

GABRIEL SORIANO
FINAL EXAM
DECEMBER 15, 2022

Tools Needed:
<ol style="list-style-type: none">1. VM with Ubuntu, CentOS and Ansible installed2. Web browser
Procedure:
<ol style="list-style-type: none">1. Create a repository and label it as "Final_Exam_Surname" DONE2. Clone your new repository in your VM DONE3. Create an Ansible playbook that does the following with an input of a config.yaml file and structure inventory file. DONE<ol style="list-style-type: none">3.1 Install and configure one enterprise service that can be installed in Debian and Centos servers DONE3.2 Install and configure one monitoring tool that can be installed in Debian and Centos servers (if it is a stack there should be option of different host) DONE4.4 Change Motd as "Ansible Managed by <username>" DONE4. Push and commit your files in GitHub5. Make sure to show evidence of input (codes) process (codes successfully running) and output (evidence of installation). Create a word document report for this final exam. For your final exam to be counted, please paste your repository link as an answer in your report. No point will be given if you forgot to paste your repo link. DONE <p><u>Note: Extra points if you will implement the said services via containerization.</u></p>

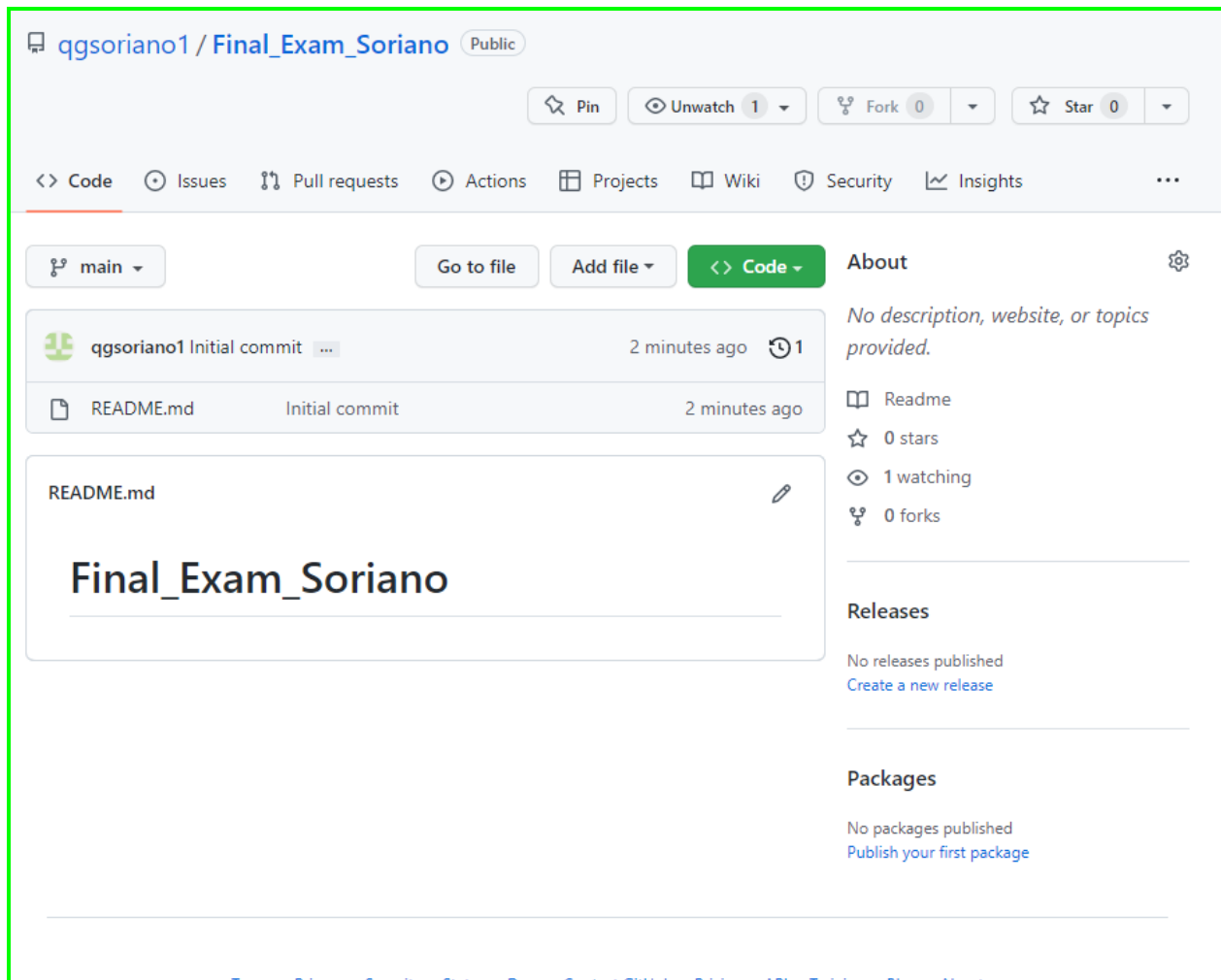
REPOSITORY LINKS:

https://github.com/qgsoriano1/Final_Exam_Soriano.git

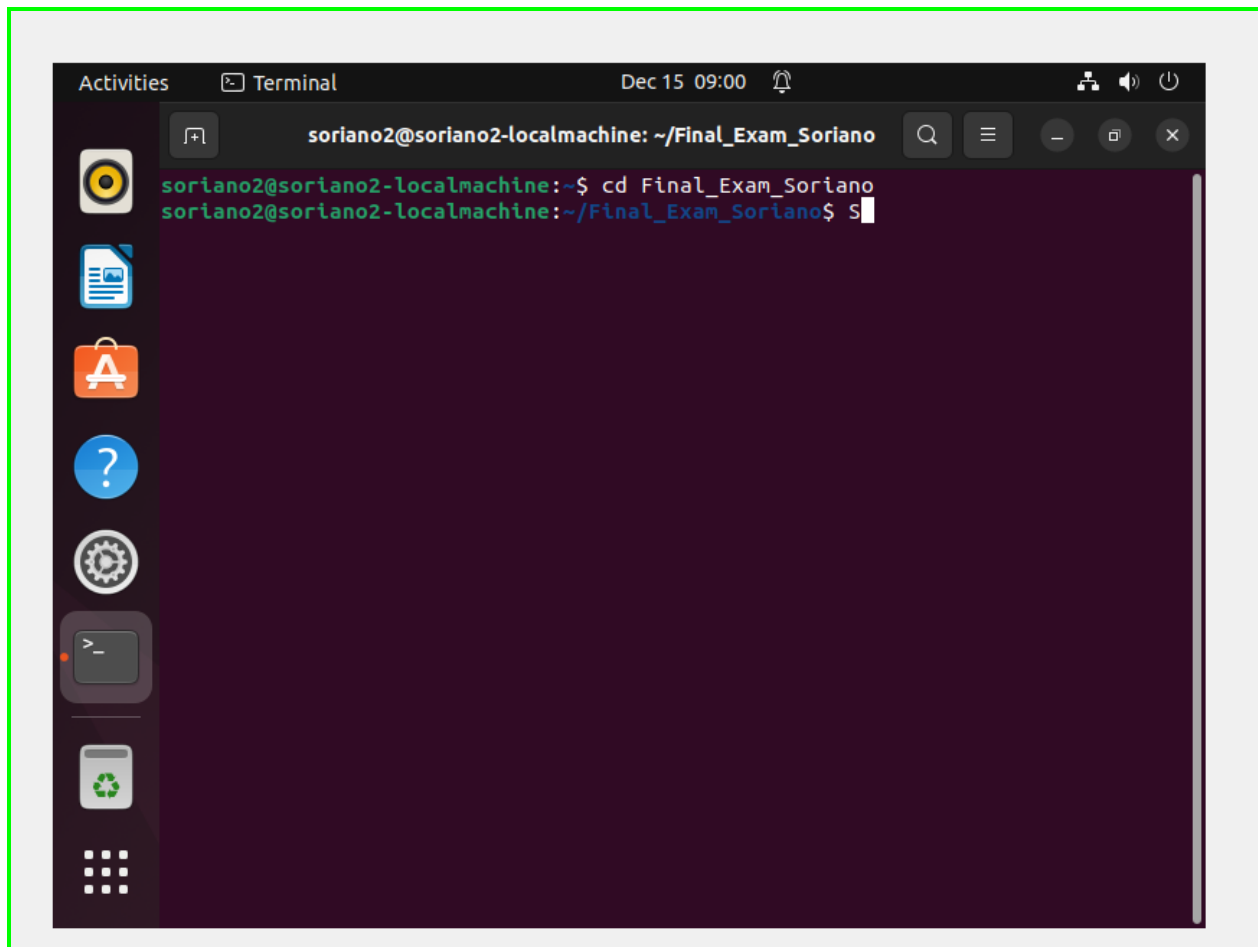
git@github.com:qgsoriano1/Final_Exam_Soriano.git

[gh repo clone qgsoriano1/Final_Exam_Soriano](#)

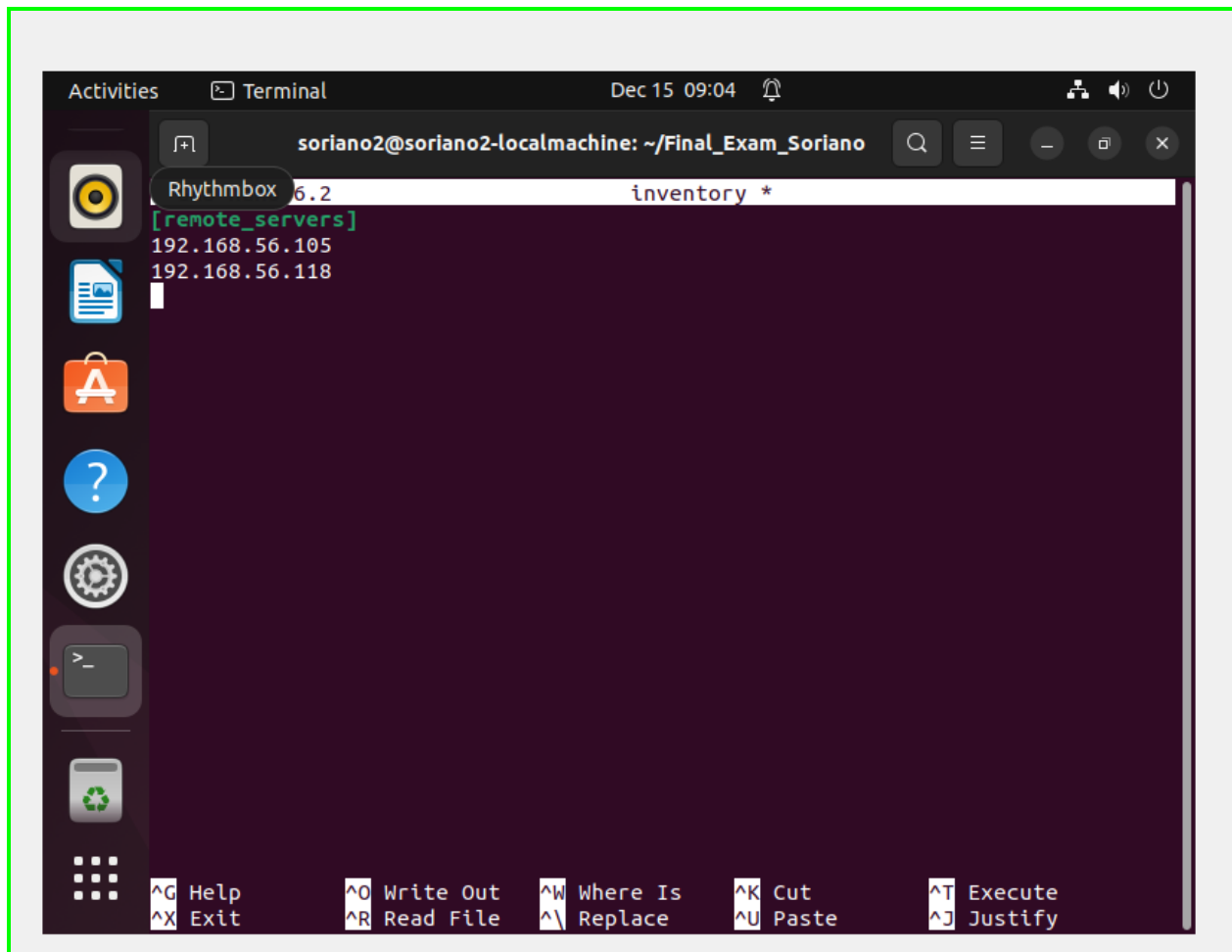
SCREENSHOTS:



