managedNode CentOS



```
jonjeous@localmachine-VirtualBox: ~/Recto_PrelimExam
File Edit View Search Terminal Help
GNU nano 2.9.3 ansible.cfg
[defaults]
inventory = inventory.yaml
private_key_file = ~/.ssh/ansible
```

created ansible.cfg

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

```
jonjeous@localmachine-VirtualBox: ~/Recto_PrelimExam
File Edit View Search Terminal Help
GNU nano 2.9.3                                playbook.yaml

---
- hosts: all
  become: true
  tasks:

    - name: Install Python3 and Pip3 on Ubuntu
      apt:
        name:
          - python3
          - python3-pip
        state: latest
        update_cache: yes
        when: ansible_distribution == "Ubuntu"

    - name: Install Python3 and Pip3 on CentOS
      yum:
        name:
          - python3
          - python3-pip
        state: latest
        update_cache: yes
        when: ansible_distribution == "CentOS"

TASK [Install Python3 and Pip3 on Ubuntu] *****
*
skipping: [192.168.56.116]
ok: [192.168.56.113]
ok: [192.168.56.114]

TASK [Install Python3 and Pip3 on CentOS] *****
*
skipping: [192.168.56.114]
skipping: [192.168.56.113]
ok: [192.168.56.116]

PLAY RECAP *****
*
192.168.56.113      : ok=2    changed=0    unreachable=0    failed=0
192.168.56.114      : ok=2    changed=0    unreachable=0    failed=0
192.168.56.116      : ok=2    changed=0    unreachable=0    failed=0
```

created a command that installs the latest python3 and pip3 for both ubuntu and centOS

- use pip3 as default pip
- use python3 as default python

```

- name: Set pip3 as the default pip on Ubuntu
  alternatives:
    name: pip
    path: /usr/bin/pip3
    when: ansible_distribution == "Ubuntu"

- name: Set python3 as the default python on Ubuntu
  alternatives:
    name: python
    path: /usr/bin/python3
    when: ansible_distribution == "Ubuntu"

```

```

TASK [Set pip3 as the default pip on Ubuntu] *****
*
skipping: [192.168.56.116]
ok: [192.168.56.114]
ok: [192.168.56.113]

TASK [Set python3 as the default python on Ubuntu] *****
*
skipping: [192.168.56.116]
ok: [192.168.56.114]
ok: [192.168.56.113]

PLAY RECAP *****
*
192.168.56.113      : ok=4    changed=0    unreachable=0    failed=0
192.168.56.114      : ok=4    changed=0    unreachable=0    failed=0
192.168.56.116      : ok=2    changed=0    unreachable=0    failed=0

jonjeous@localmachine-VirtualBox:~/Recto_PrelimExam$

```

sets pip and python as defaults

- Install Java open-jdk

```

- name: Install OpenJDK on Ubuntu
  apt:
    name:
      - openjdk-8-jdk
    state: present
    when: ansible_distribution == "Ubuntu"

- name: Install OpenJDK on CentOS
  yum:
    name:
      - java-1.8.0-openjdk
      - java-1.8.0-openjdk-devel
    state: present
    when: ansible_distribution == "CentOS"

```

```

TASK [Install OpenJDK on Ubuntu] *****
*
skipping: [192.168.56.116]
changed: [192.168.56.114]
changed: [192.168.56.113]

TASK [Install OpenJDK on CentOS] *****
*
skipping: [192.168.56.114]
skipping: [192.168.56.113]
changed: [192.168.56.116]

PLAY RECAP *****
*
192.168.56.113      : ok=5    changed=1    unreachable=0    failed=0
192.168.56.114      : ok=5    changed=1    unreachable=0    failed=0
192.168.56.116      : ok=3    changed=1    unreachable=0    failed=0

```

installed java on ubuntu and centos

- 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 2.9.3 config.yaml
motd_text: "Ansible Managed node by jonjeous"

```

```

- name: Set Motd using variable or default
  lineinfile:
    path: /etc/motd
    line: "{ motd_text | default('Ansible Managed node by ' ~ ansible_env.S$
    create: yes

```

```

TASK [Set Motd using variable or default] *****
*
changed: [192.168.56.114]
changed: [192.168.56.113]
changed: [192.168.56.116]

PLAY RECAP *****
*
192.168.56.113      : ok=6    changed=1    unreachable=0    failed=0
192.168.56.114      : ok=6    changed=1    unreachable=0    failed=0
192.168.56.116      : ok=4    changed=1    unreachable=0    failed=0
jonjeous@localmachine-VirtualBox:~/Recto_PrelimExam$

```

created a new file named config yaml and added a new task that sets motd using variable or default

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

```
GNU nano 2.9.3                                config.yaml                                Modified
motd_text: "Ansible Managed node by jonjeous"

new_user:
  username: "jonrecto"
  password: "password"
  home_directory: "/home/jonrecto"
  shell: "/bin/bash"
```

```
- name: Create New User
  user:
    name: "{{ new_user.username }}"
    password: "{{ new_user.password | password_hash('sha512') }}"
    home: "{{ new_user.home_directory }}"
    shell: "{{ new_user.shell }}"
    createhome: yes
```

```
TASK [Create New User] *****
*
changed: [192.168.56.114]
changed: [192.168.56.116]
changed: [192.168.56.113]

PLAY RECAP *****
*
192.168.56.113           : ok=7    changed=1    unreachable=0    failed=0
192.168.56.114           : ok=7    changed=1    unreachable=0    failed=0
192.168.56.116           : ok=5    changed=1    unreachable=0    failed=0

jonjeous@localmachine-VirtualBox:~/Recto_PrelimExam$
```

added some variables and tasks to create a new user

## 6. PUSH and COMMIT your PrelimExam in your GitHub repo

```
jonjeous@localmachine-VirtualBox:~/Recto_PrelimExam$ git status
On branch main
Your branch is ahead of 'origin/main' by 4 commits.
(use "git push" to publish your local commits)

nothing to commit, working tree clean
jonjeous@localmachine-VirtualBox:~/Recto_PrelimExam$ git push origin main
Counting objects: 12, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (11/11), done.
Writing objects: 100% (12/12), 1.62 KiB | 1.62 MiB/s, done.
Total 12 (delta 3), reused 0 (delta 0)
To github.com:jonjeous/Recto_PrelimExam.git
 ebb001a..c6dd773  main -> main
jonjeous@localmachine-VirtualBox:~/Recto_PrelimExam$
```

The screenshot shows the GitHub interface for the repository 'jonjeous / Recto\_PrelimExam'. The repository is public and has 1 branch (main) and 0 tags. The file list includes README.md, ansible.cfg, config.yaml, inventory.yaml, and playbook.yaml. The README.md file is selected, showing the title 'Recto\_PrelimExam'.

File	Commit	Time
README.md	Initial commit	2 hours ago
ansible.cfg	ansible.cfg	1 minute ago
config.yaml	config.yaml	1 minute ago
inventory.yaml	inventory.yaml	1 minute ago
playbook.yaml	playbook.yaml	now

**committed all my files on my repositories**

7. Your document report should be submitted here.
8. For your prelim exam to be counted, please paste your repository link here.

**[https://github.com/jonjeous/Recto\\_PrelimExam.git](https://github.com/jonjeous/Recto_PrelimExam.git)**