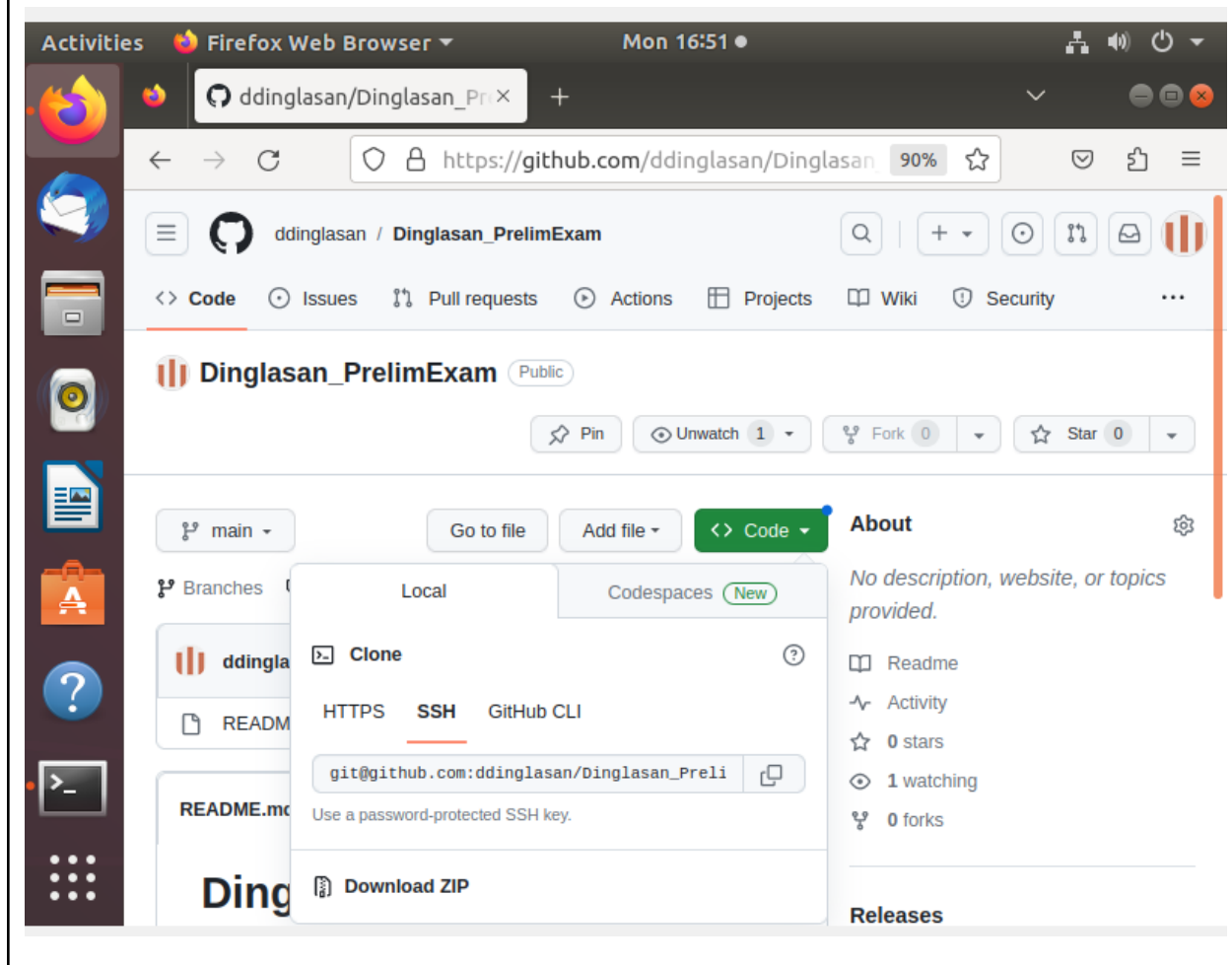


Preliminary Skills Examination	
Denzel Dinglasan	Program: Computer Engineering (BSCPE)
	25/09/2023
Course Code: CPE232	Dr. Jonathan Vidal Taylar
Tools Needed:	
1. Control Node (CN) - 1 2. Manage Node (MN) - 1 Ubuntu 3. Manage Node (MN) - 1 CentOS	
Procedure:	
1. Note: You are required to create a document 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	

The screenshot shows the GitHub 'Create a new repository' page. The form is titled 'Create a new repository' and includes a sub-header 'A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.' Below this, it states 'Required fields are marked with an asterisk (*)'. The 'Owner' field is set to 'ddinglasan' and the 'Repository name' field is set to 'Dinglasan_PrelimExam'. A green checkmark indicates 'Dinglasan_PrelimExam is available'. The 'Description' field is optional and empty. The 'Visibility' section has 'Public' selected, with the note 'Anyone on the Internet can see this repository. You choose who can commit.' The 'Private' option is also visible. The 'Initialize this repository with:' section has 'Add a README file' selected, with the note 'This is where you can write a long description for your project. Learn more about READMEs.' The 'Add .gitignore' section has '.gitignore template: None' selected. The 'Choose a license' section has 'License: None' selected, with the note 'A license tells others what they can and can't do with your code. Learn more about licenses.' At the bottom, it says 'This will set main as the default branch. Change the default name in your settings.' and 'You are creating a public repository in your personal account.' A green 'Create repository' button is at the bottom right.