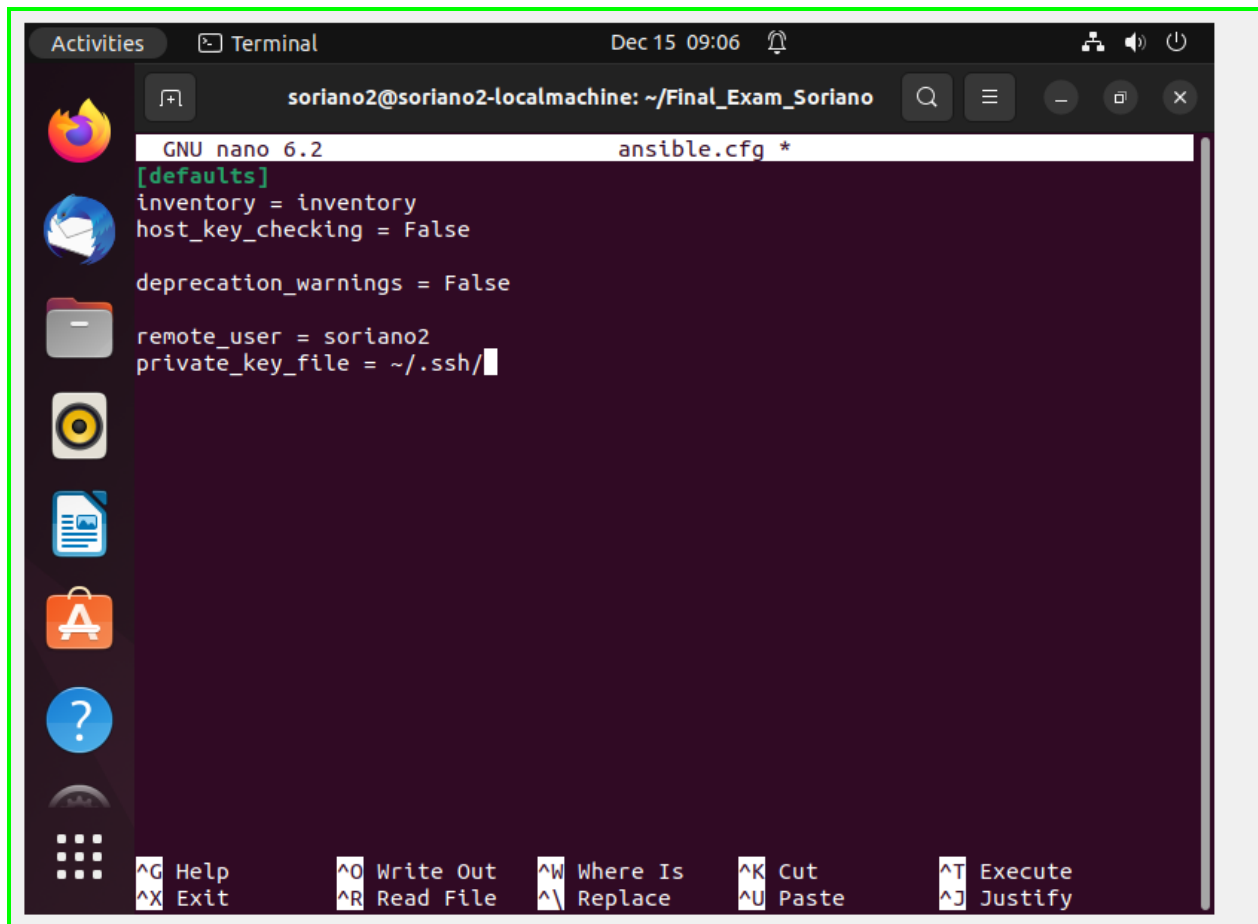
- This shows the successful creation of the github repository.



- This shows the successful git cloning of the created repository named Final_Exam_Soriano



- This shows the creation of an inventory file.



The screenshot shows a terminal window with the title bar "Activities Terminal" and a timestamp "Dec 15 09:06". The terminal prompt is "soriano2@soriano2-localmachine: ~/Final_Exam_Soriano". The nano text editor is open, editing the file "ansible.cfg". The editor's status bar at the top indicates "GNU nano 6.2" and "ansible.cfg *". The file content is as follows:

```
[defaults]
inventory = inventory
host_key_checking = False

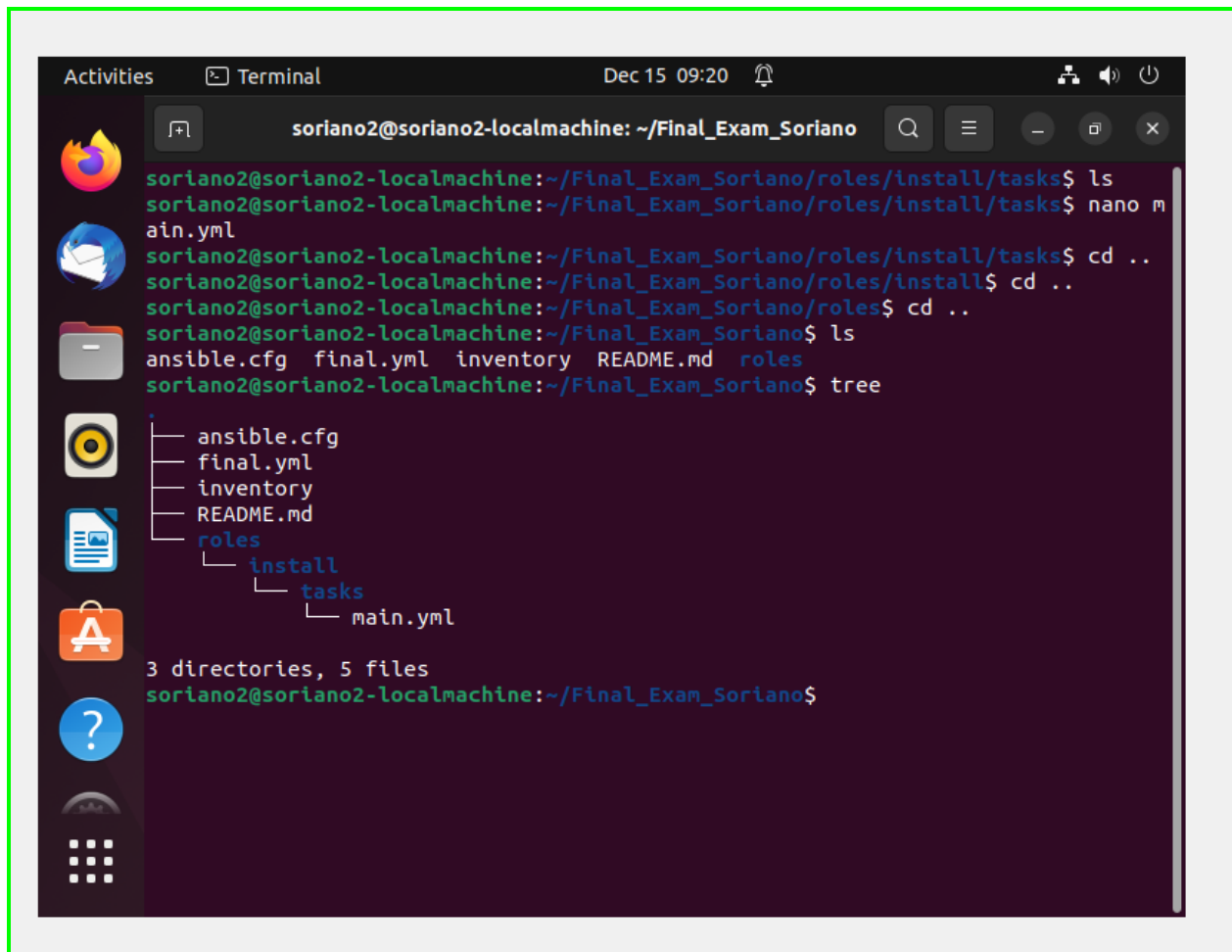
deprecation_warnings = False

remote_user = soriano2
private_key_file = ~/.ssh/
```

The nano editor's help menu is visible at the bottom, listing various shortcuts:

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

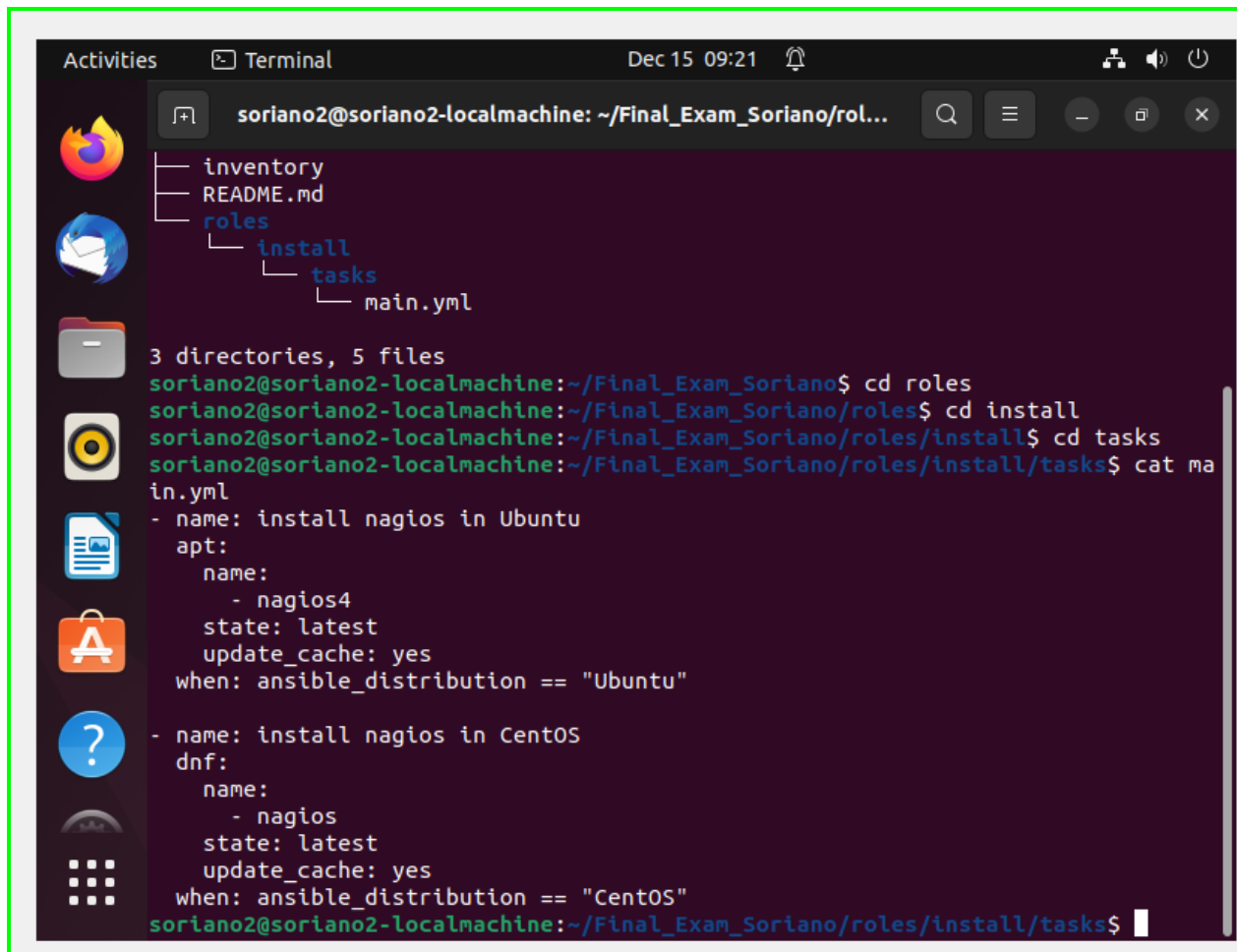
- This shows the creation of the ansible.cfg file



The image shows a terminal window on a Linux system. The user is navigating through a directory structure for an Ansible exam. The terminal output shows the following commands and results:

```
soriano2@soriano2-localmachine: ~/Final_Exam_Soriano
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install/tasks$ ls
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install/tasks$ nano main.yml
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install/tasks$ cd ..
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install$ cd ..
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles$ cd ..
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ ls
ansible.cfg  final.yml  inventory  README.md  roles
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ tree
.
├── ansible.cfg
├── final.yml
├── inventory
├── README.md
├── roles
│   ├── install
│   │   └── tasks
│   │       └── main.yml
└── 3 directories, 5 files
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$
```

