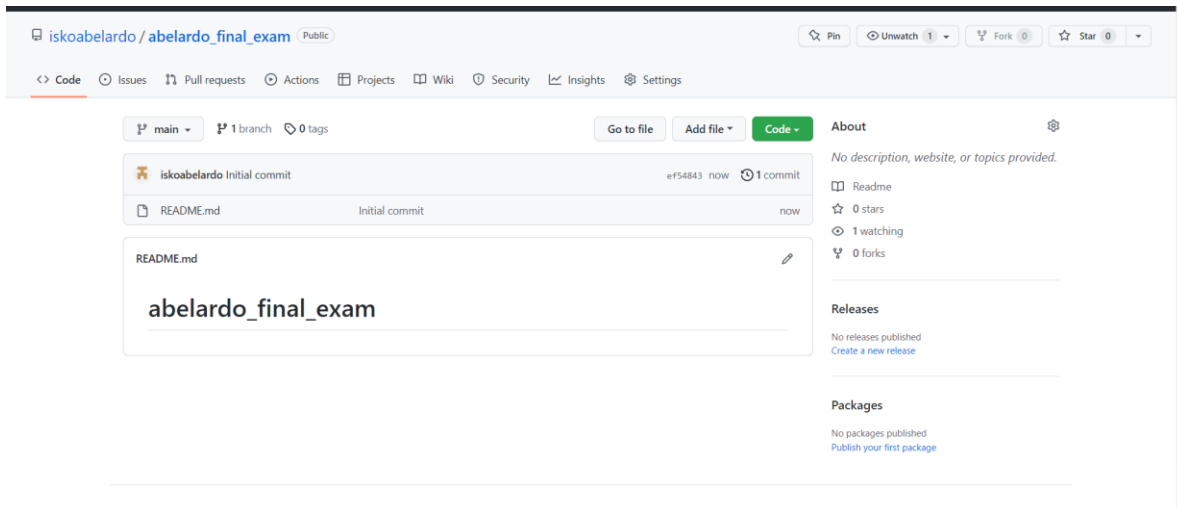
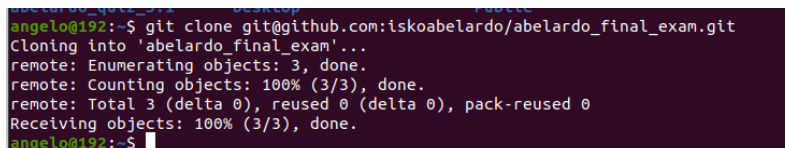


Final Exam	
Hands-On Final Exam	
<b>Course Code:</b> CPE 232	<b>Program:</b> CPE
<b>Course Title:</b> Managing Enterprise Servers	<b>Date Performed:</b> 06/7/2022
<b>Section:</b> CPE31S7	<b>Date Submitted:</b> 06/8/2022
<b>Name:</b> Abelardo, Angelo Francis	<b>Instructor:</b> Engr. Taylar
<b>1. Resources</b>	
1. VM with Alpine, Git and Ansible installed	
2. Web browser	
<b>2. Procedure</b>	
1. Create a repository and name it Surname_FinalExam.	



