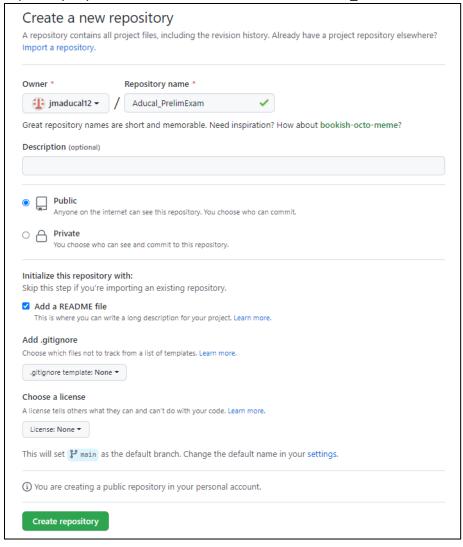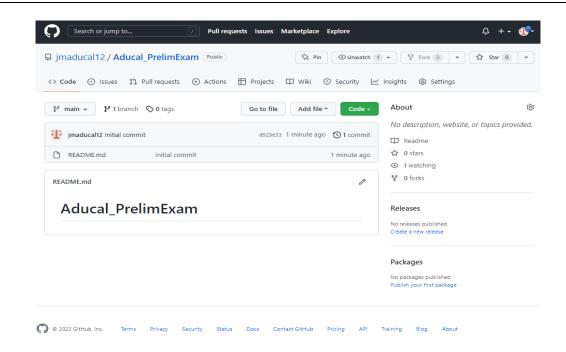| Name: Aducal, John Mark S.	Date Performed: 10 / 01 / 2022
Course and Section: CPE232-CPE31S24	Date Submitted: 10 / 01 / 2022
Instructor: Engr. Jonathan V. Taylar	Semester and SY: 1st Semester SY 2022 - 2023
CPE232 - Prelim Exam	

Tools Needed:
1. Control Node (CN) – 1
2. Manage Node (MN) – 1 Ubuntu
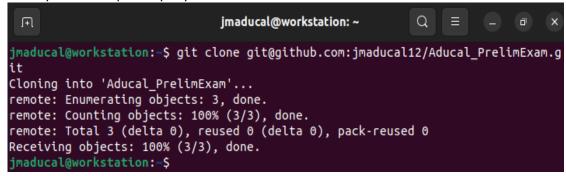3. Manage Node (MN) – 1 CentOS

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.

3. Clone your new repository in your CN.
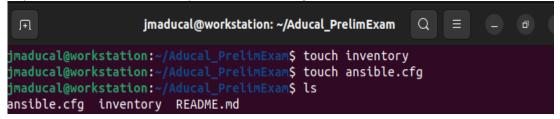

I use git clone command to clone the new GitHub repository I've created in my CN.

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

I have created two files, inventory and ansible.cfg files using the command touch.
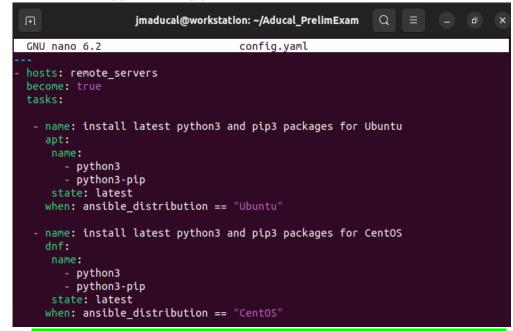
```
GNU nano 6.2                           inventory
[remote_servers]
server1 ansible_host=192.168.56.102
CentOS ansible_host=192.168.56.108
```

The Inventory file contains the IP addresses of server1 and CentOS.

```
GNU nano 6.2                           ansible.cfg
[defaults]

inventory = inventory
host_key_checking = False

deprecation_warnings = False

remote_user = jmaducal
private_key_file = ~./ssh/
```

The ansible.cfg file contains the configurations of ansible.

