Preliminary Skills Examination	
Course Code: CPE232	**Program:** Computer Engineering (BSCPE)
Course Title: Managing Enterprise Servers	**Date Performed:** 09-25-2023
Section: CPE31S4	**Date Submitted:** 09-25-2023
Student's Name: Seruelas, Ronn Kristoper H.	**Instructor:** Dr. Jonathan V. Taylar

1. Examination

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.
4. In your CN, create an inventory file and ansible.cfg files.
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
    - use pip3 as default pip
    - use python3 as default python
    - Install Java open-jdk
    - 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)"
    - Create a user with a variable defined in config.yaml
5. PUSH and COMMIT your PrelimExam in your GitHub repo
6. Your document report should be submitted here.
7. For your prelim exam to be counted, please paste your repository link here.

2. Answers

1. 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.

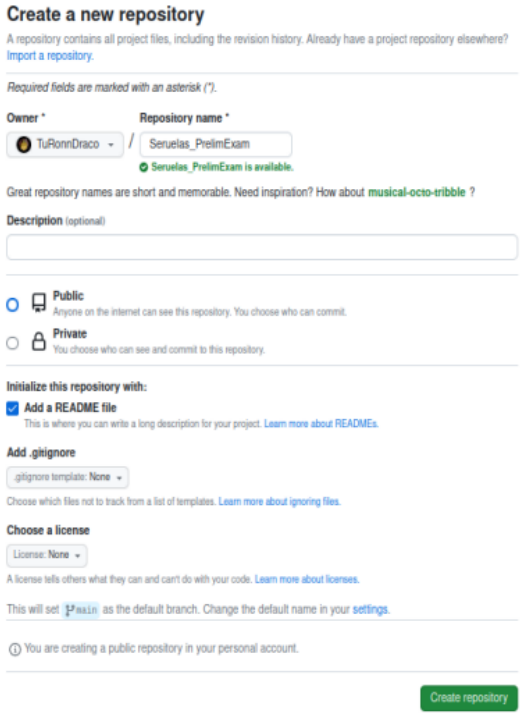


Figure 2.1 - Creation of the Seruelas_PrelimExam repository in Github.

3. Clone your new repository in your CN.

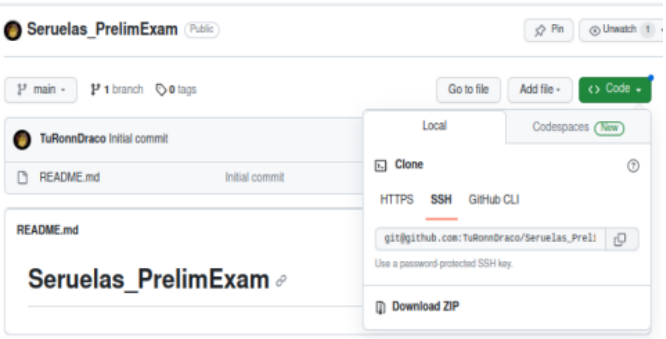


Figure 3.1 - Copying the SSH code needed for cloning the repository unto the workstation.

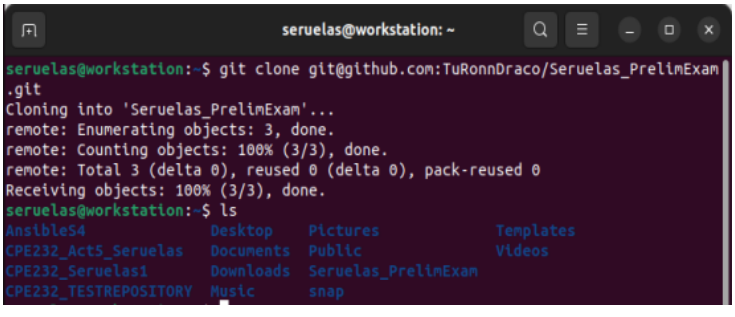


Figure 3.2 - Cloning the Seruelas_PrelimExam repository unto the control node.