**Figure 1.** Created a repository named abelardo\_final\_exam.

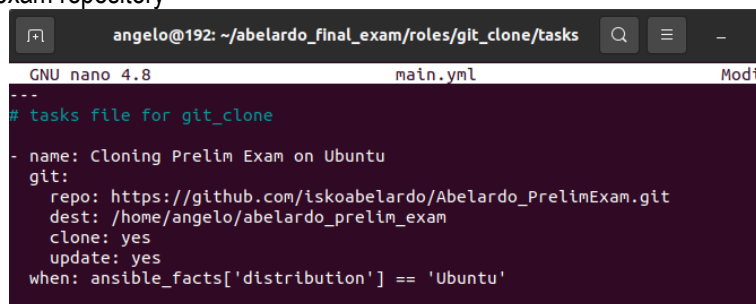
2. Clone your new repository in your VM



**Figure 2.** Cloned the repository.

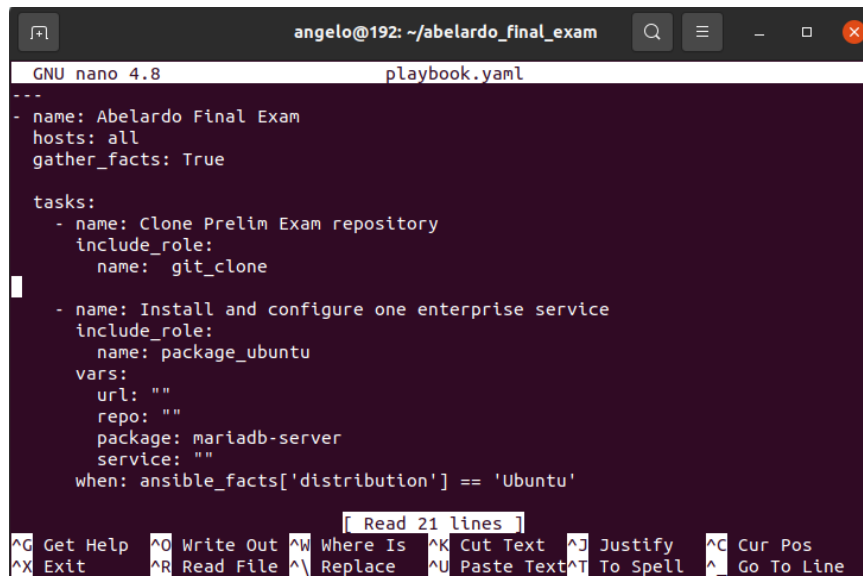
3. Create an Ansible playbook that does the following with an input of a config.yaml file and structure inventory file.

3.1 Clone your prelim exam repository



**Figure 3.** Created a role that can clone my prelim exam in GitHub.

### 3.2 Install and configure one enterprise service that can be installed in Debian, Centos, and OpenSuse servers



```
angelo@192: ~/abelardo_final_exam
GNU nano 4.8      playbook.yaml
---
- name: Abelardo Final Exam
  hosts: all
  gather_facts: True

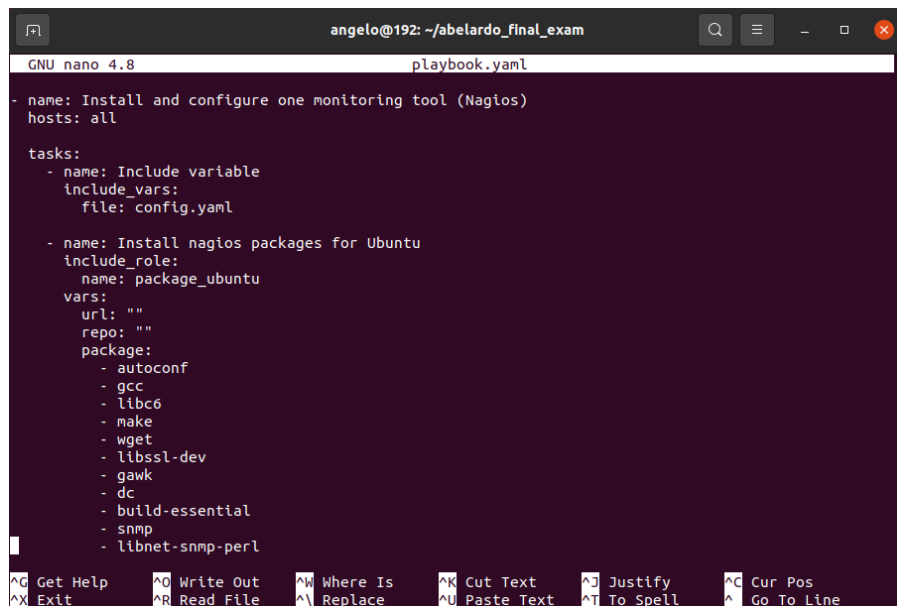
  tasks:
    - name: Clone Prelim Exam repository
      include_role:
        name: git_clone

    - name: Install and configure one enterprise service
      include_role:
        name: package_ubuntu
      vars:
        url: ""
        repo: ""
        package: mariadb-server
        service: ""
      when: ansible_facts['distribution'] == 'Ubuntu'

[ Read 21 lines ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Paste Text ^T To Spell  ^_ Go To Line
```

