Hands-on Prelim Exam	
Course Code: CPE 212	**Program:** Bachelor of Science in Computer Engineering
Course Title: Automating Server Management	**Date Performed:** August 29, 2025
Section: CPE31S4	**Date Submitted:** August 29, 2025
Name: Bonifacio, Redj Guillian	**Instructor:** Engr. Valenzuela, Robin

1. Tools Needed:

1. Control Node (CN) - 1
2. Manage Node (MN) - 2 Ubuntu

2. Procedure:

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. LABELED AND EXPLAIN EACH CODE (PLAYBOOK) No explanation = Minus Points

1. Create a repository in your GitHub account and label it as Surname_PrelimExam
2. Clone your new repository in your CN.
3. In your CN, create an inventory file and ansible.cfg files.
4. Create an Ansible playbook that does the following with an input of a config.yaml file for both Manage Nodes
    a. Installs the latest python3 and pip3
    b. use pip3 as default pip
    c. use python3 as default python
    d. Install Java open-jdk
    e. Install MariaDB as well as starting the server, create a database and a table using mariaDB and input one record into a table USING ANSIBLE ONLY
    f. 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)"
    g. 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. (Failure to submit will result in ZERO)
8. NO USE OF EXTERNAL WEBSITES SUCH AS , REDDIT, CHATGPT, GITHUB, GEMINI, CLAUDE, FORUMS, AND DOCUMENTATIONS. FAILURE TO COMPLY WITH RESULT IN ZERO.

3. Output:

1. Create a repository in your GitHub account and label it as Surname_PrelimExam

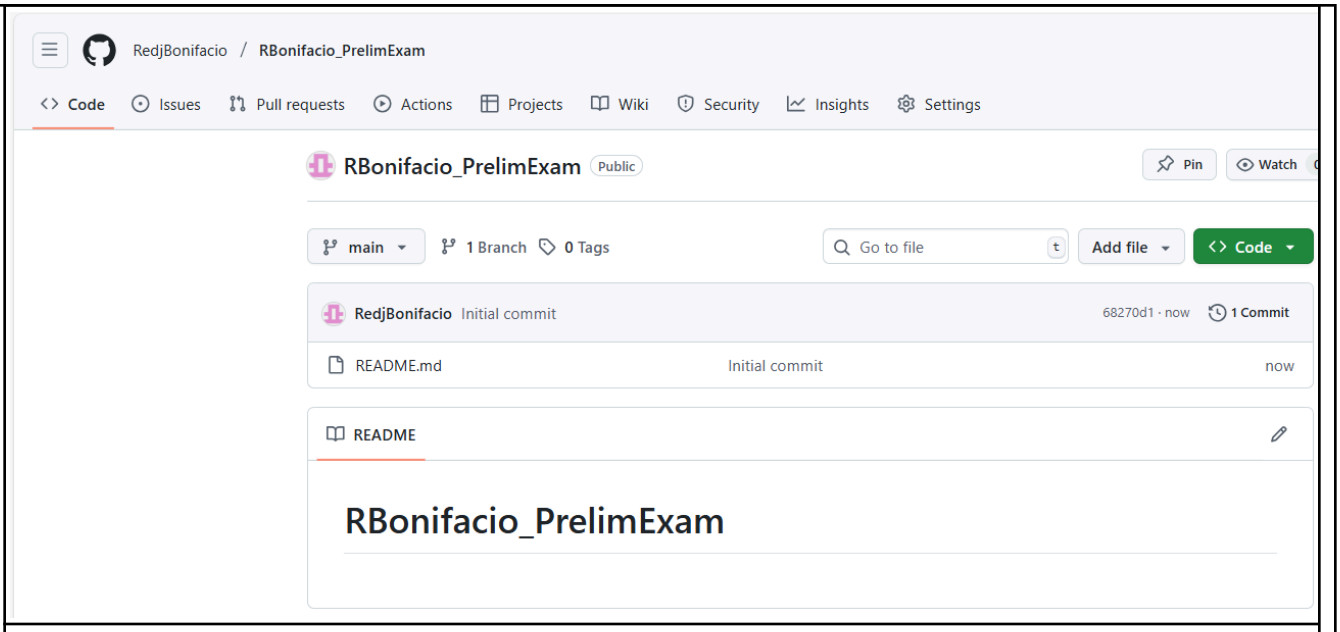
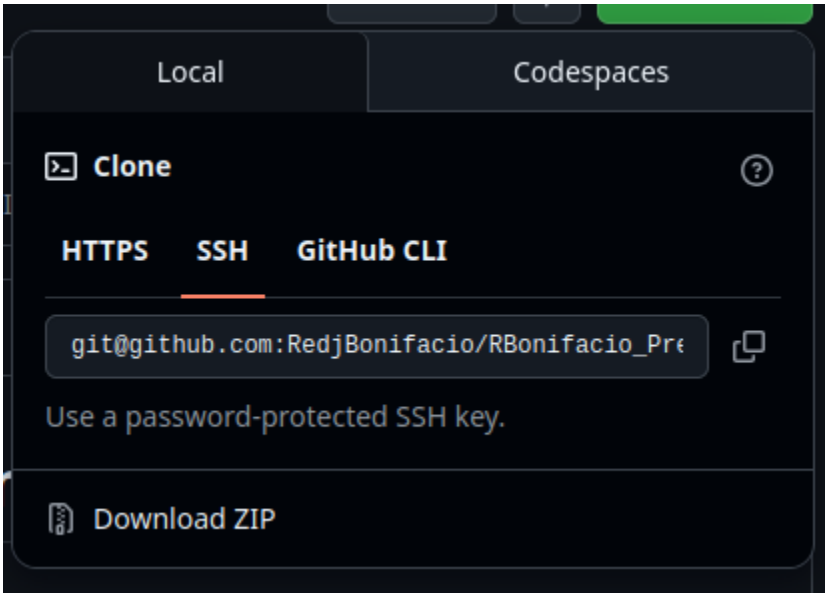