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

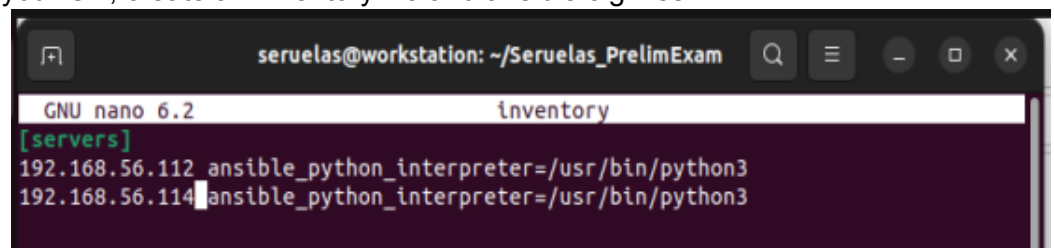


Figure 4.1 - Inventory configuration file for the repository.

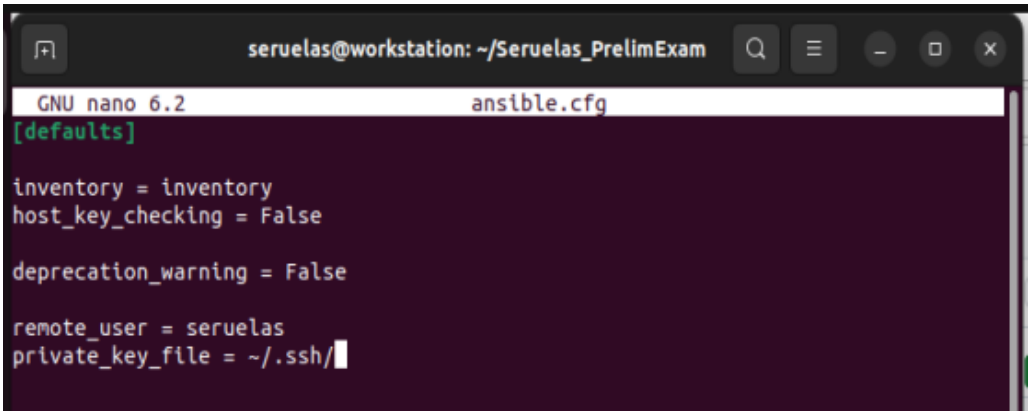


Figure 4.2 - Ansible.cfg file for the repository.

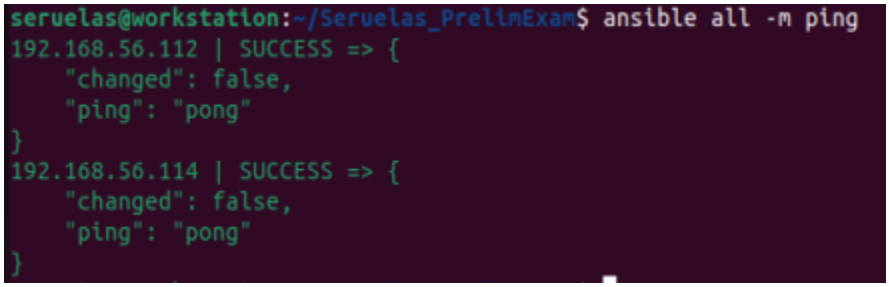


Figure 4.3 - Verification of the connection between the two nodes.

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

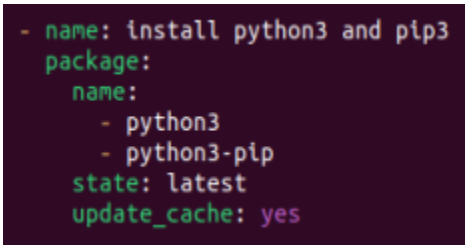


Figure 5.1 - Module that will install python3 and pip3 on the manage nodes on the latest version.