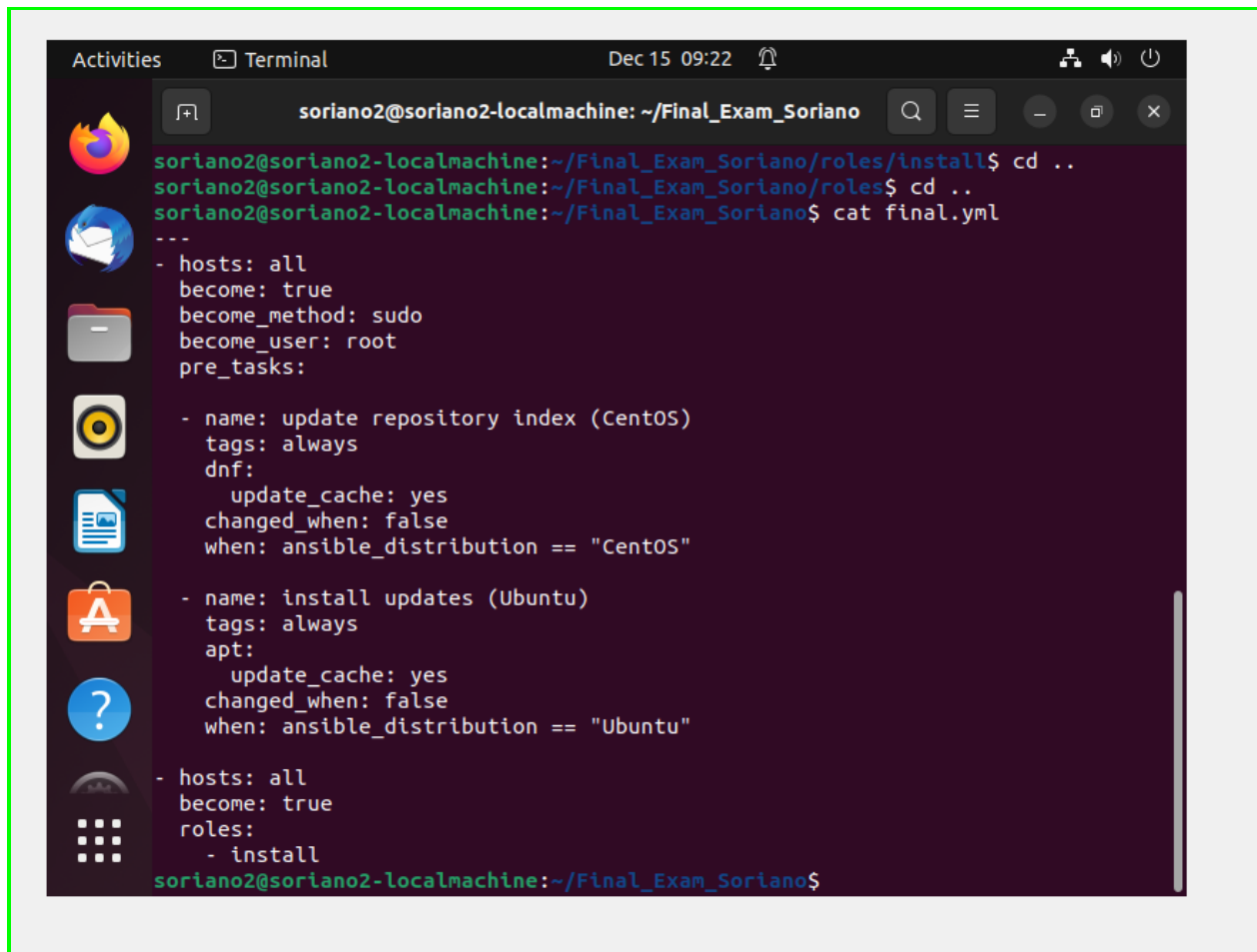
- This shows all of the created files and directories for this examination. roles/install/tasks directories are created, and the tasks directory contains the main.yml



The image shows a terminal window with a dark background. On the left, there is a sidebar with icons for various applications: Firefox, Mail, Files, Music, Videos, and a question mark. The main area of the terminal displays the following content:

```
soriano2@soriano2-localmachine: ~/Final_Exam_Soriano/rol...  
├── inventory  
├── README.md  
└── roles  
    ├── install  
    │   └── tasks  
    │       └── main.yml  
3 directories, 5 files  
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ cd roles  
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles$ cd install  
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install$ cd tasks  
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install/tasks$ cat main.yml  
- name: install nagios in Ubuntu  
  apt:  
    name:  
      - nagios4  
    state: latest  
    update_cache: yes  
    when: ansible_distribution == "Ubuntu"  
  
- name: install nagios in CentOS  
  dnf:  
    name:  
      - nagios  
    state: latest  
    update_cache: yes  
    when: ansible_distribution == "CentOS"  
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install/tasks$
```

- This shows the content of the main.yml file, this is accompanied with the final.yml file

A terminal window titled 'Terminal' with a date and time of 'Dec 15 09:22'. The window shows a user named 'soriano2' at a 'soriano2-localmachine' with a home directory of '~/. The user navigates through directories and then uses the 'cat' command to display the contents of a file named 'final.yml'. The file contains an Ansible playbook with three plays. The first play is for 'CentOS' and updates the repository index. The second play is for 'Ubuntu' and installs updates. The third play is for 'all' hosts and becomes 'root' to install the 'install' role.

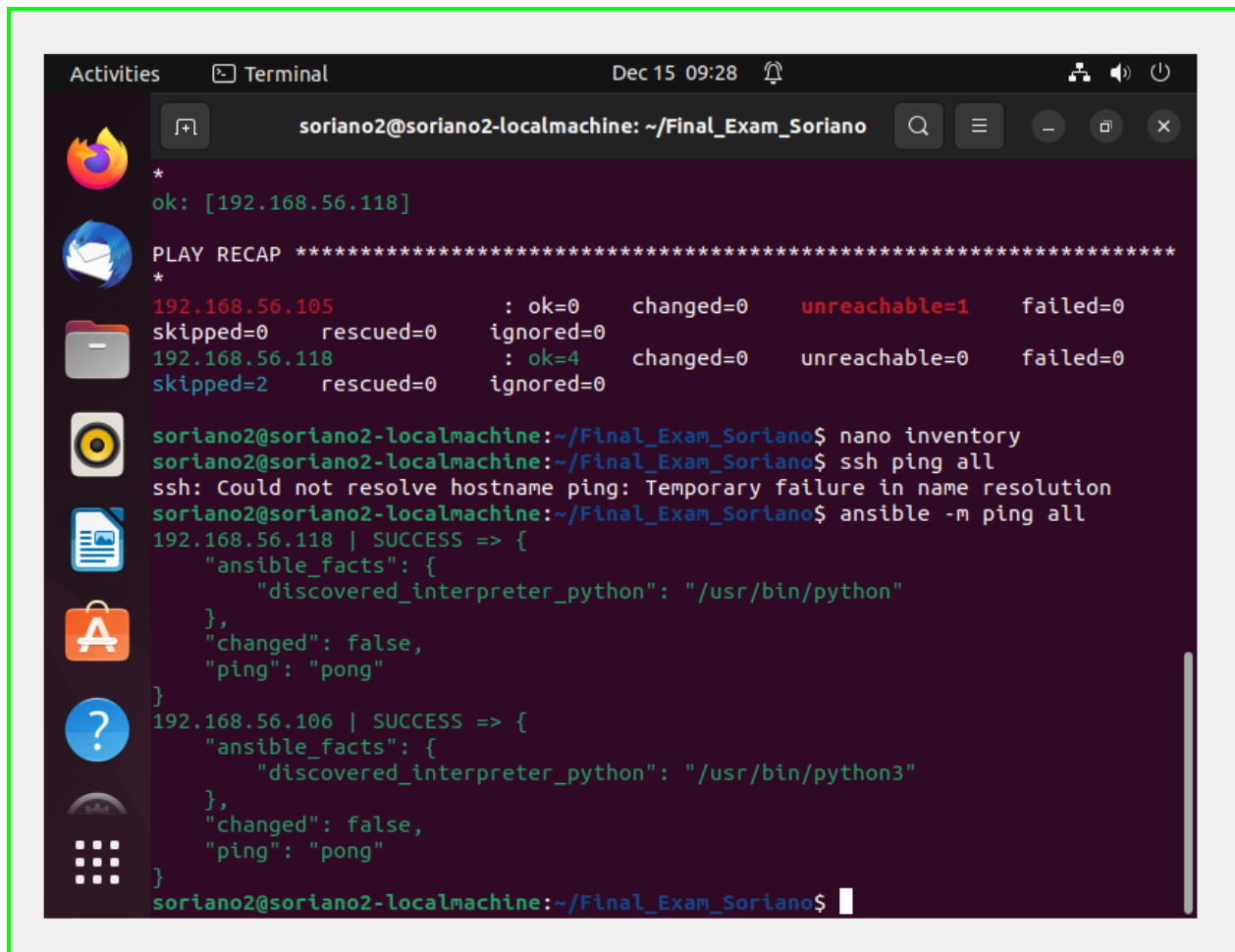
```
soriano2@soriano2-localmachine: ~/Final_Exam_Soriano
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles/install$ cd ..
soriano2@soriano2-localmachine:~/Final_Exam_Soriano/roles$ cd ..
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ cat final.yml
---
- hosts: all
  become: true
  become_method: sudo
  become_user: root
  pre_tasks:

- name: update repository index (CentOS)
  tags: always
  dnf:
    update_cache: yes
  changed_when: false
  when: ansible_distribution == "CentOS"

- name: install updates (Ubuntu)
  tags: always
  apt:
    update_cache: yes
  changed_when: false
  when: ansible_distribution == "Ubuntu"

- hosts: all
  become: true
  roles:
    - install
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$
```

- This shows the content of the final.yml file



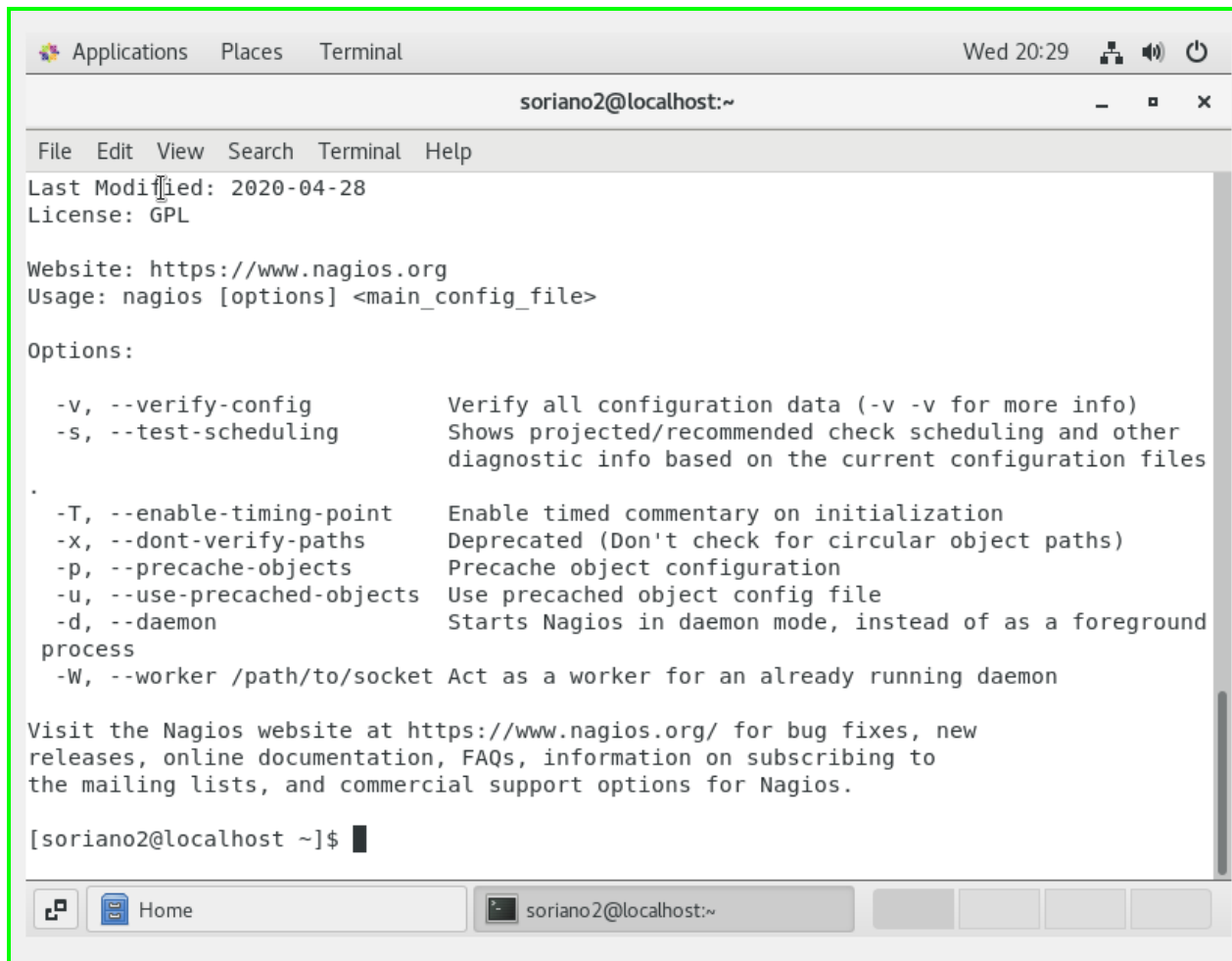
The screenshot shows a terminal window titled 'Terminal' with the date 'Dec 15 09:28'. The user is logged in as 'soriano2' on a 'soriano2-localmachine' at the directory '~/Final_Exam_Soriano'. The terminal output shows the execution of an Ansible playbook named 'PLAY RECAP'. The output for two hosts is as follows:

Host	ok	changed	unreachable	failed
192.168.56.105	0	0	1	0
192.168.56.118	4	0	0	0

The user then runs 'ssh ping all', which results in a 'Temporary failure in name resolution' for 'ping:'. Finally, the user runs 'ansible -m ping all', which successfully pings both hosts, returning JSON-formatted facts for each.