Figure 3.1

2. Clone your new repository in your CN.



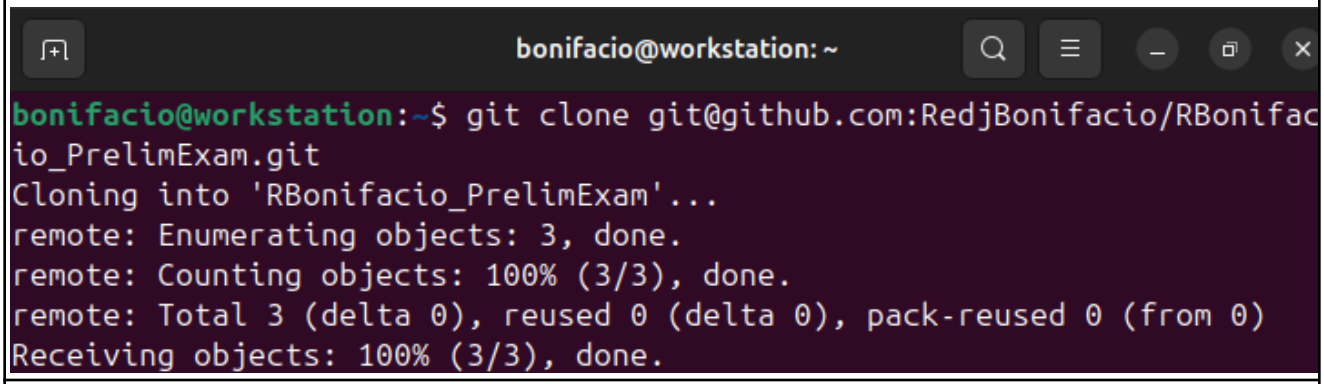


Figure 3.2

```
bonifacio@workstation:~$ ansible all -m apt -a update_cache=true
[WARNING]: No inventory was parsed, only implicit localhost is avail
e
[WARNING]: provided hosts list is empty, only localhost is available
ote that
the implicit localhost does not match 'all'
bonifacio@workstation:~$ ansible all -m apt -a update_cache=true --b
me --ask-become-pass
BECOME password:
[WARNING]: No inventory was parsed, only implicit localhost is avail
e
[WARNING]: provided hosts list is empty, only localhost is available
ote that
the implicit localhost does not match 'all'
bonifacio@workstation:~$ ansible all -m apt -a update_cache=true --b
me --ask-become-pass
BECOME password:
[WARNING]: No inventory was parsed, only implicit localhost is avail
e
[WARNING]: provided hosts list is empty, only localhost is available
```

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

```
bonifacio@workstation:~$ nano inventory.ini
bonifacio@workstation:~$ nano ansible.cfg
```

Figure 3.3

4. Create an Ansible playbook that does the following with an input of a config.yaml file for both Manage Nodes
   a. Installs the latest python3 and pip3

```
bonifacio@workstation:~$ python3 --version
Python 3.12.3
bonifacio@workstation:~$ pip3 --version
pip 24.0 from /usr/lib/python3/dist-packages/pip (python 3.12)
```

Figure 3.3.1

   b. use pip3 as default pip

```
bonifacio@workstation:~$ source ~/.bashrc
bonifacio@workstation:~$ pip3

Usage:
  pip3 <command> [options]

Commands:
  install                     Install packages.
  download                    Download packages.
  uninstall                   Uninstall packages.
  freeze                      Output installed packages in requirements
 format.
  inspect                     Inspect the python environment.
  list                        List installed packages.
  show                        Show information about installed packages
.
  check                       Verify installed packages have compatible
 dependencies.
  config                      Manage local and global configuration.
  search                      Search PyPI for packages.
```