3. Clone your new repository in your CN.



```
Activities Terminal Mon 16:52
dnzl@workstation: ~
File Edit View Search Terminal Help
dnzl@workstation:~$ git clone git@github.com:ddinglasan/Dinglasan_PrelimExam.git
Cloning into 'Dinglasan_PrelimExam'...
ssh: Could not resolve hostname github.com: Name or service not known
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.
dnzl@workstation:~$ git clone git@github.com:ddinglasan/Dinglasan_PrelimExam.git
Cloning into 'Dinglasan_PrelimExam'...
The authenticity of host 'github.com (192.30.255.112)' can't be established.
ECDSA key fingerprint is SHA256:p2QAMXNIC1TJYWeIOtrVc98/R1BUFWu3/LiyKgUfQM.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'github.com,192.30.255.112' (ECDSA) to the list of known hosts.
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.
dnzl@workstation:~$
```

```
dnzl@workstation:~$ ls
CPE232_DenzelDinglasan  Documents      Music      sysad2      Videos
Desktop                  Downloads      Pictures    sysads6
Dinglasan_PrelimExam    examples.desktop  Public     Templates
```

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

```
dnzl@workstation:~/Dinglasan_PrelimExam$ sudo nano ansible.cfg
[sudo] password for dnzl:
```

Activities Terminal Mon 16:57 ● dnzl@workstation: ~/Dinglasan_PrelimExam

File Edit View Search Terminal Help

GNU nano 2.9.3 ansible.cfg

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

[Wrote 10 lines]

^G Get Help	^O Write Out	^W Where Is	^K Cut Text	^J Justify
^X Exit	^R Read File	^_ Replace	^U Uncut Text	^T To Spell

dnzl@workstation:~/Dinglasan_PrelimExam\$ sudo nano inventory

```
Mon 16:58
dnzl@workstation: ~/Dinglasan_PrelimExam
GNU nano 2.9.3 inventory Modified
192.168.56.102 apache_package=apache2 php_package=libapache2-mod-php
192.168.56.105 apache_package=httpd php_package=php
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell
```

5. Create an Ansible playbook that does the following with an input of a config.yaml file for both Manage Nodes

```
dnzl@workstation:~/Dinglasan_PrelimExam$ nano config.yaml
```

- Installs the latest python3 and pip3

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

- use pip3 as default pip

```
- name: make pip3 as default pip ubuntu
  become: yes
  command: ln -sf /usr/bin/pip3 /usr/bin/pip
  when: ansible_distribution == 'Ubuntu'

- name: make pip3 as default pip CentOS
  become: yes
  command: ln -sf /usr/bin/pip3 /usr/bin/pip
  when: ansible_distribution == 'CentOS'
```

- use python3 as default python

```
- name: make python3 as default python ubuntu
  become: yes
  command: ln -sf /usr/bin/python3 /usr/bin/python
  when: ansible_distribution == 'Ubuntu'

- name: make python3 as default python CentOS
  become: yes
  command: ln -sf /usr/bin/python3 /usr/bin/python
  when: ansible_distribution == 'CentOS'
```

- Install Java open-jdk

```
- name: install java open-jdk ubuntu
  apt:
    name: openjdk-17-jdk
    state: latest
  when: ansible_distribution == 'Ubuntu'

- name: install java open-jdk CentOS
  dnf:
    name: java-17-openjdk
    state: latest
    update_cache: yes
  when: ansible_distribution == '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)"

```

become: true
vars:
  motd: Ansible Managed Node by Dnzl
tasks:

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

```

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

```

dnzl@workstation:~/Dinglasan_PrelimExam$ ansible-playbook --ask-become-pass con
fig.yaml
BECOME password:

PLAY [all] *****
*

TASK [Gathering Facts] *****
*
ok: [192.168.56.102]
ok: [192.168.56.105]

TASK [Banner MOTD] *****
*
ok: [192.168.56.102] => {
  "msg": "Ansible Managed Node by Dnzl"
}
ok: [192.168.56.105] => {
  "msg": "Ansible Managed Node by Dnzl"
}

TASK [install latest python3 and pip3] *****
*
fatal: [192.168.56.105]: FAILED! => {"changed": false, "msg": "The Python 2 bin
dings for rpm are needed for this module. If you require Python 3 support use t
he `dnf` Ansible module instead.. The Python 2 yum module is needed for this mo
dule. If you require Python 3 support use the `dnf` Ansible module instead."}
ok: [192.168.56.102]

```

```

TASK [make pip3 as default pip ubuntu] *****
*
changed: [192.168.56.102]

TASK [make pip3 as default pip CentOS] *****
*
skipping: [192.168.56.102]

TASK [make python3 as default python ubuntu] *****
*
changed: [192.168.56.102]

TASK [make python3 as default python CentOS] *****
*
skipping: [192.168.56.102]

TASK [install java open-jdk ubuntu] *****
*
ok: [192.168.56.102]

TASK [install java open-jdk CentOS] *****
*
skipping: [192.168.56.102]

PLAY RECAP *****
192.168.56.102      : ok=6    changed=2    unreachable=0    failed=0
skipped=3    rescued=0    ignored=0

```

5. PUSH and COMMIT your PrelimExam in your GitHub repo

```

dnzl@workstation:~/Dinglasan_PrelimExam$ git add *
dnzl@workstation:~/Dinglasan_PrelimExam$ git commit -m "Prelims lmao"
[main 1c99f9d] Prelims lmao
 4 files changed, 110 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 config.yaml
 create mode 100644 config.yml
 create mode 100644 inventory
dnzl@workstation:~/Dinglasan_PrelimExam$ git push origin
Counting objects: 6, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1.29 KiB | 1.29 MiB/s, done.
Total 6 (delta 0), reused 0 (delta 0)
To github.com:ddinglasan/Dinglasan_PrelimExam.git
 9e95383..1c99f9d  main -> main

```

6. Your document report should be submitted here.

https://github.com/ddinglasan/Dinglasan_PrelimExam.git

SO 7 - HOA Complete (6)										6
Criteria	Ratings									
© 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:										