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

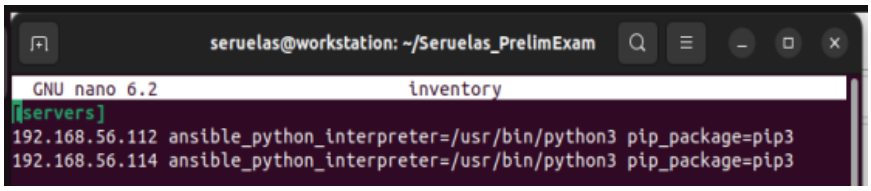


Figure 5.2 - Using pip3 and python3 as default in the playbook (set in inventory)

- Install Java open-jdk

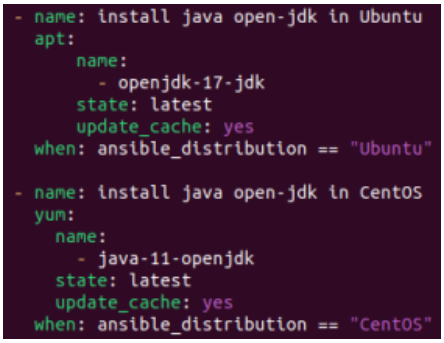


Figure 5.3 - Module that will install Java OpenJDK on the manage nodes.

- 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)"

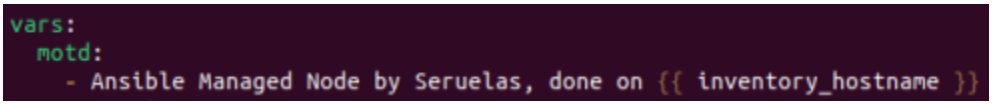


Figure 5.4-5.5 - Variable declared for MOTD, and the module for the MOTD.

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

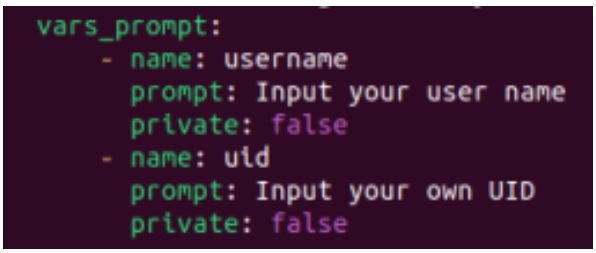


Figure 5.6-5.7 - Declaration of variable prompts for creating a user, and the module coded in

the playbook to create a user.

```
 GNU nano 6.2                                    config.yaml
---
- hosts: all
  become: true
  vars:
    motd:
      - Ansible Managed Node by Seruelas, done on {{ inventory_hostname }}
  vars_prompt:
      - name: username
        prompt: Input your user name
        private: false
      - name: uid
        prompt: Input your own UID
        private: false

  tasks:

  - name: Banner MOTD
    ansible.builtin.debug:
      msg:
        - "{{ motd }}"

  - name: install python3 and pip3
    package:
      name:
        - python3
        - python3-pip
      state: latest
      update_cache: yes

  - name: install java open-jdk in ubuntu
    apt:
       name:
         - openjdk-17-jdk
       state: latest
       update_cache: yes
    when: ansible_distribution == "Ubuntu"

  - name: install java open-jdk in CentOS
    yum:
      name:
        - java-11-openjdk
      state: latest
      update_cache: yes
    when: ansible_distribution == "CentOS"

  - name: Create a user
    ansible.builtin.user:
      name: "{{ username }}"
      comment: NewUser
      uid: "{{ uid }}"
      createhome: yes
      home: /home/"{{ username }}"
      shell: /bin/bash
```

Figure 5.8 - config.yaml playbook in complete code.