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

```
GNU nano 6.2                           config.yaml
---
- hosts: remote_servers
  become: true
  tasks:

    - name: install latest python3 and pip3 packages for Ubuntu
      apt:
       name:
          - python3
          - python3-pip
       state: latest
      when: ansible_distribution == "Ubuntu"

    - name: install latest python3 and pip3 packages for CentOS
      dnf:
       name:
          - python3
          - python3-pip
       state: latest
      when: ansible_distribution == "CentOS"
```

Config.yaml file contains ansible tasks that will install latest python3 and pip3 in remote servers such as ubuntu and CentOS.

I have successfully Installed latest python3 and pip3 in server1(ubuntu) and CentOS.

- Use pip3 as default pip
- Use python3 as default python

Server1

Python version 3.10.6 and pip3 version 22.0.2 for server 1

CentOS

Python version 3.6.8 and pip3 version 9.0.3 for CentOS

- Install Java open-jdk
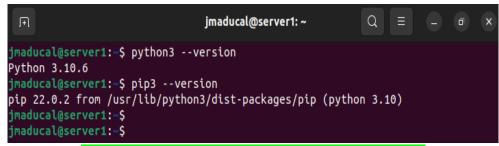


```
GNU nano 6.2                     config.yaml
---
- hosts: remote_servers
  become: true
  tasks:

   - name: install latest python3, pip3 and Java packages for Ubuntu
     apt:
      name:
        - python3
        - python3-pip
        - openjdk-17-jre-headless
     state: latest
     when: ansible_distribution == "Ubuntu"

   - name: install latest python3, pip3 and Java packages for CentOS
     dnf:
      name:
        - python3
        - python3-pip
        - java-11-openjdk-devel
     state: latest
     when: ansible_distribution == "CentOS"
```

==Config.yaml file contains ansible tasks that will install latest python3, pip3 and java in remote servers such as ubuntu and CentOS.==


```
jmaducal@workstation:~/Aducal_PrelimExam$ ansible-playbook --ask-become-pass co
nfig.yaml
BECOME password:

PLAY [remote_servers] ************************************************************
*

TASK [Gathering Facts] ***********************************************************
*
ok: [server1]
ok: [CentOS]

TASK [install latest python3, pip3 and Java packages for Ubuntu] **************
*
skipping: [CentOS]
ok: [server1]

TASK [install latest python3, pip3 and Java packages for CentOS] **************
*
skipping: [server1]
ok: [CentOS]

PLAY RECAP ***********************************************************************
*
CentOS                     : ok=2    changed=0    unreachable=0    failed=0
skipped=1    rescued=0    ignored=0
server1                    : ok=2    changed=0    unreachable=0    failed=0
skipped=1    rescued=0    ignored=0
```
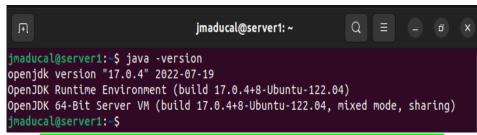
==I have successfully Installed Java-openjdk in CentOS and server1.
I repeat again the command, the first I've execute command have
Both changed=1 CentOS and server1.==

Checking the java version for server1 and CentOS

Server1

I have successfully installed java openjdk version "17.0.4" in server1

CentOS

I have successfully installed java openjdk version "1.8.0_342" in 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 Manage node by(your username)"


```
GNU nano 6.2                        config.yaml

  - name: install latest python3, pip3 and Java packages for Ubuntu
    apt:
      name:
        - python3
        - python3-pip
        - openjdk-17-jre-headless
      state: latest
    when: ansible_distribution == "Ubuntu"

  - name: install latest python3, pip3 and Java packages for CentOS
    dnf:
      name:
        - python3
        - python3-pip
        - java-11-openjdk-devel
      state: latest
    when: ansible_distribution == "CentOS"

  - name: Create a banner motd for remote servers ssh connection
    copy:
      content: "Ansible Manage node by jmaducal"
      dest: /etc/motd
```