Figure 3.3.2

c. use python3 as default python

Figure 3.3.3

d. Install Java open-jdk

e.

```
bonifacio@workstation:~$ java --version
openjdk 11.0.28 2025-07-15
OpenJDK Runtime Environment (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.
1)
OpenJDK 64-Bit Server VM (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1,
mixed mode, sharing)
bonifacio@workstation:~$ sudo apt install openjdk-11-jdk
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
openjdk-11-jdk is already the newest version (11.0.28+6-1ubuntu1~24.04.
1).
The following packages were automatically installed and are no longer r
equired:
  libgl1-amber-dri libglapi-mesa
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
bonifacio@workstation:~$
```

```
bonifacio@workstation:~$ openjdk-11-jdk --version
openjdk-11-jdk: command not found
bonifacio@workstation:~$ java --version
openjdk 11.0.28 2025-07-15
OpenJDK Runtime Environment (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.
1)
OpenJDK 64-Bit Server VM (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1,
mixed mode, sharing)
```

Figure 3.3.4

f. Install MariaDB as well as starting the server, create a database and a table using mariaDB and input one record into a table USING ANSIBLE ONLY

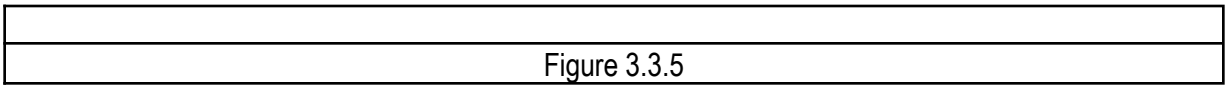


Figure 3.3.5

g. 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)"

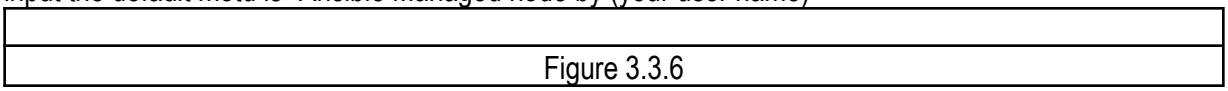


Figure 3.3.6

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

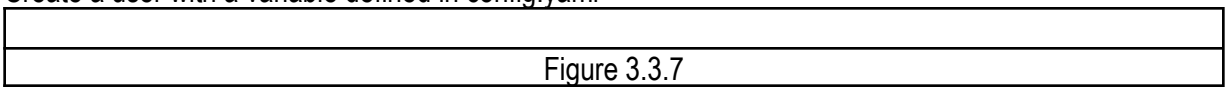


Figure 3.3.7

5. PUSH and COMMIT your PrelimExam in your GitHub repo

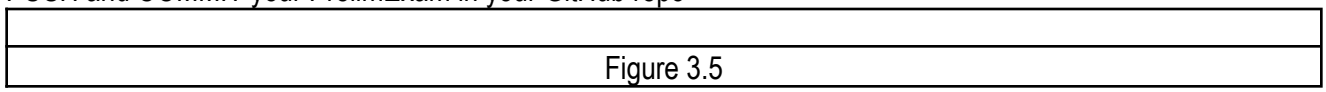


Figure 3.5

6. Your document report should be submitted here.

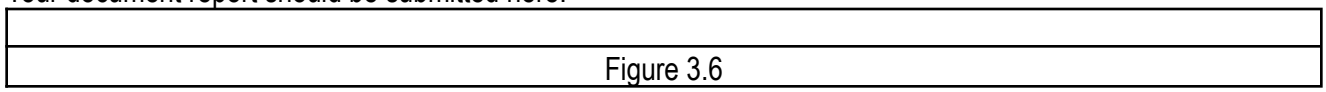


Figure 3.6

7. For your prelim exam to be counted, please paste your repository link here. (Failure to submit will result in ZERO)

https://github.com/RedjBonifacio/RBonifacio_PrelimExam

Figure 3.7

8. NO USE OF EXTERNAL WEBSITES SUCH AS , REDDIT, CHATGPT, GITHUB, GEMINI, CLAUDE, FORUMS, AND DOCUMENTATIONS. FAILURE TO COMPLY WITH RESULT IN ZERO.

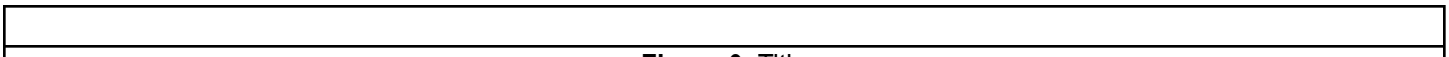


Figure 0. Title
The figure above shows