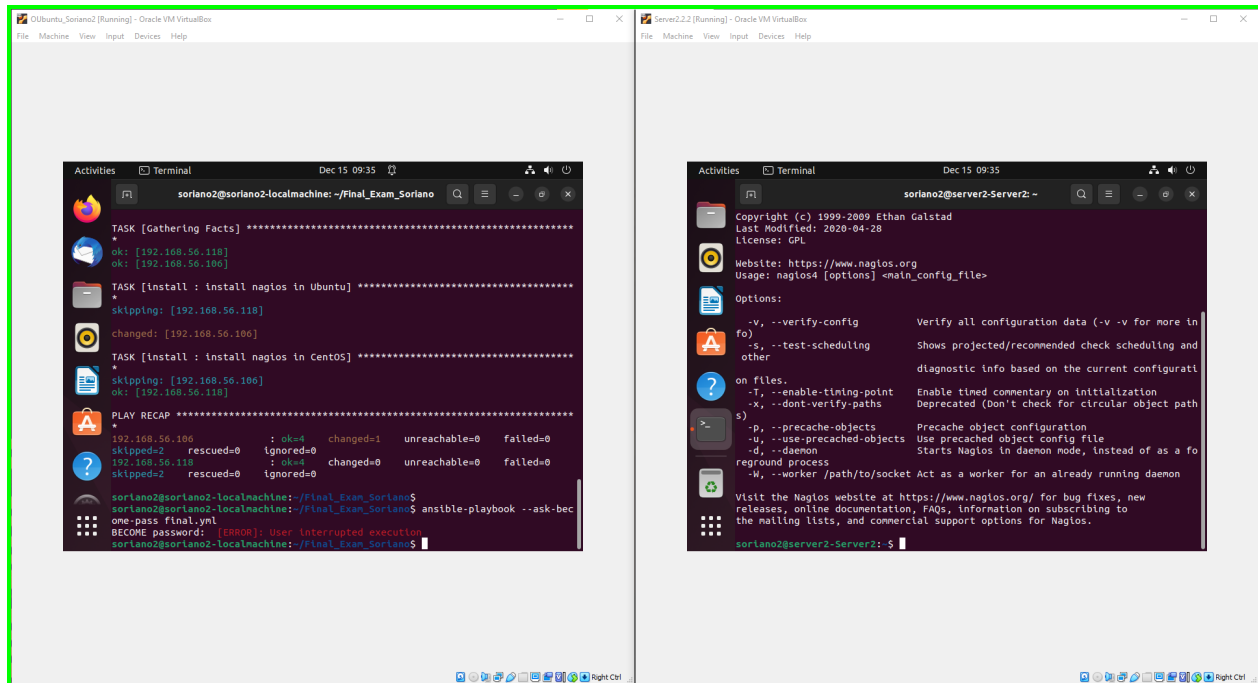
```
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ nano inventory
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ ssh ping all
ssh: Could not resolve hostname ping: Temporary failure in name resolution
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ ansible -m ping all
192.168.56.118 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python"
  },
  "changed": false,
  "ping": "pong"
}
192.168.56.106 | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$
```

- This shows the successful ping command for the assurance of the connectivity between the workstations is good and successful.

A screenshot of a Linux terminal window. The window title bar shows 'Applications', 'Places', and 'Terminal' on the left, and 'Wed 20:29' with system icons on the right. The terminal content shows the output of the 'nagios' command, displaying version information, website, usage, and a list of command-line options. The prompt is '[soriano2@localhost ~]\$'.

```
soriano2@localhost:~  
File Edit View Search Terminal Help  
Last Modified: 2020-04-28  
License: GPL  
  
Website: https://www.nagios.org  
Usage: nagios [options] <main_config_file>  
  
Options:  
  
-v, --verify-config          Verify all configuration data (-v -v for more info)  
-s, --test-scheduling        Shows projected/recommended check scheduling and other  
                             diagnostic info based on the current configuration files  
.  
-T, --enable-timing-point    Enable timed commentary on initialization  
-x, --dont-verify-paths      Deprecated (Don't check for circular object paths)  
-p, --precache-objects       Precache object configuration  
-u, --use-precached-objects  Use precached object config file  
-d, --daemon                 Starts Nagios in daemon mode, instead of as a foreground  
process  
-W, --worker /path/to/socket Act as a worker for an already running daemon  
  
Visit the Nagios website at https://www.nagios.org/ for bug fixes, new  
releases, online documentation, FAQs, information on subscribing to  
the mailing lists, and commercial support options for Nagios.  
  
[soriano2@localhost ~]$
```

- This shows the proof of the successful installation of nagios in the CentOS.



- This shows the success run of the ansible file and also the proof of installation of nagios is the ubuntu server

```
Activities Terminal Dec 15 10:02
soriano2@soriano2-localmachine: ~/Final_Exam_Soriano

TASK [install : install apache and php for CentOS servers] *****
*
skipping: [192.168.56.106]
ok: [192.168.56.118]

TASK [install : install mariadb package (CentOS)] *****
*
skipping: [192.168.56.106]
ok: [192.168.56.118]

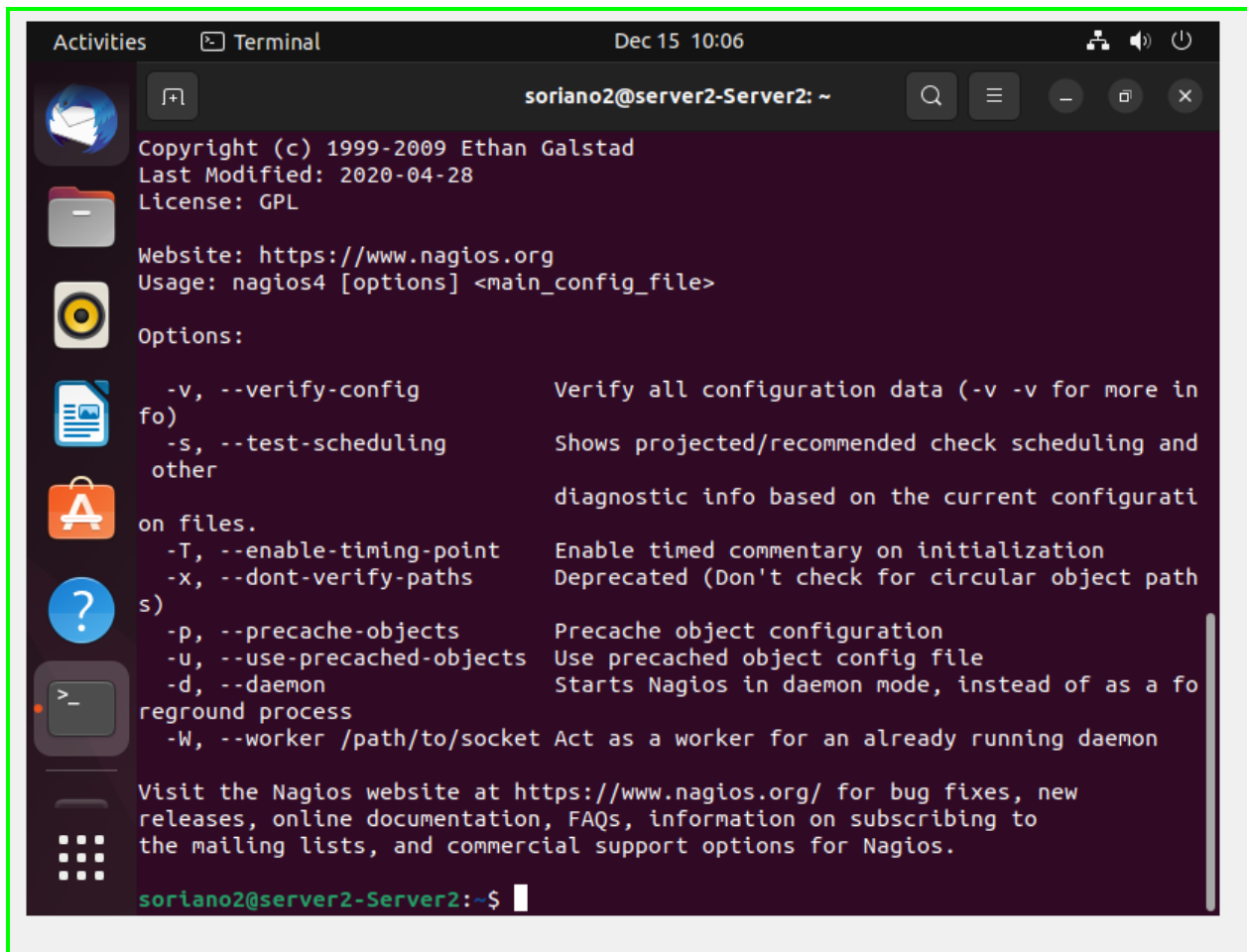
TASK [install : install mariadb package (Ubuntu)] *****
*
skipping: [192.168.56.118]
changed: [192.168.56.106]

TASK [install : Mariadb- Restarting/Enabling] *****
*
changed: [192.168.56.106]
changed: [192.168.56.118]

PLAY RECAP *****
*
192.168.56.106 : ok=8 changed=3 unreachable=0 failed=0
skipped=7 rescued=0 ignored=0
192.168.56.118 : ok=10 changed=3 unreachable=0 failed=0
skipped=5 rescued=0 ignored=0

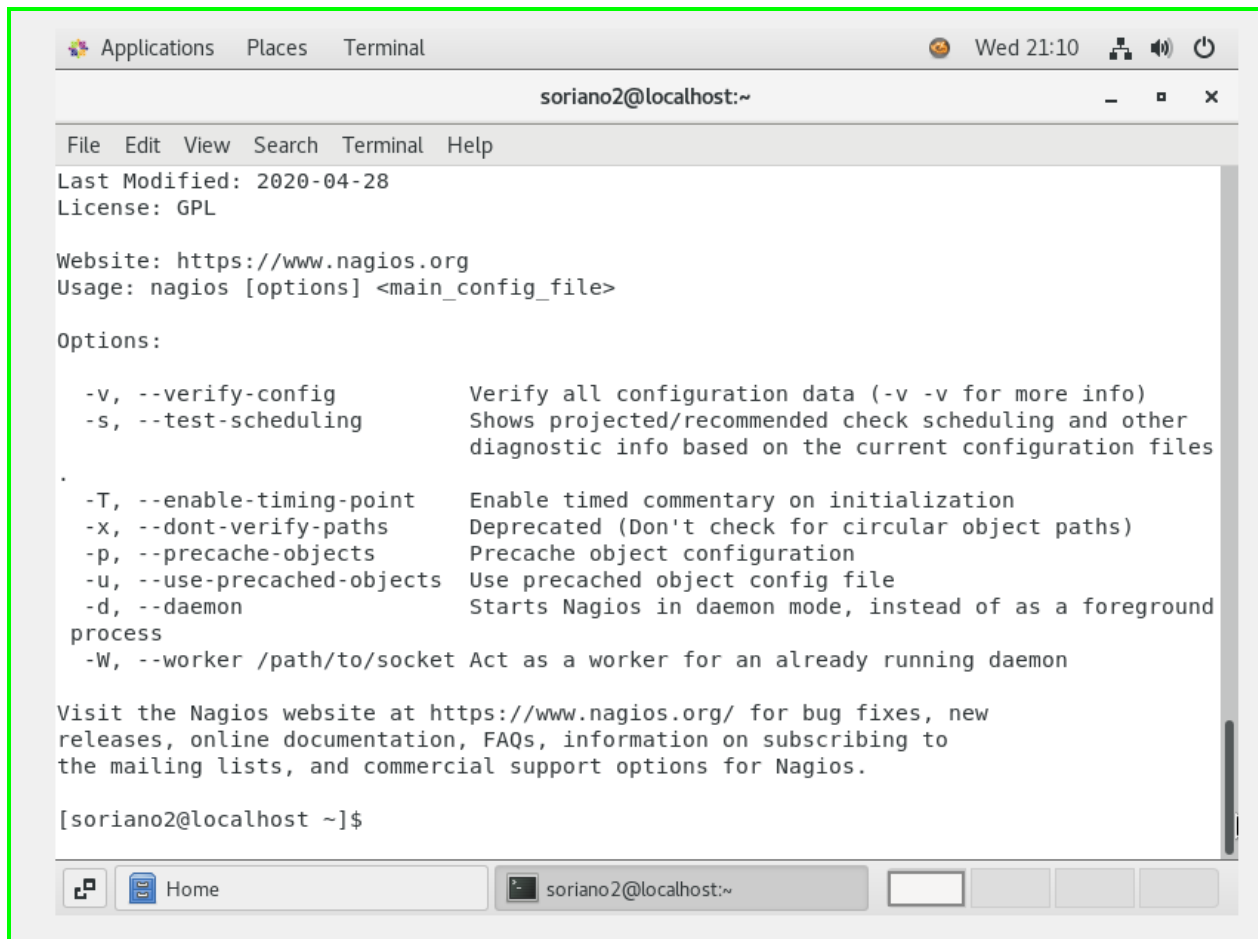
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$
```