**Figure 4.** Created a role that installs and configures MariaDB enterprise service.

### 3.3 Install and configure one monitoring tool that can be installed in Debian, Centos, and OpenSuse servers (if it is a stack there should be the option of a different host)



```
angelo@192: ~/abelardo_final_exam
GNU nano 4.8      playbook.yaml
- name: Install and configure one monitoring tool (Nagios)
  hosts: all

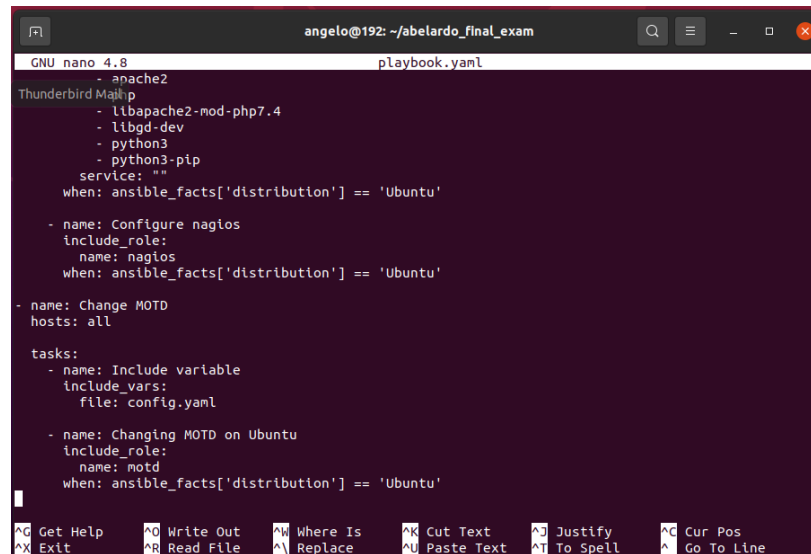
  tasks:
    - name: Include variable
      include_vars:
        file: config.yaml

    - name: Install nagios packages for Ubuntu
      include_role:
        name: package_ubuntu
      vars:
        url: ""
        repo: ""
        package:
          - autoconf
          - gcc
          - libc6
          - make
          - wget
          - libssl-dev
          - gawk
          - dc
          - build-essential
          - snmp
          - libnet-snmp-perl

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Paste Text ^T To Spell  ^_ Go To Line
```

**Figure 5.** Created a role that installs and configures Nagios monitoring tool.

### 3.4 Change Motd as "Ansible Managed by <username>"



```
angelo@192: ~/abelardo_final_exam
GNU nano 4.8 playbook.yaml
- apache2
Thunderbird Mail
- libapache2-mod-php7.4
- libgd-dev
- python3
- python3-pip
  service: ""
  when: ansible_facts['distribution'] == 'Ubuntu'

- name: Configure nagios
  include_role:
    name: nagios
  when: ansible_facts['distribution'] == 'Ubuntu'

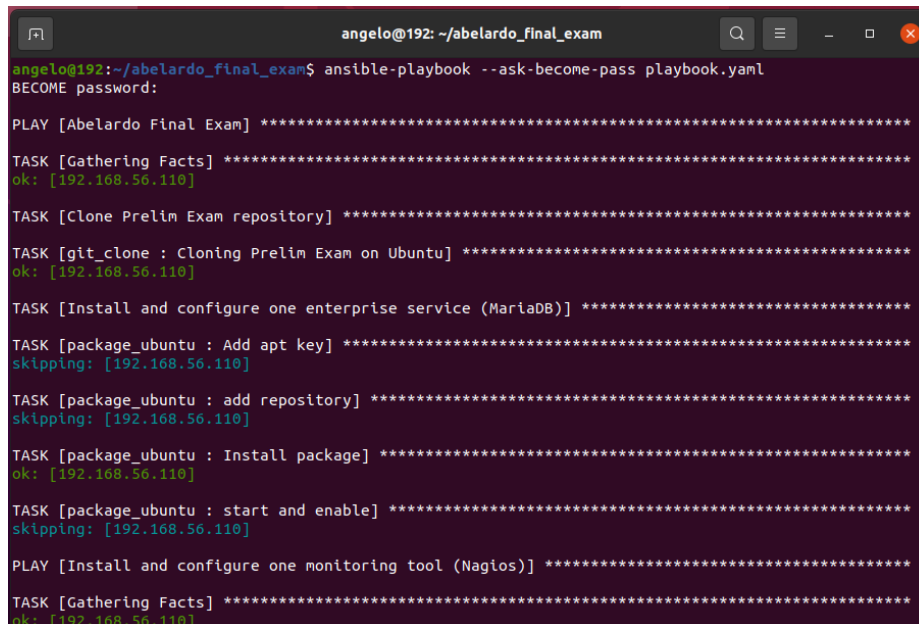
- name: Change MOTD
  hosts: all

  tasks:
    - name: Include variable
      include_vars:
        file: config.yaml

    - name: Changing MOTD on Ubuntu
      include_role:
        name: motd
      when: ansible_facts['distribution'] == 'Ubuntu'
```

Figure 6. Created a role that can change MOTD.

