

Hands-on Prelim Exam	
CPE 232-CPE31S23 - Managing Enterprise Servers	
Course Code: CPE232	Program: BSCPE
Course Title: Managing Enterprise Servers	Date Performed: September 22, 2022
Section: CPE31S23	Date Submitted: September 22, 2022
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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

SCREENSHOT #1:

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere?

[Import a repository.](#)

Owner *

Repository name *



qgsoriano1 ▾

/

Soriano_PrelimExam



Great repository names are short and memorable. Need inspiration? How about [cautious-telegram?](#)

Description (optional)



Public

Anyone on the internet can see this repository. You choose who can commit.



Private

You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

☒ Add a README file

This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore

Choose which files not to track from a list of templates. [Learn more.](#)

.gitignore template: None ▾

Choose a license

A license tells others what they can and can't do with your code. [Learn more.](#)

License: None ▾

This will set main as the default branch. Change the default name in your [settings](#).

You are creating a public repository in your personal account.

Create repository

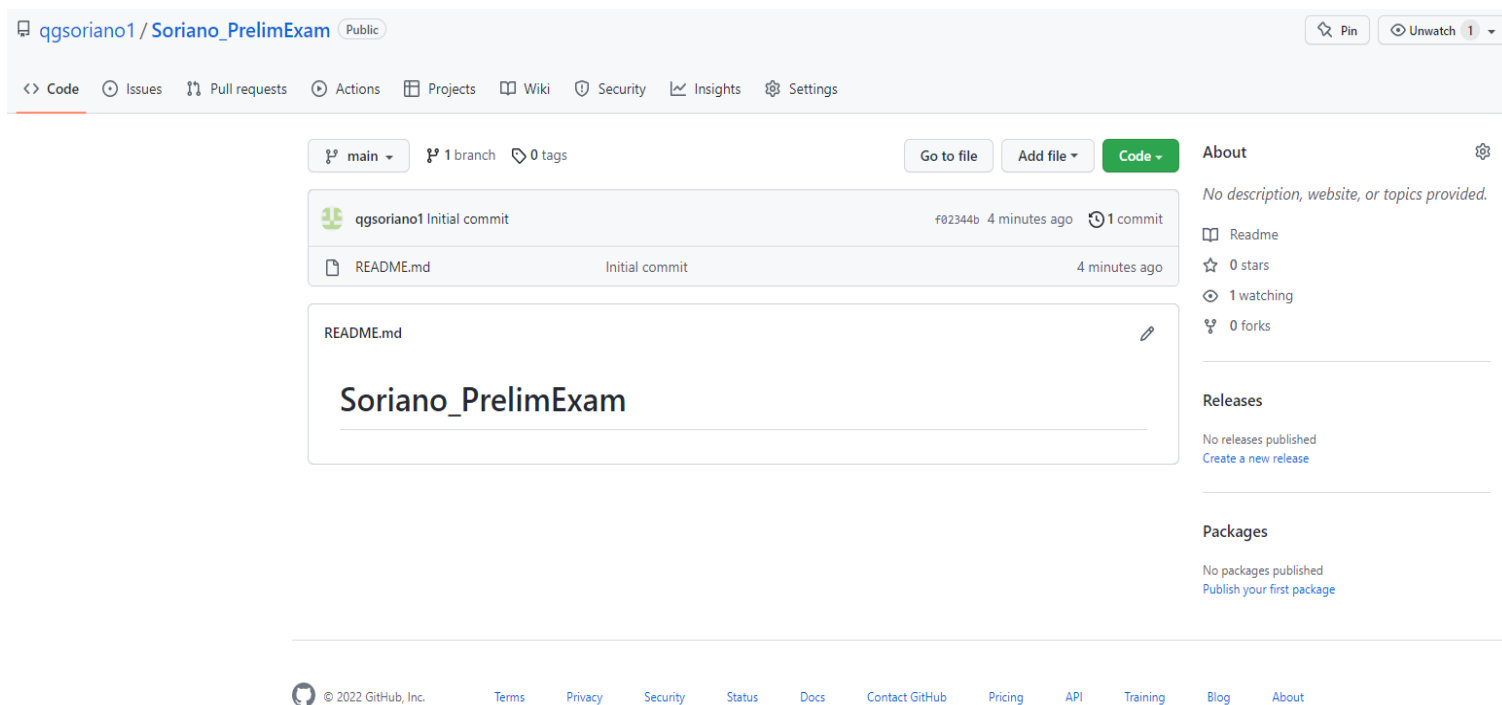
- This shows the procedure on how to start/create a new repository in the github.com, the link of the repository is pasted below:

HTTPS - https://github.com/qgsoriano1/Soriano_PrelimExam.git

SSH - git@github.com:qgsoriano1/Soriano_PrelimExam.git

GitHub CLI - `gh repo clone qgsoriano1/Soriano_PrelimExam`

SCREENSHOT #2:



- This shows the created repository in GitHub, named “Soriano_PrelimExam”, as seen above.

3. Clone your new repository in your CN.

SCREENSHOT #3:

Activities Terminal Sep 22 08:17

soriano2@soriano2-localmachine: ~

Your Repositories

install the new keys
soriano2@192.168.56.105's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'soriano2@192.168.56.105'"
and check to make sure that only the key(s) you wanted were added.

```
soriano2@soriano2-localmachine:~$ cat .ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQACiy6Nav2y4J6gge0dSBEqmUPZALfZbA9bPpTEhWJG
CAJz1Maxn6StLcLri5Q0K5Bf2wLS6PFZHXygyn82jXQXX0Hrmg0jCQiV4d4ld/3hspktFmU1WeSpQph
PZX3ZA1pbG9+8k7wdhLLS1qm/uwmMsc+UcAOI0UrAm0NRt0o9PU50Ujchbb/8nvdhcl15l5u6WjAM
wa9jLZ0bx5MONIL6lsBHpu3zAx1PmgkqXW+6ebPy3r/IzT7qAHvYNPA+sZQ7tuZChAQ5S5yma2L/hvsj
36zF61yi+NavKpuXn+T2SUVf4DVM5iC10g0sBMfrOb3xEMcuDWEw7rmx3nHQqQ0uAhK0Q/Fx+vS/rFs
G0Ptg3/20HKN9Qzgsy6+7Ye6zSFq1jKohv34f5eIBIrwpKom7+S0fX7Q0V/JWoCMVK17/FuiUD3Y3T
Jvsx/Tlaww+16ZWlvw3eBMojbvJSto4GNdf49ECpUQCSUVWG8MM8R+qw9qQ2PrBMGBg0rjsZefBoqtm
3ifK4ea4rmUXLA0p3F8wiaw0r2wcww0/OVV1/xx2V0hz33Fux8tu0IatE4IARZwc508NE9pe2ZRfHjI
H1/t3LVLEMTsnBSX4jXdVff9s10yaUzFa5gz/tTV5PTs1/cwNsN2ptfI6S6HBQkGGdWExWnjnEQPrM
58Yvz0mqZmw== soriano2@soriano2-localmachine
soriano2@soriano2-localmachine:~$ ^C
soriano2@soriano2-localmachine:~$ ^C
soriano2@soriano2-localmachine:~$ git clone git@github.com:qgsoriano1/Soriano_P
relimExam.git
Cloning into 'Soriano_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.
soriano2@soriano2-localmachine:~$
```

- This shows that the repository “Soriano_PrelimExam” from GitHub, has been successfully cloned in the Control node, which is the Virtual Machine named “soriano2”.

SCREENSHOT #4:

```
soriano2@soriano2-localmachine:~$ ls
CPE232_Soriano      Documents      Music          snap            Videos
cpe_soriano_ansible Downloads     Pictures       Soriano_PrelimExam
Desktop             get-pip.py    Public         Templates
```