- This shows the successful installation of the following: nagios, prometheus, mariadb, apache, and php servers. Also the enabling of the mariadb servers for both ubuntu and centos.

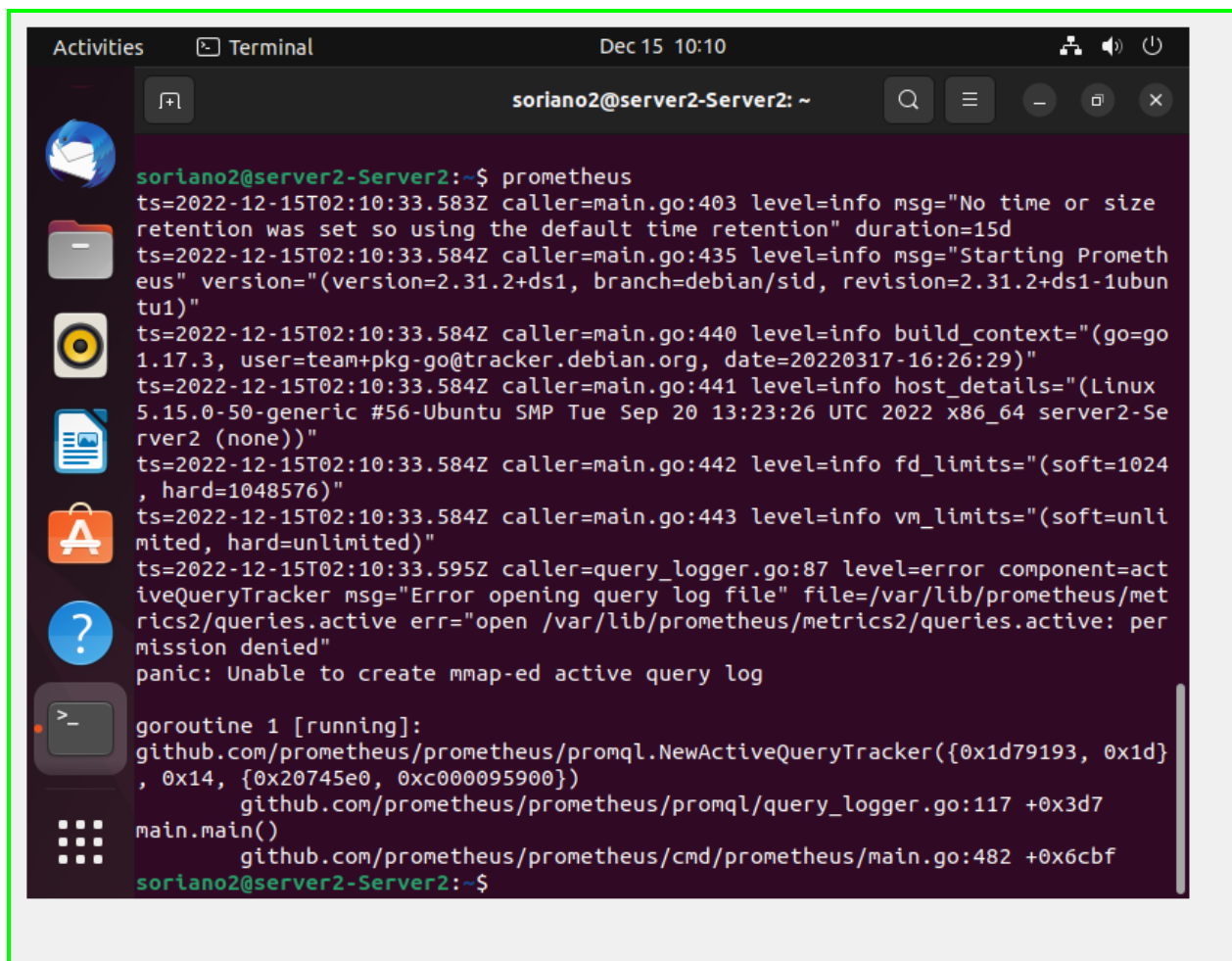
A terminal window titled 'Terminal' with a dark background and light text. The window shows the help text for Nagios 4. The text includes copyright information (1999-2009 Ethan Galstad), the last modified date (2020-04-28), the license (GPL), the website (https://www.nagios.org), and the usage command (nagios4 [options] <main_config_file>). It also lists various command-line options such as --verify-config, --test-scheduling, --enable-timing-point, --dont-verify-paths, --precache-objects, --use-precached-objects, --daemon, and --worker. The terminal prompt is 'soriano2@server2-Server2: ~\$'.

```
Activities Terminal Dec 15 10:06 soriano2@server2-Server2: ~  
Copyright (c) 1999-2009 Ethan Galstad  
Last Modified: 2020-04-28  
License: GPL  
  
Website: https://www.nagios.org  
Usage: nagios4 [options] <main_config_file>  
  
Options:  
  
-v, --verify-config          Verify all configuration data (-v -v for more in  
fo)  
-s, --test-scheduling        Shows projected/recommended check scheduling and  
other  
                              diagnostic info based on the current configurati  
on files.  
-T, --enable-timing-point    Enable timed commentary on initialization  
-x, --dont-verify-paths      Deprecated (Don't check for circular object path  
s)  
-p, --precache-objects        Precache object configuration  
-u, --use-precached-objects   Use precached object config file  
-d, --daemon                  Starts Nagios in daemon mode, instead of as a fo  
reground process  
-W, --worker /path/to/socket Act as a worker for an already running daemon  
  
Visit the Nagios website at https://www.nagios.org/ for bug fixes, new  
releases, online documentation, FAQs, information on subscribing to  
the mailing lists, and commercial support options for Nagios.  
  
soriano2@server2-Server2:~$
```

- Proof of installation of the nagios in ubuntu server

A screenshot of a Linux terminal window. The window title bar shows 'Applications Places Terminal' on the left and 'Wed 21:10' with system icons on the right. The terminal content displays the Nagios help text, including version information (Last Modified: 2020-04-28, License: GPL), website (https://www.nagios.org), usage instructions, and a list of command-line options with their descriptions. The prompt is '[soriano2@localhost ~]\$'.

- Proof of installation of nagios in centos server

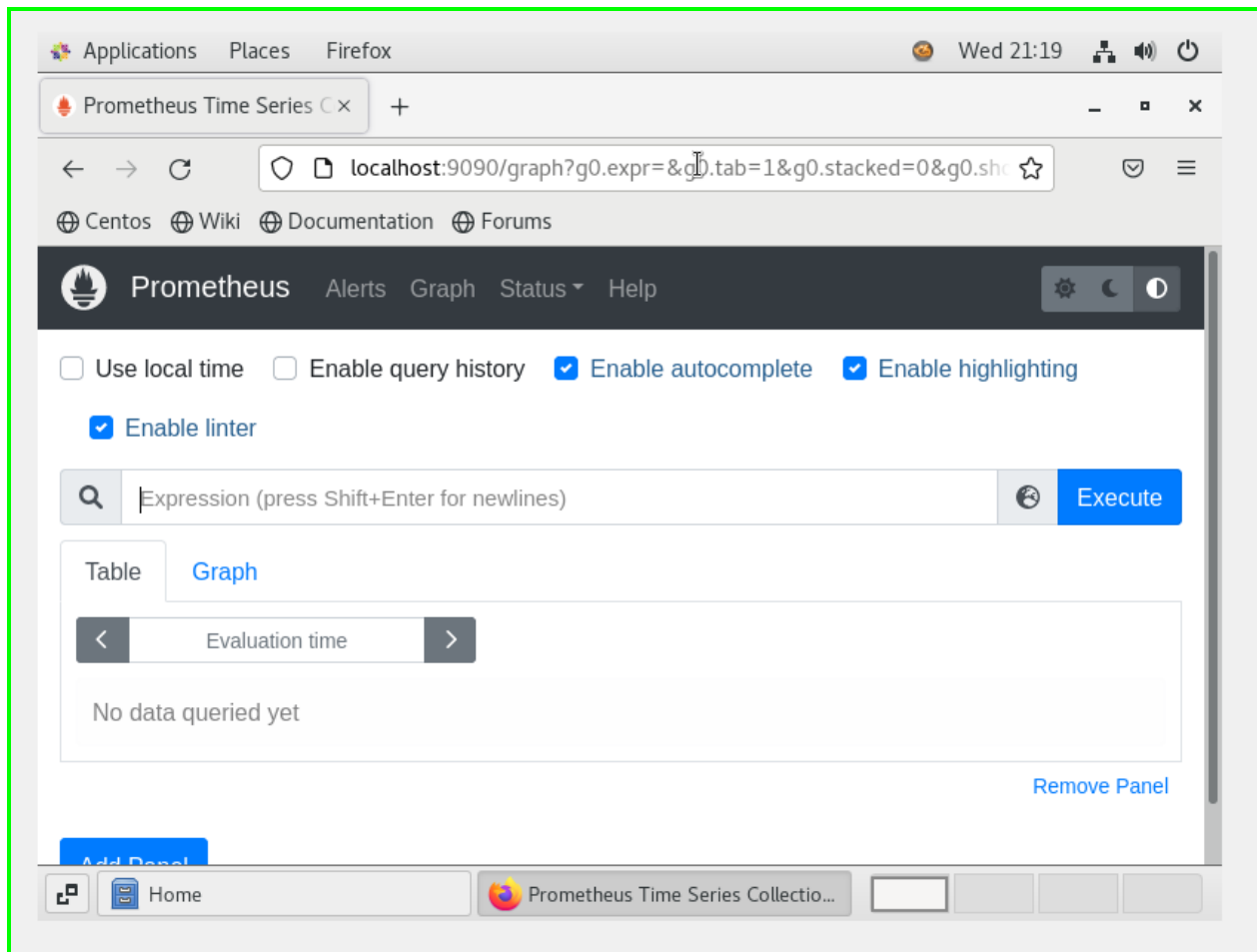


The image shows a terminal window titled 'Terminal' with the date and time 'Dec 15 10:10'. The user is 'soriano2@server2-Server2: ~'. The terminal output shows the command 'prometheus' being executed, followed by several log messages from the Prometheus server. The logs include information about retention, version, build context, host details, fd limits, and vm limits. A panic message is displayed: 'panic: Unable to create mmap-ed active query log'. The stack trace shows the error occurred in the 'github.com/prometheus/prometheus/promql.NewActiveQueryTracker' function.