### 4. Run the playbook



```
angelo@192: ~/abelardo_final_exam
angelo@192:~/abelardo_final_exam$ ansible-playbook --ask-become-pass playbook.yaml
BECOME password:

PLAY [Abelardo Final Exam] *****

TASK [Gathering Facts] *****
ok: [192.168.56.110]

TASK [Clone Prelim Exam repository] *****

TASK [git_clone : Cloning Prelim Exam on Ubuntu] *****
ok: [192.168.56.110]

TASK [Install and configure one enterprise service (MariaDB)] *****

TASK [package_ubuntu : Add apt key] *****
skipping: [192.168.56.110]

TASK [package_ubuntu : add repository] *****
skipping: [192.168.56.110]

TASK [package_ubuntu : Install package] *****
ok: [192.168.56.110]

TASK [package_ubuntu : start and enable] *****
skipping: [192.168.56.110]

PLAY [Install and configure one monitoring tool (Nagios)] *****

TASK [Gathering Facts] *****
ok: [192.168.56.110]
```

Figure 7. Executed the playbook that clones the prelim exam, installs MariaDB enterprise service and Nagios monitoring tool.

```
angelo@192: ~/abelardo_final_exam
TASK [nagios : Compile from source] *****
skipping: [192.168.56.110]

TASK [nagios : Compile from source] *****
skipping: [192.168.56.110]

TASK [nagios : Restart Nagios] *****
skipping: [192.168.56.110]

PLAY [Change MOTD] *****

TASK [Gathering Facts] *****
ok: [192.168.56.110]

TASK [Include variable] *****
ok: [192.168.56.110]

TASK [Changing MOTD on Ubuntu] *****

TASK [motd : Changing MOTD] *****
changed: [192.168.56.110]

TASK [motd : Remove the previous MOTD] *****
changed: [192.168.56.110]

PLAY RECAP *****
192.168.56.110      : ok=18  changed=2  unreachable=0  failed=0  skipped=20  rescued=0  ignored=0

angelo@192:~/abelardo_final_exam$ sudo nano playbook.yaml
angelo@192:~/abelardo_final_exam$
```

**Figure 8.** Executed the playbook that clones the prelim exam, installs MariaDB enterprise service and Nagios monitoring tool. The playbook worked well.

4. push and commit your final-exam branch in the VM

```
angelo@192:~/abelardo_final_exam$ git add ansible.cfg
angelo@192:~/abelardo_final_exam$ git add config.yaml
angelo@192:~/abelardo_final_exam$ git add inventory
angelo@192:~/abelardo_final_exam$ git add playbook.yaml
angelo@192:~/abelardo_final_exam$ git add roles/
angelo@192:~/abelardo_final_exam$ git commit -m "final commit"
error: pathspec '-' did not match any file(s) known to git
error: pathspec 'm' did not match any file(s) known to git
error: pathspec 'final commit' did not match any file(s) known to git
angelo@192:~/abelardo_final_exam$ git commit -m "final commit"
[main a5a0892] final commit
40 files changed, 815 insertions(+)
create mode 100644 ansible.cfg
create mode 100644 config.yaml
create mode 100644 inventory
create mode 100644 playbook.yaml
create mode 100644 roles/git_clone/.travis.yml
create mode 100644 roles/git_clone/README.md
create mode 100644 roles/git_clone/defaults/main.yml
create mode 100644 roles/git_clone/handlers/main.yml
create mode 100644 roles/git_clone/meta/main.yml
create mode 100644 roles/git_clone/tasks/main.yml
create mode 100644 roles/git_clone/tests/inventory
create mode 100644 roles/git_clone/tests/test.yml
create mode 100644 roles/git_clone/vars/main.yml
create mode 100644 roles/motd/.travis.yml
```

**Figure 9.** Added and commit all the changes in the repository.

```
angelo@192:~/abelardo_final_exam$ git push
Enumerating objects: 57, done.
Counting objects: 100% (57/57), done.
Compressing objects: 100% (25/25), done.
Writing objects: 100% (56/56), 7.08 KiB | 1.01 MiB/s, done.
Total 56 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), done.
To github.com:iskoabelardo/abelardo_final_exam.git
ef54843..a5a0892  main -> main
angelo@192:~/abelardo_final_exam$
```

**Figure 10.** Pushed all the changes in GitHub.

GitHub Link:

[https://github.com/iskoabelardo/abelardo\\_final\\_exam](https://github.com/iskoabelardo/abelardo_final_exam)