I have created another ansible task to have a banner motd when using ssh connecting to remote servers.

```
jmaducal@workstation: ~/Aducal_PrelimExam

jmaducal@workstation:~/Aducal_PrelimExam$ ansible-playbook --ask-become-pass co
nfig.yaml
BECOME password:

PLAY [remote_servers] *************************************************
*

TASK [Gathering Facts] ************************************************
*
ok: [server1]
ok: [CentOS]

TASK [install latest python3, pip3 and Java packages for Ubuntu] **************
*
skipping: [CentOS]
ok: [server1]

TASK [install latest python3, pip3 and Java packages for CentOS] **************
*
skipping: [server1]
ok: [CentOS]

TASK [Create a banner motd for remote servers ssh connection] *****************
*
changed: [CentOS]
changed: [server1]

PLAY RECAP ***********************************************************
*
CentOS                     : ok=3    changed=1    unreachable=0    failed=0
skipped=1    rescued=0    ignored=0
server1                    : ok=3    changed=1    unreachable=0    failed=0
skipped=1    rescued=0    ignored=0
```

There is some changes in tasks create a banner motd for ssh connection to remote servers.

Server1

```
jmaducal@server1: ~

jmaducal@workstation:~/Aducal_PrelimExam$ ssh jmaducal@server1
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-47-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:      https://landscape.canonical.com
 * Support:         https://ubuntu.com/advantage

0 updates can be applied immediately.

*** System restart required ***
Ansible Manage node by jmaducal
Last login: Sat Oct  1 03:30:43 2022 from 10.0.2.15
jmaducal@server1:~$
```

The motd "Ansible Manage node by jmaducal" was successfully displayed when we doing ssh connection to server1.

CentOS

jmaducal@workstation:~/Aducal_PrelimExam$ ssh jmaducal@CentOS
Last login: Fri Sep 30 15:39:30 2022 from workstation
Ansible Manage node by jmaducal
[jmaducal@CentOS ~]$

The motd "Ansible Manage node by jmaducal" was successfully displayed when we doing ssh connection to CentOS.

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


```
GNU nano 6.2                          config.yaml
        - openjdk-17-jre-headless
     state: latest
     when: ansible_distribution == "Ubuntu"

   - name: install latest python3, pip3 and Java packages for CentOS
     dnf:
       name:
         - python3
         - python3-pip
         - java-11-openjdk-devel
     state: latest
     when: ansible_distribution == "CentOS"

   - name: Create a banner motd for remote servers ssh connection
     copy:
       content: "Ansible Manage node by jmaducal\n"
       dest: /etc/motd

   - name: Create a user
     user:
       name: user1
       password: "{{ 'itsasecret' | password_hash('sha512') }}"
       state: present
```

I have created another ansible task to create a new user.


```
jmaducal@workstation:~/Aducal_PrelimExam$ ansible-playbook --ask-become-pass co
nfig.yaml
BECOME password:

PLAY [remote_servers] **************************************************
*

TASK [Gathering Facts] *************************************************
*
ok: [CentOS]
ok: [server1]

TASK [install latest python3, pip3 and Java packages for Ubuntu] **************
*
skipping: [CentOS]
ok: [server1]

TASK [install latest python3, pip3 and Java packages for CentOS] **************
*
skipping: [server1]
ok: [CentOS]
```

```
TASK [Create a banner motd for remote servers ssh connection] ****************
*
ok: [CentOS]
ok: [server1]

TASK [Create a user] ********************************************************
*
changed: [CentOS]
changed: [server1]

PLAY RECAP *****************************************************************
*
CentOS                      : ok=4    changed=1    unreachable=0    failed=0
skipped=1    rescued=0    ignored=0
server1                     : ok=4    changed=1    unreachable=0    failed=0
skipped=1    rescued=0    ignored=0
```