6. Execute the playbook and show its outputs.

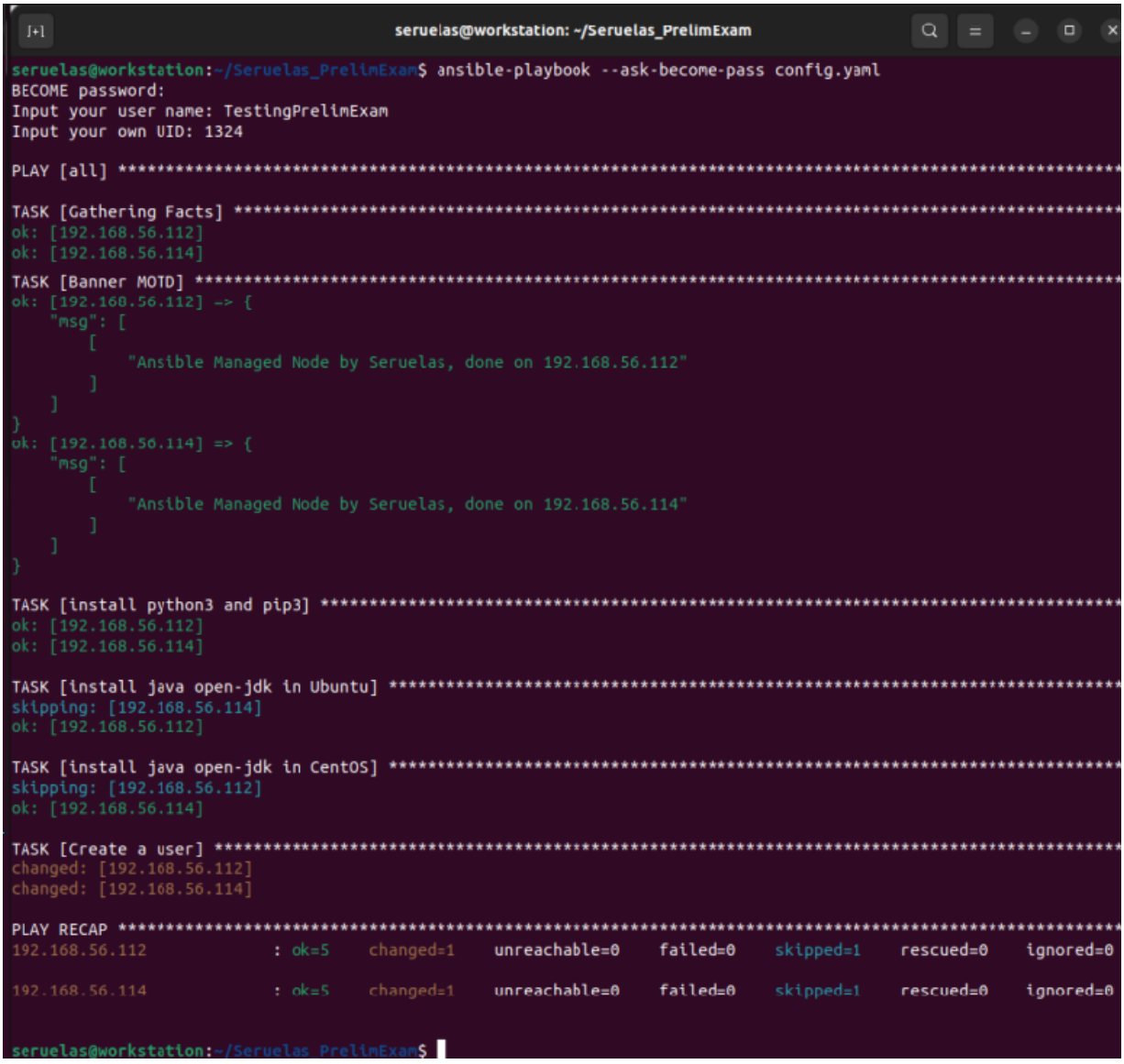


Figure 6.1 - Execution of config.yaml playbook through the control node or workstation.