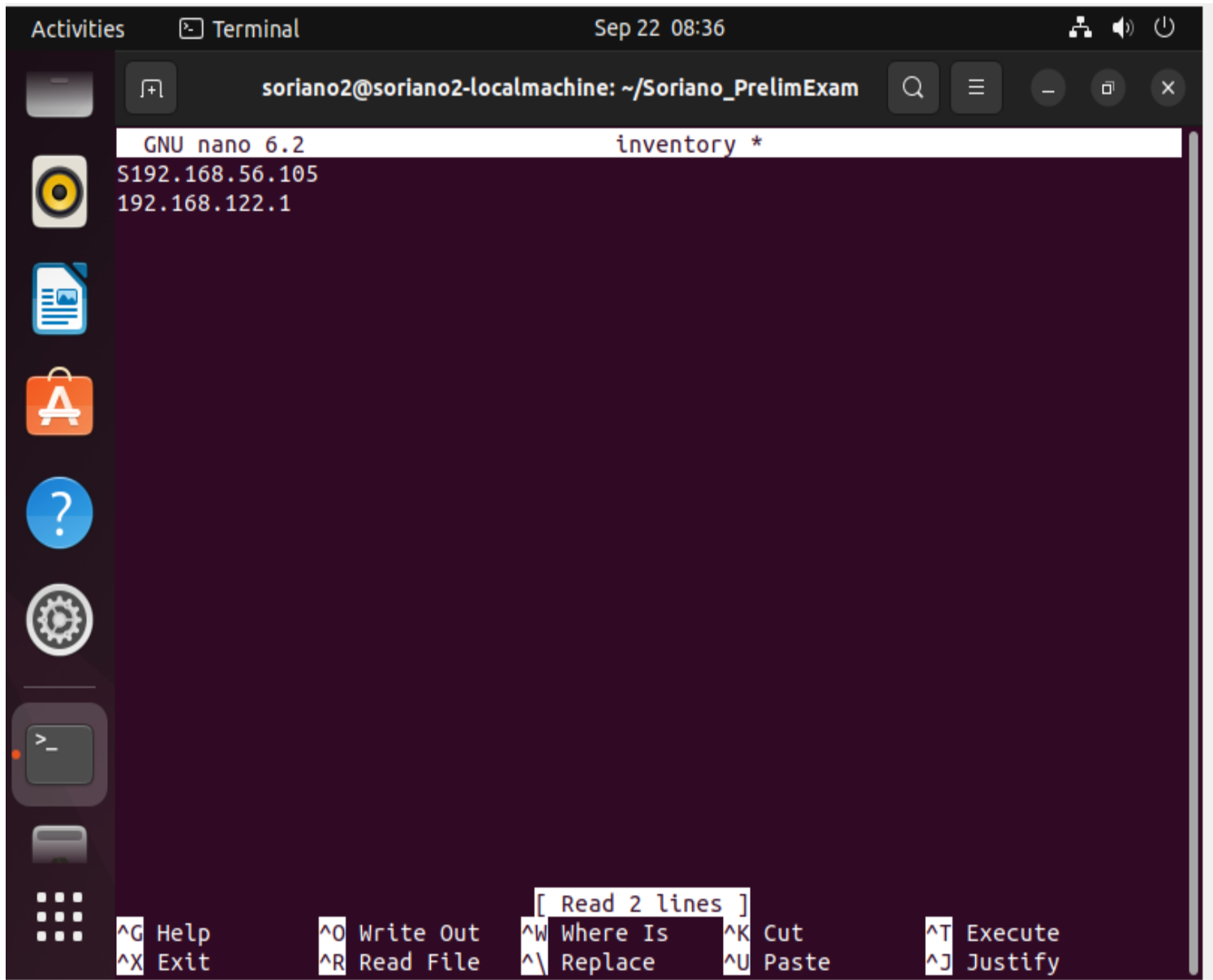
SCREENSHOT #5:

```
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ ls  
README.md  
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ SSS
```

- These screenshots show that the repository is successfully cloned, as seen above, the directory “Soriano_PrelimExam” is visible and also accessible.