Checking if the user1 exists in server 1 and Cent OS

Server1

CentOS

6. PUSH and COMMIT your PrelimExam in your GitHub repository.

```
jmaducal@workstation:~/Aducal_PrelimExam$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        ansible.cfg
        config.yaml
        inventory

nothing added to commit but untracked files present (use "git add" to track)
jmaducal@workstation:~/Aducal_PrelimExam$ git add ansible.cfg
jmaducal@workstation:~/Aducal_PrelimExam$ git add config.yaml
jmaducal@workstation:~/Aducal_PrelimExam$ git add inventory
```
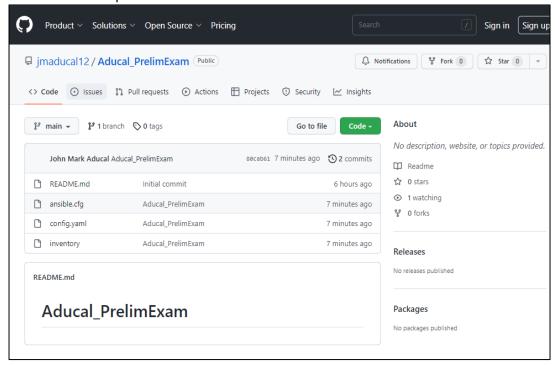
The ansible.cfg, config.yaml and inventory are untracked files. to track I use the command git add "file name".
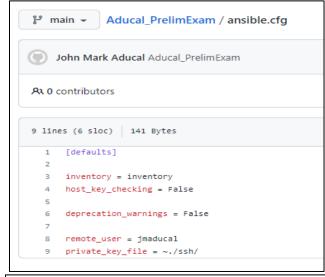
```
jmaducal@workstation:~/Aducal_PrelimExam$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   ansible.cfg
        new file:   config.yaml
        new file:   inventory

jmaducal@workstation:~/Aducal_PrelimExam$ git commit -m "Aducal_PrelimExam"
[main 80cab61] Aducal_PrelimExam
 3 files changed, 45 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 config.yaml
 create mode 100644 inventory
jmaducal@workstation:~/Aducal_PrelimExam$ git push origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 902 bytes | 902.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:jmaducal12/Aducal_PrelimExam.git
   d525e33..80cab61  main -> main
jmaducal@workstation:~/Aducal_PrelimExam$
```

The files are now tracked and in the staged and ready to be commited. I use the command git commit –m "Aducal_PrelimExam" to commit the files and git push origin main to save the changes in our origin to main.
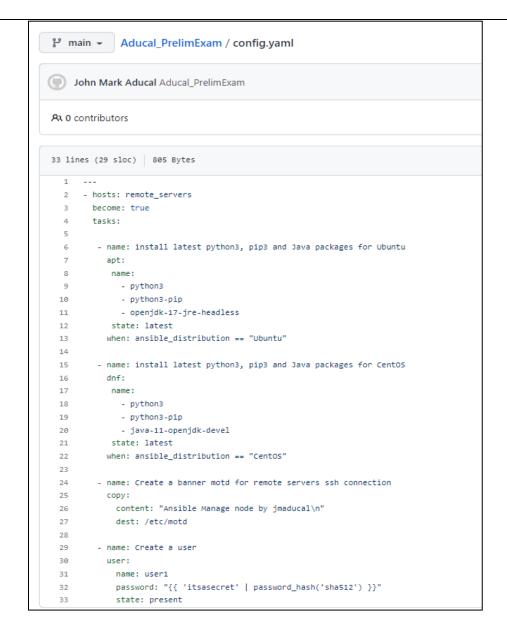
The commited repository should reflect on the GitHub account.

7. Your document report should be submitted here.

John Mark Aducal Aducal_PrelimExam

👥 0 contributors

33 lines (29 sloc) | 805 Bytes

```yaml
1    ---
2    - hosts: remote_servers
3      become: true
4      tasks:
5
6        - name: install latest python3, pip3 and Java packages for Ubuntu
7          apt:
8           name:
9              - python3
10             - python3-pip
11             - openjdk-17-jre-headless
12          state: latest
13          when: ansible_distribution == "Ubuntu"
14
15        - name: install latest python3, pip3 and Java packages for CentOS
16          dnf:
17           name:
18              - python3
19              - python3-pip
20              - java-11-openjdk-devel
21          state: latest
22          when: ansible_distribution == "CentOS"
23
24        - name: Create a banner motd for remote servers ssh connection
25          copy:
26            content: "Ansible Manage node by jmaducal\n"
27            dest: /etc/motd
28
29        - name: Create a user
30          user:
31            name: user1
32            password: "{{ 'itsasecret' | password_hash('sha512') }}"
33            state: present
```

8. For your prelim exam to be counted, please paste your repository link here.
https://github.com/jmaducal12/Aducal_PrelimExam.git

Honor Pledge:
"I affirm that I will not give or receive any unauthorized help on this exam and that all work will be my own"

John Mark S. Aducal