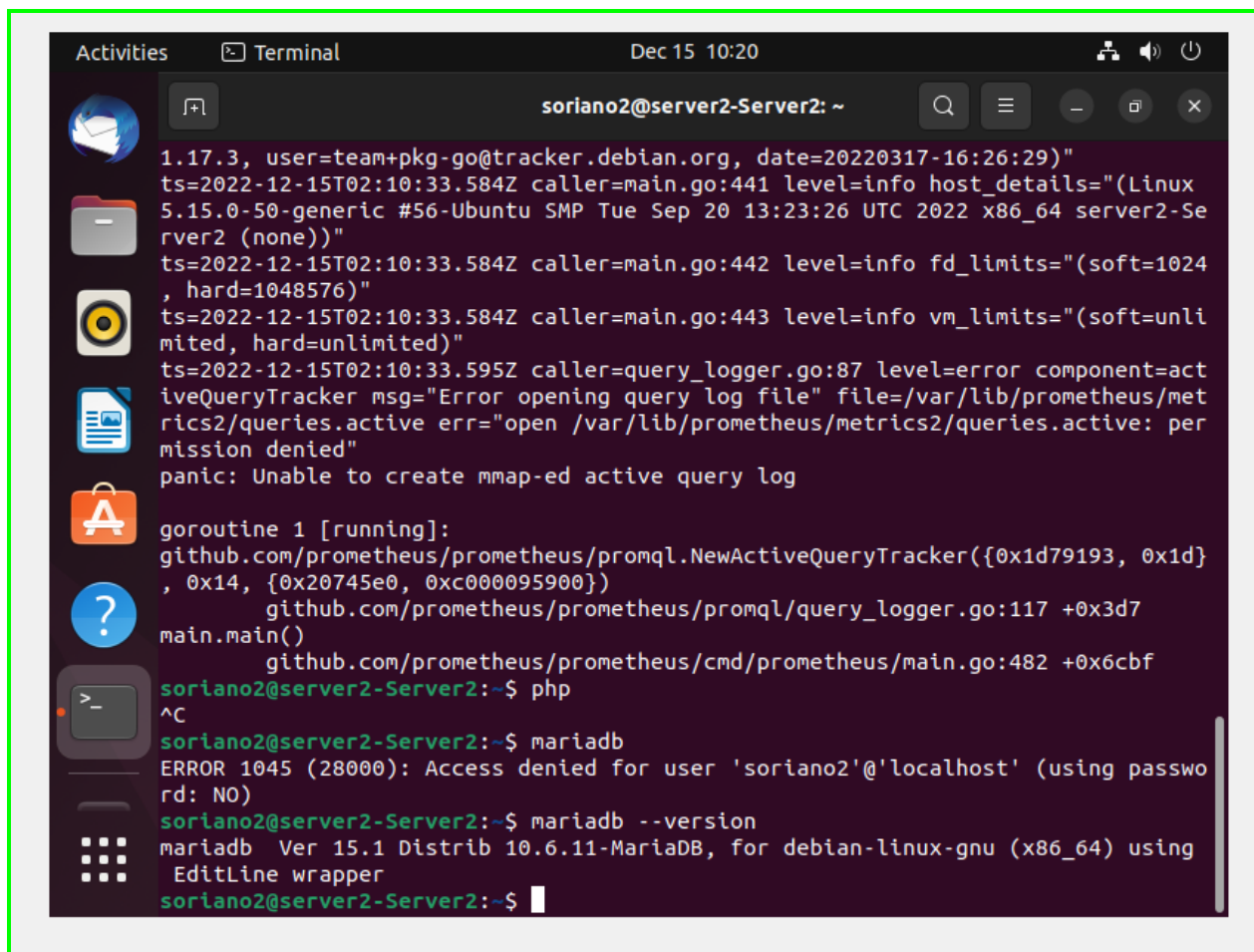
```
soriano2@server2-Server2:~$ prometheus
ts=2022-12-15T02:10:33.583Z caller=main.go:403 level=info msg="No time or size
retention was set so using the default time retention" duration=15d
ts=2022-12-15T02:10:33.584Z caller=main.go:435 level=info msg="Starting Prometh
eus" version="(version=2.31.2+ds1, branch=debian/sid, revision=2.31.2+ds1-1ubun
tu1)"
ts=2022-12-15T02:10:33.584Z caller=main.go:440 level=info build_context="(go=go
1.17.3, user=team+pkg-go@tracker.debian.org, date=20220317-16:26:29)"
ts=2022-12-15T02:10:33.584Z caller=main.go:441 level=info host_details="(Linux
5.15.0-50-generic #56-Ubuntu SMP Tue Sep 20 13:23:26 UTC 2022 x86_64 server2-Se
rver2 (none))"
ts=2022-12-15T02:10:33.584Z caller=main.go:442 level=info fd_limits="(soft=1024
, hard=1048576)"
ts=2022-12-15T02:10:33.584Z caller=main.go:443 level=info vm_limits="(soft=unli
mited, hard=unlimited)"
ts=2022-12-15T02:10:33.595Z caller=query_logger.go:87 level=error component=act
iveQueryTracker msg="Error opening query log file" file=/var/lib/prometheus/met
rics2/queries.active err="open /var/lib/prometheus/metrics2/queries.active: per
mission denied"
panic: Unable to create mmap-ed active query log

goroutine 1 [running]:
github.com/prometheus/prometheus/promql.NewActiveQueryTracker({0x1d79193, 0x1d}
, 0x14, {0x20745e0, 0xc000095900})
    github.com/prometheus/prometheus/promql/query_logger.go:117 +0x3d7
main.main()
    github.com/prometheus/prometheus/cmd/prometheus/main.go:482 +0x6cbf
soriano2@server2-Server2:~$
```

- Proof of installation of prometheus in ubuntu server



- Proof of installation of prometheus in centos server

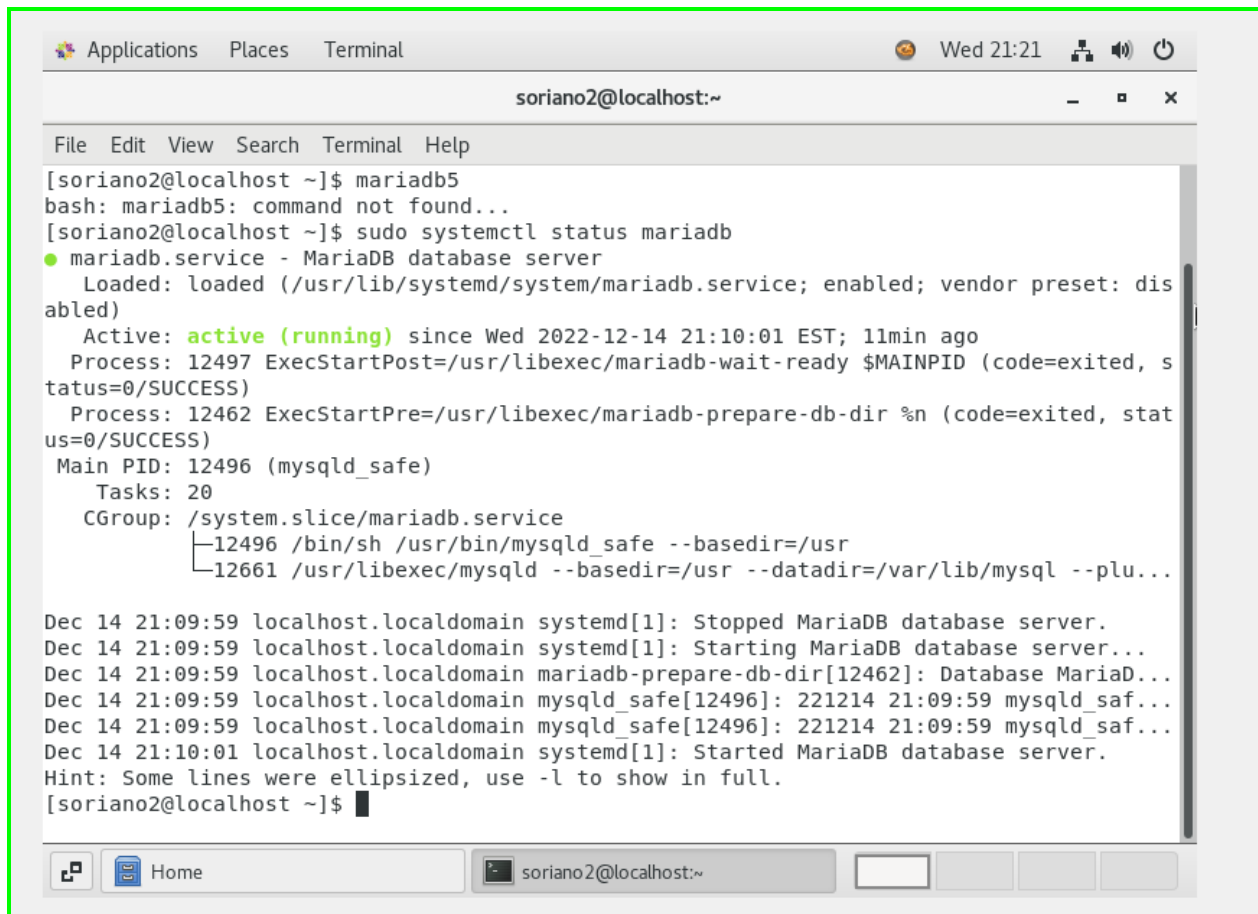


The image shows a terminal window titled 'Terminal' with the date 'Dec 15 10:20'. The user is 'soriano2@server2-Server2: ~'. The terminal output includes several log entries from a Prometheus query logger, a Go routine stack trace, and the execution of 'mariadb --version' which confirms the installation of MariaDB 15.1.

```
1.17.3, user=team+pkg-go@tracker.debian.org, date=20220317-16:26:29)"
ts=2022-12-15T02:10:33.584Z caller=main.go:441 level=info host_details="(Linux
5.15.0-50-generic #56-Ubuntu SMP Tue Sep 20 13:23:26 UTC 2022 x86_64 server2-Se
rver2 (none))"
ts=2022-12-15T02:10:33.584Z caller=main.go:442 level=info fd_limits="(soft=1024
, hard=1048576)"
ts=2022-12-15T02:10:33.584Z caller=main.go:443 level=info vm_limits="(soft=unli
mited, hard=unlimited)"
ts=2022-12-15T02:10:33.595Z caller=query_logger.go:87 level=error component=act
iveQueryTracker msg="Error opening query log file" file=/var/lib/prometheus/met
rics2/queries.active err="open /var/lib/prometheus/metrics2/queries.active: per
mission denied"
panic: Unable to create mmap-ed active query log

goroutine 1 [running]:
github.com/prometheus/prometheus/promql.NewActiveQueryTracker({0x1d79193, 0x1d}
, 0x14, {0x20745e0, 0xc000095900})
    github.com/prometheus/prometheus/promql/query_logger.go:117 +0x3d7
main.main()
    github.com/prometheus/prometheus/cmd/prometheus/main.go:482 +0x6cbf
soriano2@server2-Server2:~$ php
^C
soriano2@server2-Server2:~$ mariadb
ERROR 1045 (28000): Access denied for user 'soriano2'@'localhost' (using passwo
rd: NO)
soriano2@server2-Server2:~$ mariadb --version
mariadb Ver 15.1 Distrib 10.6.11-MariaDB, for debian-linux-gnu (x86_64) using
EditLine wrapper
soriano2@server2-Server2:~$
```

- Proof of installation of mariadb in ubuntu server



The image shows a terminal window titled 'soriano2@localhost:~'. The user has entered the command 'mariadb5', which resulted in 'bash: mariadb5: command not found...'. Then, the user entered 'sudo systemctl status mariadb', which displayed the status of the mariadb.service. The service is 'loaded' and 'enabled'. It is 'active (running)' since 'Wed 2022-12-14 21:10:01 EST; 11min ago'. The process is '12497 ExecStartPost=/usr/libexec/mariadb-wait-ready \$MAINPID (code=exited, status=0/SUCCESS)'. The main PID is '12496 (mysqld_safe)'. The tasks are '20'. The CGroup is '/system.slice/mariadb.service'. The output shows the process tree for the service, including '12496 /bin/sh /usr/bin/mysqld_safe --basedir=/usr' and '12661 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mysql --plu...'. The terminal also shows system logs for the MariaDB database server, including 'Stopped MariaDB database server.', 'Starting MariaDB database server...', 'Database MariaD...', and 'Started MariaDB database server.'.

```
soriano2@localhost:~  
File Edit View Search Terminal Help  
[soriano2@localhost ~]$ mariadb5  
bash: mariadb5: command not found...  
[soriano2@localhost ~]$ sudo systemctl status mariadb  
● mariadb.service - MariaDB database server  
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; vendor preset: disabled)  
   Active: active (running) since Wed 2022-12-14 21:10:01 EST; 11min ago  
     Process: 12497 ExecStartPost=/usr/libexec/mariadb-wait-ready $MAINPID (code=exited, status=0/SUCCESS)  
     Process: 12462 ExecStartPre=/usr/libexec/mariadb-prepare-db-dir %n (code=exited, status=0/SUCCESS)  
    Main PID: 12496 (mysqld_safe)  
      Tasks: 20  
     CGroup: /system.slice/mariadb.service  
             └─12496 /bin/sh /usr/bin/mysqld_safe --basedir=/usr  
               └─12661 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mysql --plu...  
  
Dec 14 21:09:59 localhost.localdomain systemd[1]: Stopped MariaDB database server.  
Dec 14 21:09:59 localhost.localdomain systemd[1]: Starting MariaDB database server...  
Dec 14 21:09:59 localhost.localdomain mariadb-prepare-db-dir[12462]: Database MariaD...  
Dec 14 21:09:59 localhost.localdomain mysqld_safe[12496]: 221214 21:09:59 mysqld saf...  
Dec 14 21:09:59 localhost.localdomain mysqld_safe[12496]: 221214 21:09:59 mysqld saf...  
Dec 14 21:10:01 localhost.localdomain systemd[1]: Started MariaDB database server.  
Hint: Some lines were ellipsized, use -l to show in full.  
[soriano2@localhost ~]$
```