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

SCREENSHOT #6:



SCREENSHOT #7:

```
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ cat inventory
192.168.56.105
192.168.122.1
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ nano inventory
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ S
```

SCREENSHOT #8:

Activities Terminal Sep 22 08:49

soriano2@soriano2-localmachine: ~/Soriano_PrelimExam

GNU nano 6.2 ansible.cfg

```
[defaults]
inventory = inventory
host_key_checking = False
deprecation_warnings = False
remote_user = soriano2
private_key_file = ~/.ssh/
```

[Wrote 9 lines]

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

SCREENSHOT #9:

```
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ ls
ansible.cfg  inventory  README.md
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ cat ansible.cfg
[defaults]

inventory = inventory
host_key_checking = False

deprecation_warnings = False

remote_user = soriano2
private_key_file = ~/.ssh/
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$
```

- These screenshots show that in the control node, I have successfully created an inventory file where the IP addresses of the Server 1 (Server1.1.1), and of the CentOS VM (centos_Soriano) are inserted. Also, the ansible.cfg file is also successfully created. As shown above (Screenshots #8&9), the file that has been created is good and is also accessible.

5. Create an Ansible playbook that does the following with an input of a config.yaml file for both Manage Nodes
 - o Installs the latest python3 and pip3
 - o use pip3 as default pip
 - o use python3 as default python
 - o Install Java open-jdk
 - o 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)"
 - o Create a user with a variable defined in config.yaml

SCREENSHOT #10:

soriano2@soriano2-localmachine: ~/Soriano_PrelimExam

GNU nano 6.2

config.yaml

```
---
- hosts: all
  become: true
  tasks:
    - name: Update APT package manager
      apt:
        update_cache: yes
    - name: install python3-pip
      apt:
        name: python3-pip
    - name: install python3 package
      apt:
        name: python3
    - name: install python-pip
      apt:
        name: python-pip
    - name: install python package
      apt:
        name: python3
```

[Wrote 20 lines]