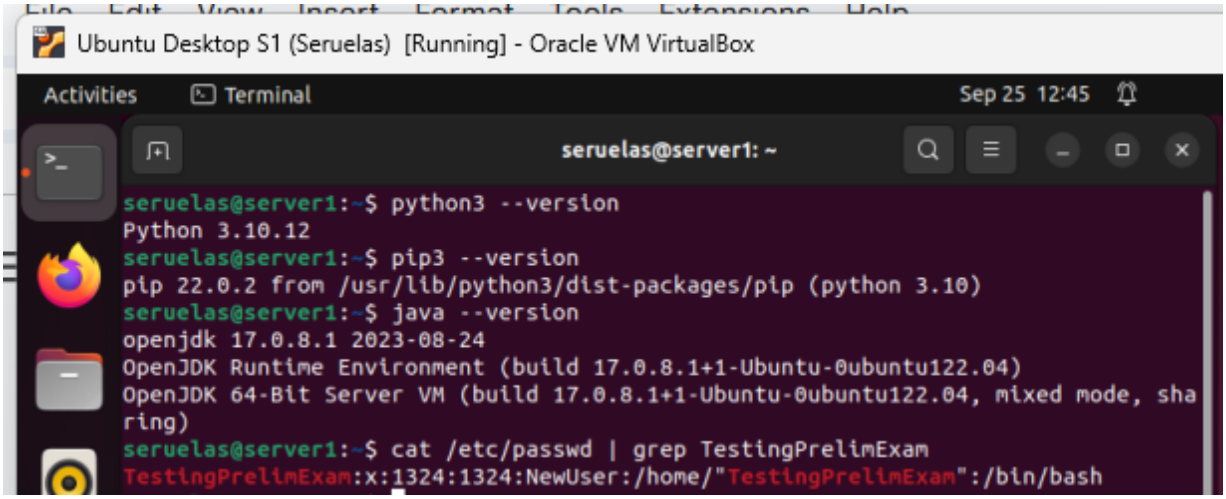


Figure 6.2 - Output or proof of successful installation of packages and successful execution of tasks in the control node 1 or server 1 (Ubuntu).

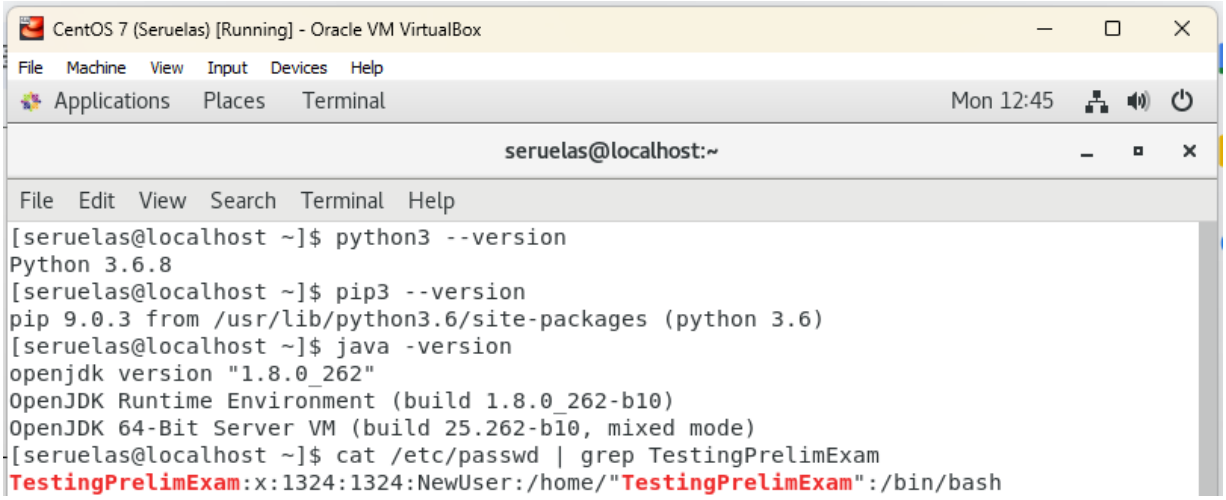


Figure 6.2 - Output or proof of successful installation of packages and successful execution of tasks in the control node 3 or server 3 (CentOS).