- Proof of installation of mariadb in centos server

```
Activities  Terminal  Dec 15 10:23
soriano2@server2-Server2: ~
apache2: Syntax error on line 80 of /etc/apache2/apache2.conf: DefaultRuntimeDir must be a valid directory, absolute or relative to ServerRoot
soriano2@server2-Server2:~$ sudo apache2
[sudo] password for soriano2:
[Thu Dec 15 10:22:42.552372 2022] [core:warn] [pid 14696] AH00111: Config variable ${APACHE_RUN_DIR} is not defined
apache2: Syntax error on line 80 of /etc/apache2/apache2.conf: DefaultRuntimeDir must be a valid directory, absolute or relative to ServerRoot
soriano2@server2-Server2:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2022-12-15 10:01:12 PST; 22min ago
     Docs: https://httpd.apache.org/docs/2.4/
    Main PID: 11860 (apache2)
      Tasks: 6 (limit: 1051)
     Memory: 8.8M
        CPU: 130ms
    CGroup: /system.slice/apache2.service
            └─11860 /usr/sbin/apache2 -k start
              └─11862 /usr/sbin/apache2 -k start
                └─11863 /usr/sbin/apache2 -k start
                  └─11864 /usr/sbin/apache2 -k start
                    └─11865 /usr/sbin/apache2 -k start
                      └─11866 /usr/sbin/apache2 -k start

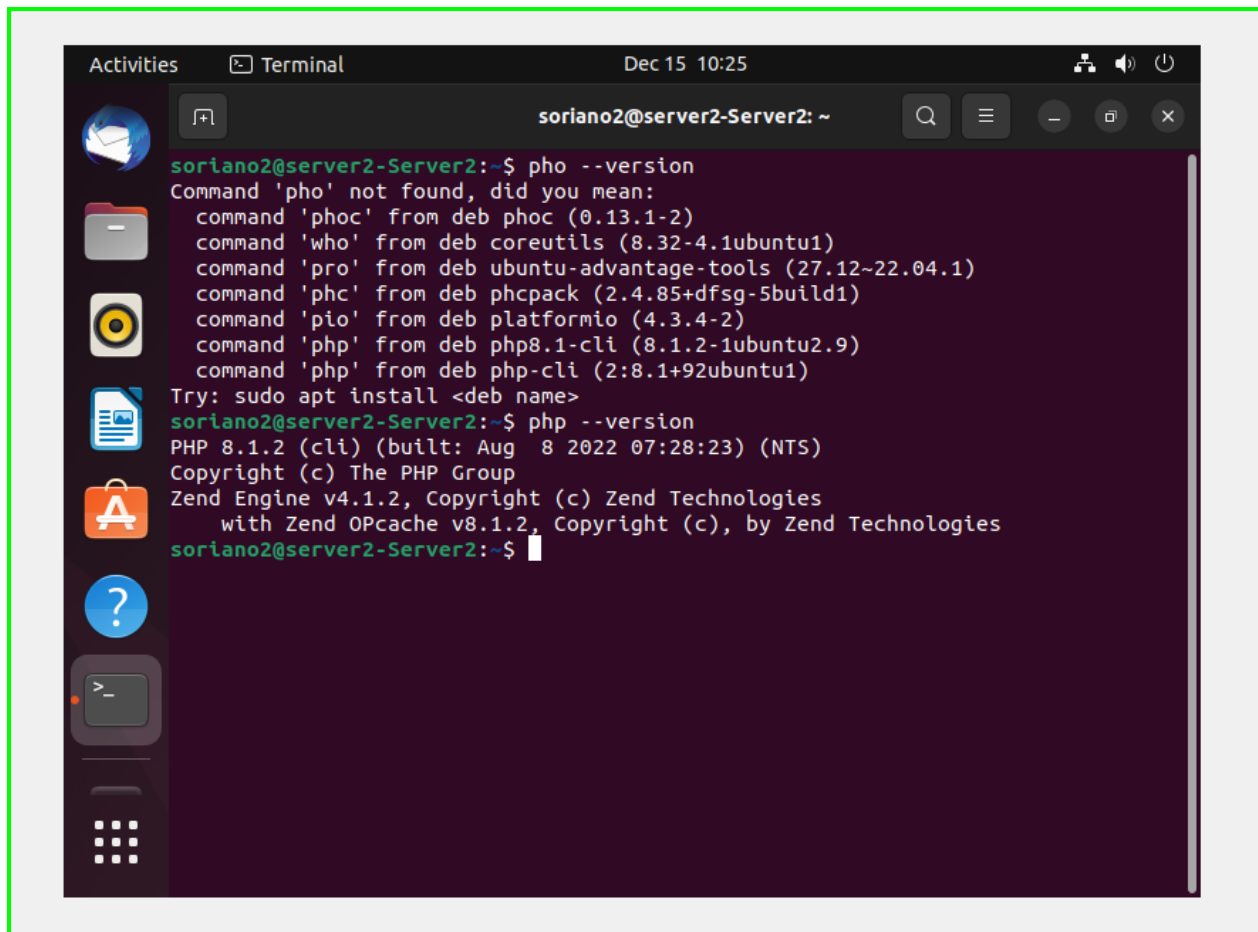
Dec 15 10:01:12 server2-Server2 systemd[1]: Starting The Apache HTTP Server...
Dec 15 10:01:12 server2-Server2 apachectl[11859]: AH00558: apache2: Could not
Dec 15 10:01:12 server2-Server2 systemd[1]: Started The Apache HTTP Server.
lines 1-19/19 (END)
```

- Proof of installation of apache2 in ubuntu server

The image shows a terminal window titled 'soriano2@localhost:~'. The window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal output shows the status of the MariaDB database server. It indicates that the server was stopped and then started. The output also shows the process details for the MariaDB database server, including the main PID (12496) and the tasks (20). The output also shows the status of the Apache2 service, which could not be found. The user then runs the command 'httpd -v' and the output shows the server version (Apache/2.4.6 (CentOS)) and the build date (Mar 24 2022 14:57:57).

```
soriano2@localhost:~  
File Edit View Search Terminal Help  
Process: 12497 ExecStartPost=/usr/libexec/mariadb-wait-ready $MAINPID (code=exited, status=0/SUCCESS)  
Process: 12462 ExecStartPre=/usr/libexec/mariadb-prepare-db-dir %n (code=exited, status=0/SUCCESS)  
Main PID: 12496 (mysqld_safe)  
Tasks: 20  
CGroup: /system.slice/mariadb.service  
└─12496 /bin/sh /usr/bin/mysqld_safe --basedir=/usr  
└─12661 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mysql --plu...  
  
Dec 14 21:09:59 localhost.localdomain systemd[1]: Stopped MariaDB database server.  
Dec 14 21:09:59 localhost.localdomain systemd[1]: Starting MariaDB database server...  
Dec 14 21:09:59 localhost.localdomain mariadb-prepare-db-dir[12462]: Database MariaD...  
Dec 14 21:09:59 localhost.localdomain mysqld_safe[12496]: 221214 21:09:59 mysqld_saf...  
Dec 14 21:09:59 localhost.localdomain mysqld_safe[12496]: 221214 21:09:59 mysqld_saf...  
Dec 14 21:10:01 localhost.localdomain systemd[1]: Started MariaDB database server.  
Hint: Some lines were ellipsized, use -l to show in full.  
[soriano2@localhost ~]$ sudo systemctl status apache2  
Unit apache2.service could not be found.  
[soriano2@localhost ~]$ apache2  
bash: apache2: command not found...  
[soriano2@localhost ~]$ httpd -v  
Server version: Apache/2.4.6 (CentOS)  
Server built: Mar 24 2022 14:57:57  
[soriano2@localhost ~]$
```

- Proof of installation of apache2 in centos



The image shows a terminal window titled 'Terminal' with the date and time 'Dec 15 10:25'. The user is logged in as 'soriano2@server2-Server2: ~'. The terminal shows the following commands and output:

```
soriano2@server2-Server2:~$ pho --version
Command 'pho' not found, did you mean:
  command 'phoc' from deb phoc (0.13.1-2)
  command 'who' from deb coreutils (8.32-4.1ubuntu1)
  command 'pro' from deb ubuntu-advantage-tools (27.12~22.04.1)
  command 'phc' from deb phcpack (2.4.85+dfsg-5build1)
  command 'pio' from deb platformio (4.3.4-2)
  command 'php' from deb php8.1-cli (8.1.2-1ubuntu2.9)
  command 'php' from deb php-cli (2:8.1+92ubuntu1)
Try: sudo apt install <deb name>
soriano2@server2-Server2:~$ php --version
PHP 8.1.2 (cli) (built: Aug  8 2022 07:28:23) (NTS)
Copyright (c) The PHP Group
Zend Engine v4.1.2, Copyright (c) Zend Technologies
    with Zend OPcache v8.1.2, Copyright (c), by Zend Technologies
soriano2@server2-Server2:~$
```

The terminal window has a sidebar on the left with icons for Activities, Files, Music, Videos, Applications, and a search icon. The top bar shows the window title 'Terminal', the date and time 'Dec 15 10:25', and system icons for network, sound, and power.