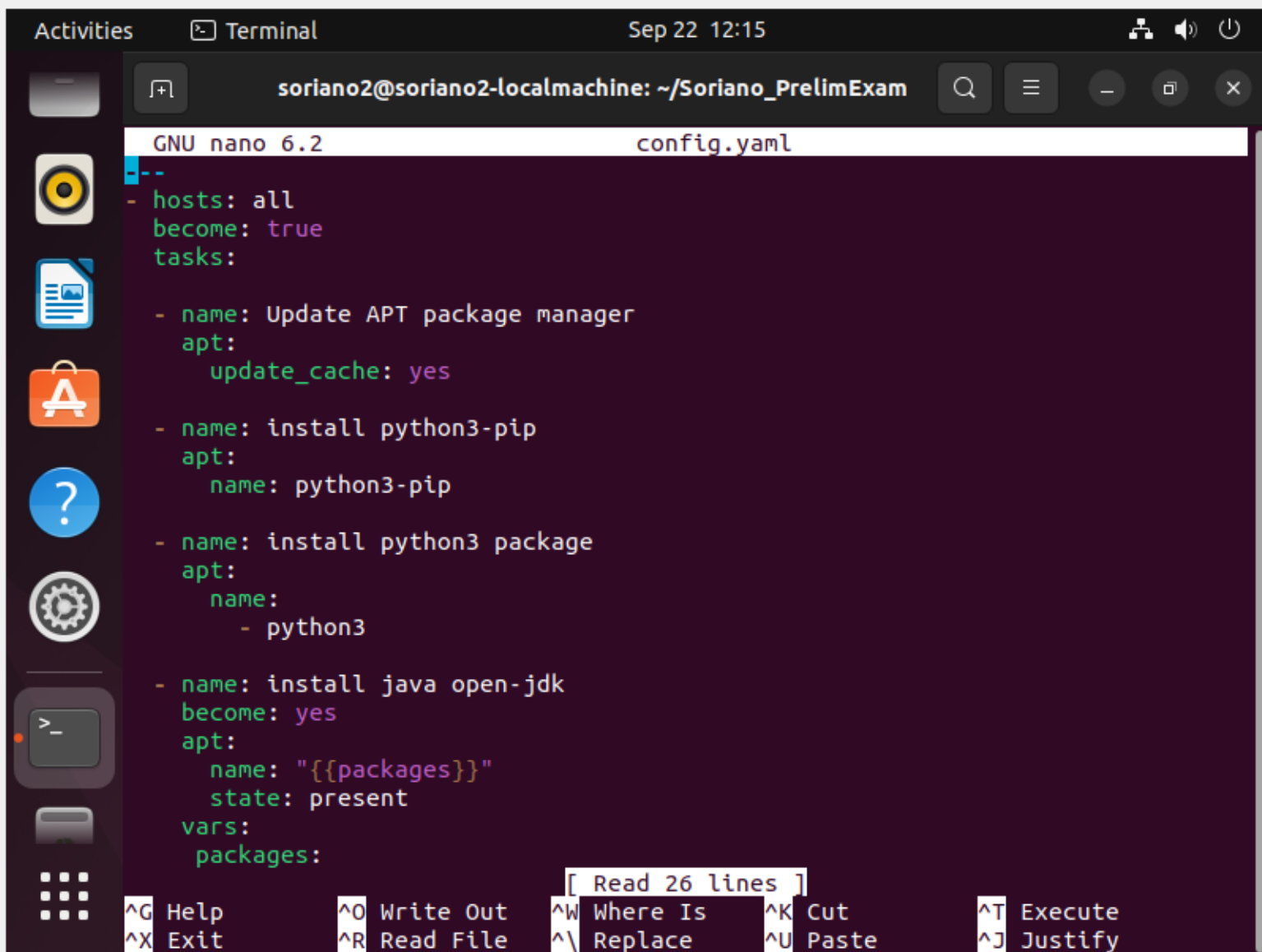
^G Help
^X Exit

^O Write Out
^R Read File

^W Where Is
^_ Replace

^K Cut
^U Paste

^T Execute
^J Justify



The screenshot shows a terminal window titled "soriano2@soriano2-localmachine: ~/Soriano_PrelimExam". Inside, the GNU nano 6.2 editor is open, editing a file named "config.yaml". The file contains an Ansible playbook with the following content:

```
--
- hosts: all
  become: true
  tasks:
    - name: Update APT package manager
      apt:
        update_cache: yes
    - name: install python3-pip
      apt:
        name: python3-pip
    - name: install python3 package
      apt:
        name:
          - python3
    - name: install java open-jdk
      become: yes
      apt:
        name: "{{packages}}"
        state: present
      vars:
        packages:
```

At the bottom of the terminal, a status bar shows the command "Read 26 lines" and a table of keyboard shortcuts:

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

- This shows the playbook ansible codes that installs the latest python3 and pip3, and also the java installation.

5. PUSH and COMMIT your PrelimExam in your GitHub repo

SCREENSHOT #12:

soriano2@soriano2-localmachine: ~/Soriano_PrelimExam

```
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ git add *
soriano2@soriano2-localmachine:~/Soriano_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
    modified:   config.yaml
    new file:   install_apache.yml
    new file:   inventory
```

```
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ git commit -m "last commit
PrelimExam at 12:13pm"
[main ef81060] last commit PrelimExam at 12:13pm
 4 files changed, 59 insertions(+), 9 deletions(-)
 create mode 100644 ansible.cfg
 create mode 100644 install_apache.yml
 create mode 100644 inventory
```

```
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$ git push origin main
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 927 bytes | 927.00 KiB/s, done.
Total 6 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:qgsoriano1/Soriano_PrelimExam.git
   3ab15d4..ef81060  main -> main
soriano2@soriano2-localmachine:~/Soriano_PrelimExam$
```

The screenshot shows a GitHub repository page for 'qgsoriano1 / Soriano_PrelimExam'. The repository is public and has 1 branch and 0 tags. The commit history shows a recent commit 'qgsoriano1 last commit PrelimExam at 12:13pm' with the hash 'ef81060' and 3 commits. The file list includes README.md, ansible.cfg, config.yaml, install_apache.yml, and inventory, all with their last commit times. The README.md content is displayed below the file list, showing the repository name 'Soriano_PrelimExam'. The right sidebar contains sections for 'About', 'Releases', and 'Packages', all indicating no content is provided or published yet. The footer shows the GitHub logo and copyright information for 2022.

- This shows a successful github commit, add, and push commands.

6. Your document report should be submitted here.

7. For your prelim exam to be counted, please paste your repository link here.

GitHub repository links

HTTPS: https://github.com/qgsoriano1/Soriano_PrelimExam.git

SSH: git@github.com:qgsoriano1/Soriano_PrelimExam.git

GitHub CLI: `gh repo clone qgsoriano1/Soriano_PrelimExam`