7. PUSH and COMMIT your PrelimExam in your GitHub repo.

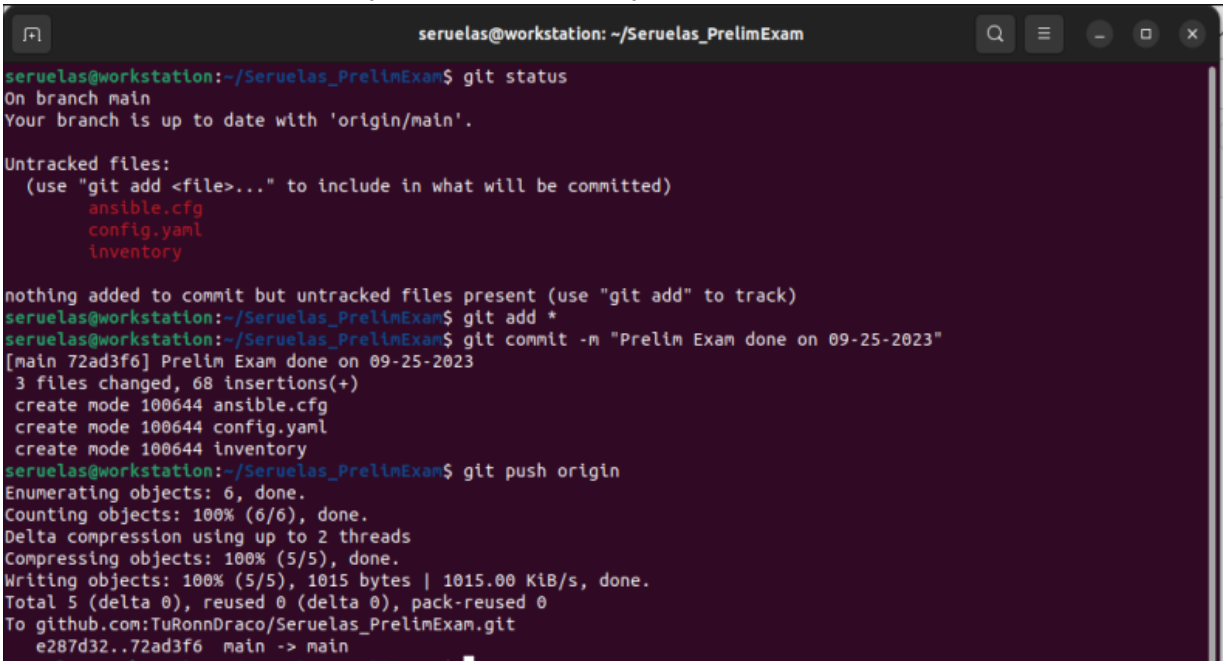
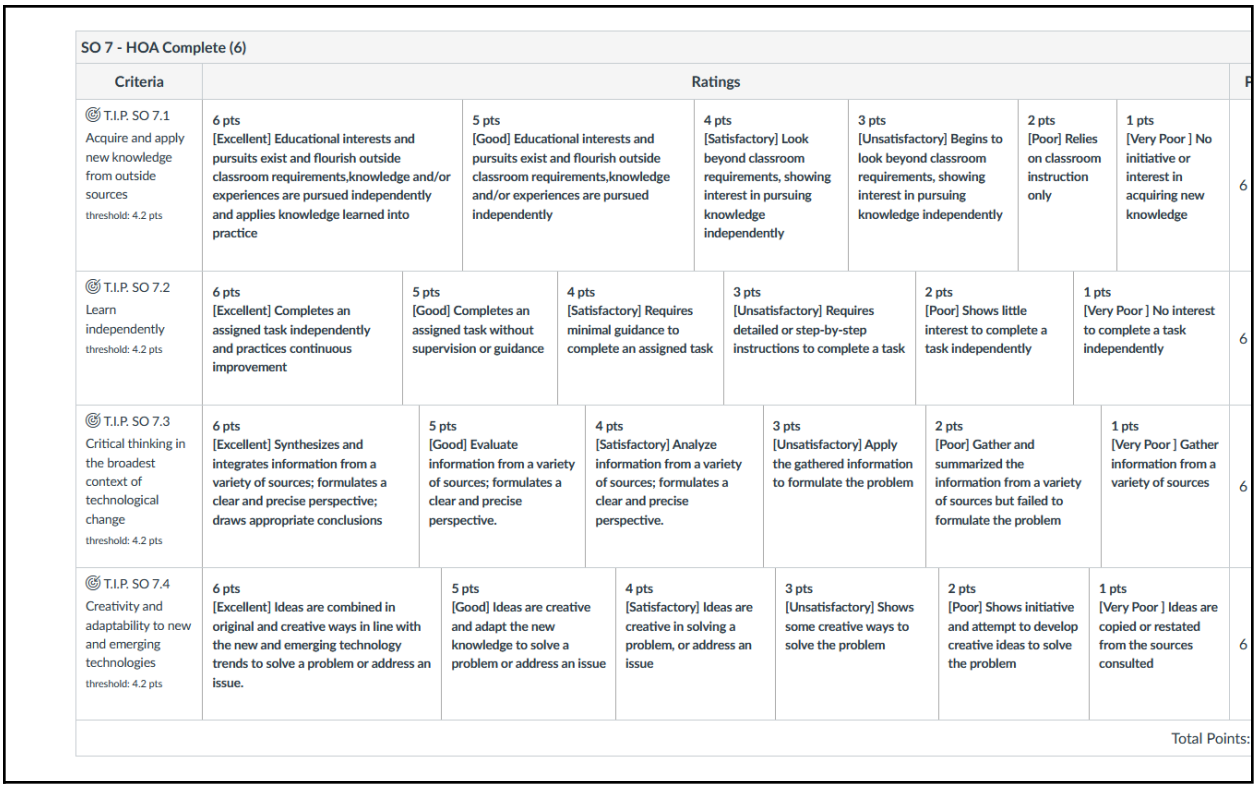