- Proof of installation of php in ubuntu server

```
Applications  Places  Terminal  Wed 21:26  [Icons] [Volume] [Power]

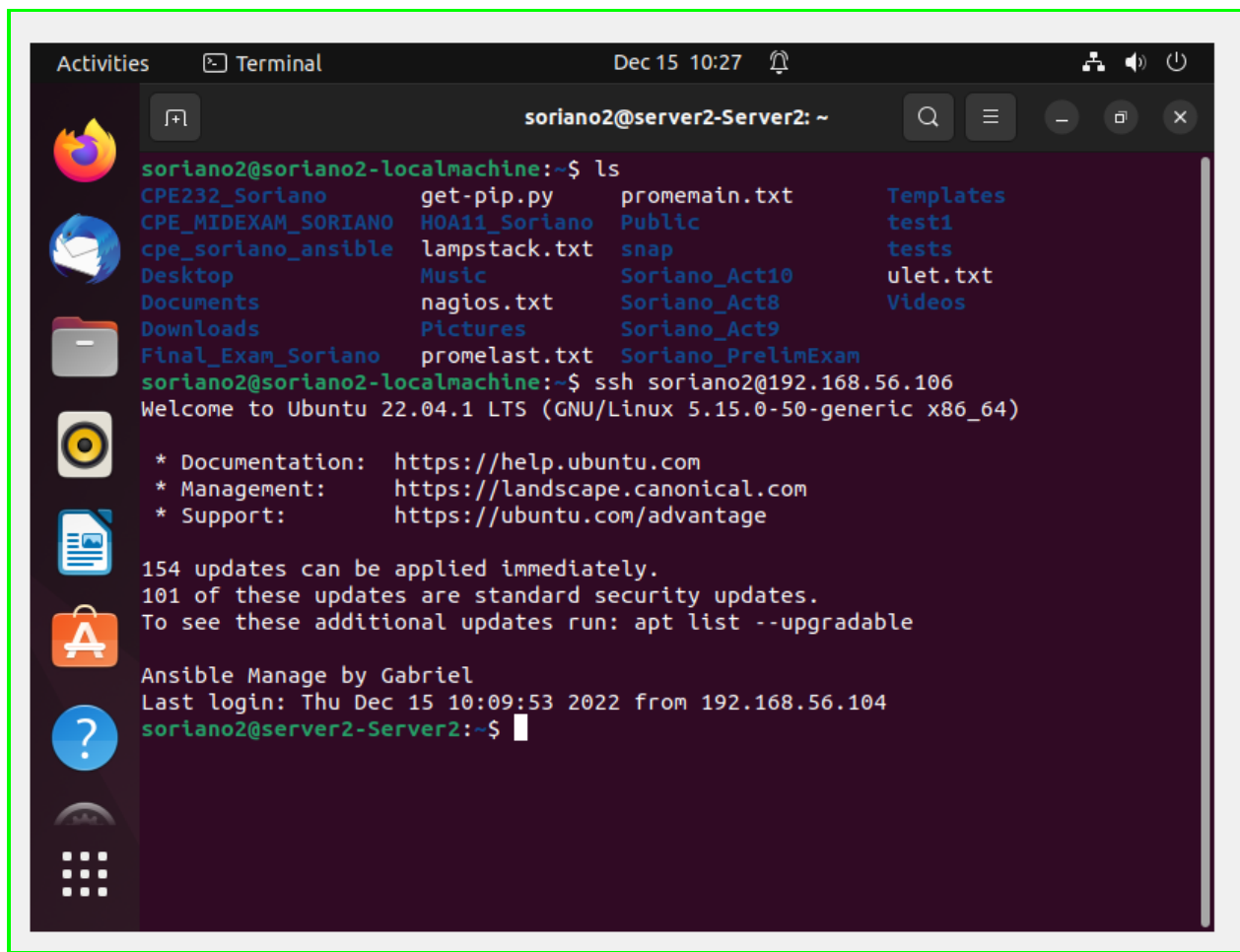
soriano2@localhost:~

File Edit View Search Terminal Help

Main PID: 12496 (mysqld_safe)
Tasks: 20
CGroup: /system.slice/mariadb.service
├─12496 /bin/sh /usr/bin/mysqld_safe --basedir=/usr
└─12661 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mysql --plu...

Dec 14 21:09:59 localhost.localdomain systemd[1]: Stopped MariaDB database server.
Dec 14 21:09:59 localhost.localdomain systemd[1]: Starting MariaDB database server...
Dec 14 21:09:59 localhost.localdomain mariadb-prepare-db-dir[12462]: Database MariaD...
Dec 14 21:09:59 localhost.localdomain mysqld_safe[12496]: 221214 21:09:59 mysqld_saf...
Dec 14 21:09:59 localhost.localdomain mysqld_safe[12496]: 221214 21:09:59 mysqld_saf...
Dec 14 21:10:01 localhost.localdomain systemd[1]: Started MariaDB database server.
Hint: Some lines were ellipsized, use -l to show in full.
[soriano2@localhost ~]$ sudo systemctl status apache2
Unit apache2.service could not be found.
[soriano2@localhost ~]$ apache2
bash: apache2: command not found...
[soriano2@localhost ~]$ httpd -v
Server version: Apache/2.4.6 (CentOS)
Server built:   Mar 24 2022 14:57:57
[soriano2@localhost ~]$ php --version
PHP 5.4.16 (cli) (built: Apr  1 2020 04:07:17)
Copyright (c) 1997-2013 The PHP Group
Zend Engine v2.4.0, Copyright (c) 1998-2013 Zend Technologies
[soriano2@localhost ~]$
```

- Proof of installation of php in centos server



The image shows a terminal window titled "Terminal" with a date and time of "Dec 15 10:27". The window is divided into two panes. The left pane shows a sidebar with various application icons. The right pane shows a terminal session. The session starts with a prompt "soriano2@soriano2-localmachine:~\$" followed by the command "ls". The output of the command is a list of files and directories: "CPE232_Soriano", "CPE_MIDEXAM_SORIANO", "cpe_soriano_ansible", "Desktop", "Documents", "Downloads", "Final_Exam_Soriano", "soriano2@soriano2-localmachine", "get-pip.py", "HOA11_Soriano", "lampstack.txt", "Music", "nagios.txt", "Pictures", "promelast.txt", "promemain.txt", "Public", "snap", "Soriano_Act10", "Soriano_Act8", "Soriano_Act9", "Soriano_PrelimExam", "Templates", "test1", "tests", "ulet.txt", and "Videos". The session then shows a prompt "soriano2@soriano2-localmachine:~\$" followed by the command "ssh soriano2@192.168.56.106". The output of the command is a message from the remote server: "Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-50-generic x86_64)". The message includes links for documentation, management, and support, and a list of updates that can be applied immediately. The session ends with a prompt "soriano2@server2-Server2:~\$".

```
soriano2@soriano2-localmachine:~$ ls
CPE232_Soriano      get-pip.py          promemain.txt       Templates
CPE_MIDEXAM_SORIANO HOA11_Soriano       Public              test1
cpe_soriano_ansible lampstack.txt        snap                tests
Desktop             Music               Soriano_Act10       ulet.txt
Documents           nagios.txt          Soriano_Act8        Videos
Downloads           Pictures            Soriano_Act9
Final_Exam_Soriano  promelast.txt       Soriano_PrelimExam
soriano2@soriano2-localmachine:~$ ssh soriano2@192.168.56.106
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-50-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

154 updates can be applied immediately.
101 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Ansible Manage by Gabriel
Last login: Thu Dec 15 10:09:53 2022 from 192.168.56.104
soriano2@server2-Server2:~$
```

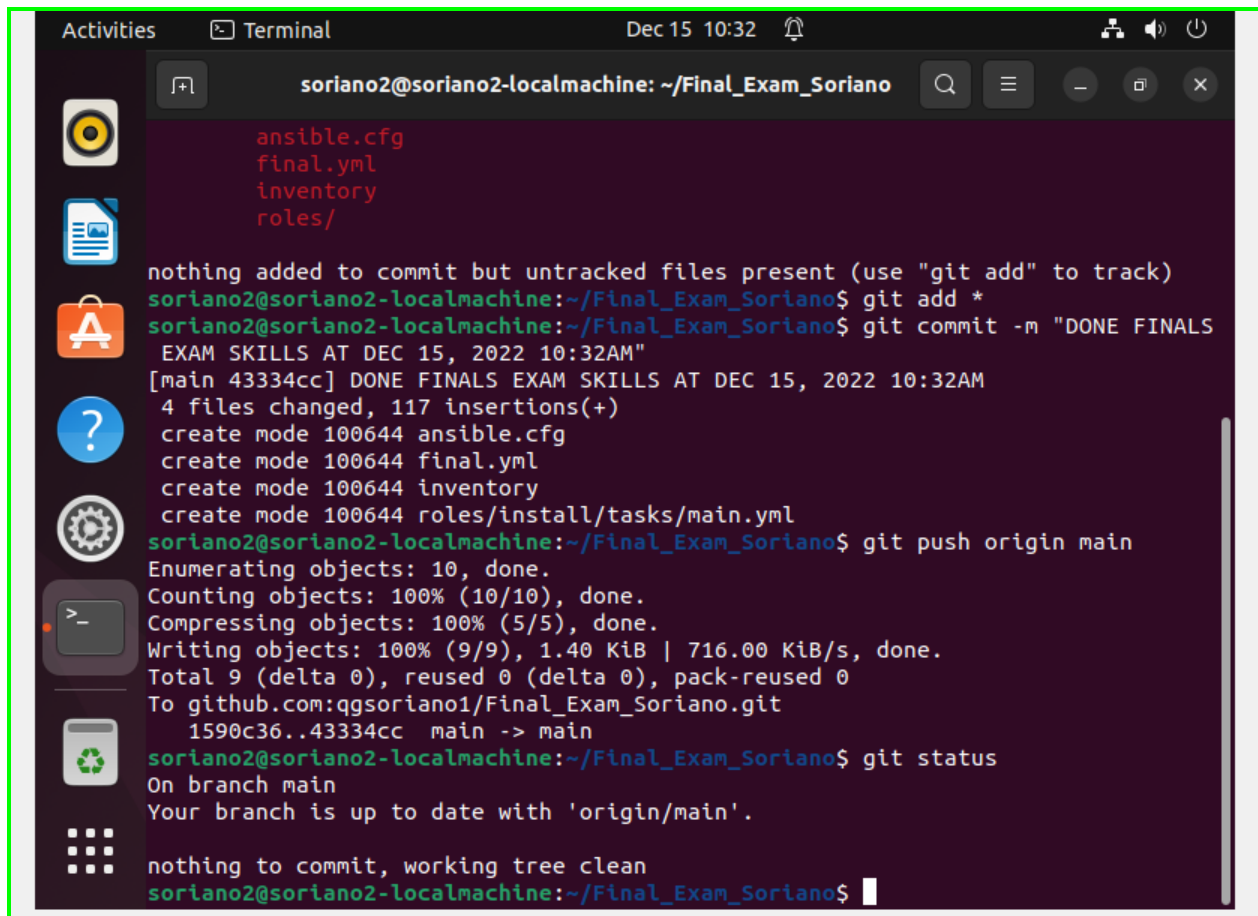
- MOTD proof for ubuntu server

```
Activities  Terminal  Dec 15 10:29  [system icons]
soriano2@localhost:~
* Documentation: https://help.ubuntu.com
* Management:   https://landscape.canonical.com
* Support:      https://ubuntu.com/advantage

154 updates can be applied immediately.
101 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Ansible Manage by Gabriel
Last login: Thu Dec 15 10:09:53 2022 from 192.168.56.104
soriano2@server2-Server2:~$ exit
Command 'exit' not found, but there are 14 similar ones.
soriano2@server2-Server2:~$ exit
logout
Connection to 192.168.56.106 closed.
soriano2@soriano2-localmachine:~$ ls
CPE232_Soriano      get-pip.py      promemain.txt    Templates
CPE_MIDEXAM_SORIANO HOA11_Soriano   Public           test1
cpe_soriano_ansible lampstack.txt   snap            tests
Desktop            Music           Soriano_Act10    ulet.txt
Documents          nagios.txt     Soriano_Act8     Videos
Downloads          Pictures       Soriano_Act9
Final_Exam_Soriano promelast.txt  Soriano_PrelimExam
soriano2@soriano2-localmachine:~$ ssh soriano2@192.168.56.118
Last login: Wed Dec 14 21:09:53 2022 from 192.168.56.104
Ansible Manage by Gabriel
[soriano2@localhost ~]$ admincentos
bash: admincentos: command not found...
[soriano2@localhost ~]$
```

- MOTD proof for centos server

A terminal window titled 'soriano2@soriano2-localmachine: ~/Final_Exam_Soriano' with a dark purple background. The left sidebar shows icons for Activities, Terminal, and various application categories. The terminal output shows the execution of 'git add *', 'git commit -m "DONE FINALS EXAM SKILLS AT DEC 15, 2022 10:32AM"', and 'git push origin main'. It lists the files added (ansible.cfg, final.yml, inventory, roles/) and the commit details (4 files changed, 117 insertions). The push operation is successful, and the final 'git status' command shows the branch is up to date.

```
soriano2@soriano2-localmachine: ~/Final_Exam_Soriano
ansible.cfg
final.yml
inventory
roles/

nothing added to commit but untracked files present (use "git add" to track)
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ git add *
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ git commit -m "DONE FINALS
EXAM SKILLS AT DEC 15, 2022 10:32AM"
[main 43334cc] DONE FINALS EXAM SKILLS AT DEC 15, 2022 10:32AM
4 files changed, 117 insertions(+)
create mode 100644 ansible.cfg
create mode 100644 final.yml
create mode 100644 inventory
create mode 100644 roles/install/tasks/main.yml
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ git push origin main
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Compressing objects: 100% (5/5), done.
Writing objects: 100% (9/9), 1.40 KiB | 716.00 KiB/s, done.
Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:qgsoriano1/Final_Exam_Soriano.git
1590c36..43334cc main -> main
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
soriano2@soriano2-localmachine:~/Final_Exam_Soriano$
```

- This is the successful git adding, pushing and committing of the directories and files done in this activity. All said requirements are successfully achieved.

qgsoriano1 / Final_Exam_Soriano Public

Pin

Unwatch 1

Fork 0

Star 0

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

...

main

Go to file

Add file

<> Code

About

qgsoriano1

DONE FINALS EXAM SKILLS AT DEC 15, 20...

...

2 minutes ago

2

roles/install/tasks	DONE FINALS EXAM SKILLS AT DEC 15, 20...	2 minutes ago
README.md	Initial commit	2 hours ago
ansible.cfg	DONE FINALS EXAM SKILLS AT DEC 15, 20...	2 minutes ago
final.yml	DONE FINALS EXAM SKILLS AT DEC 15, 20...	2 minutes ago
inventory	DONE FINALS EXAM SKILLS AT DEC 15, 20...	2 minutes ago

README.md

Final_Exam_Soriano

No description, website, or topics provided.

Readme

0 stars

1 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

- This is the proof of the successful git adding, committing and pushing of the directories. All are achieved.