Figure 7.1 - Pushing and Committing all changes made in local repository to github repository.

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

https://github.com/TuRonnDraco/Seruelas_PrelimExam

3. Assessment



SO 7 - HOA Complete (6)

Criteria	Ratings						P
T.I.P. SO 7.1 Acquire and apply new knowledge from outside sources threshold: 4.2 pts	6 pts [Excellent] Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently and applies knowledge learned into practice	5 pts [Good] Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently	4 pts [Satisfactory] Look beyond classroom requirements, showing interest in pursuing knowledge independently	3 pts [Unsatisfactory] Begins to look beyond classroom requirements, showing interest in pursuing knowledge independently	2 pts [Poor] Relies on classroom instruction only	1 pts [Very Poor] No initiative or interest in acquiring new knowledge	6
T.I.P. SO 7.2 Learn independently threshold: 4.2 pts	6 pts [Excellent] Completes an assigned task independently and practices continuous improvement	5 pts [Good] Completes an assigned task without supervision or guidance	4 pts [Satisfactory] Requires minimal guidance to complete an assigned task	3 pts [Unsatisfactory] Requires detailed or step-by-step instructions to complete a task	2 pts [Poor] Shows little interest to complete a task independently	1 pts [Very Poor] No interest to complete a task independently	6
T.I.P. SO 7.3 Critical thinking in the broadest context of technological change threshold: 4.2 pts	6 pts [Excellent] Synthesizes and integrates information from a variety of sources; formulates a clear and precise perspective; draws appropriate conclusions	5 pts [Good] Evaluate information from a variety of sources; formulates a clear and precise perspective.	4 pts [Satisfactory] Analyze information from a variety of sources; formulates a clear and precise perspective.	3 pts [Unsatisfactory] Apply the gathered information to formulate the problem	2 pts [Poor] Gather and summarized the information from a variety of sources but failed to formulate the problem	1 pts [Very Poor] Gather information from a variety of sources	6
T.I.P. SO 7.4 Creativity and adaptability to new and emerging technologies threshold: 4.2 pts	6 pts [Excellent] Ideas are combined in original and creative ways in line with the new and emerging technology trends to solve a problem or address an issue.	5 pts [Good] Ideas are creative and adapt the new knowledge to solve a problem or address an issue	4 pts [Satisfactory] Ideas are creative in solving a problem, or address an issue	3 pts [Unsatisfactory] Shows some creative ways to solve the problem	2 pts [Poor] Shows initiative and attempt to develop creative ideas to solve the problem	1 pts [Very Poor] Ideas are copied or restated from the sources consulted	6
							Total Points:

"I affirm that I have not received or given any unauthorized help on this examination and that all work is my own."