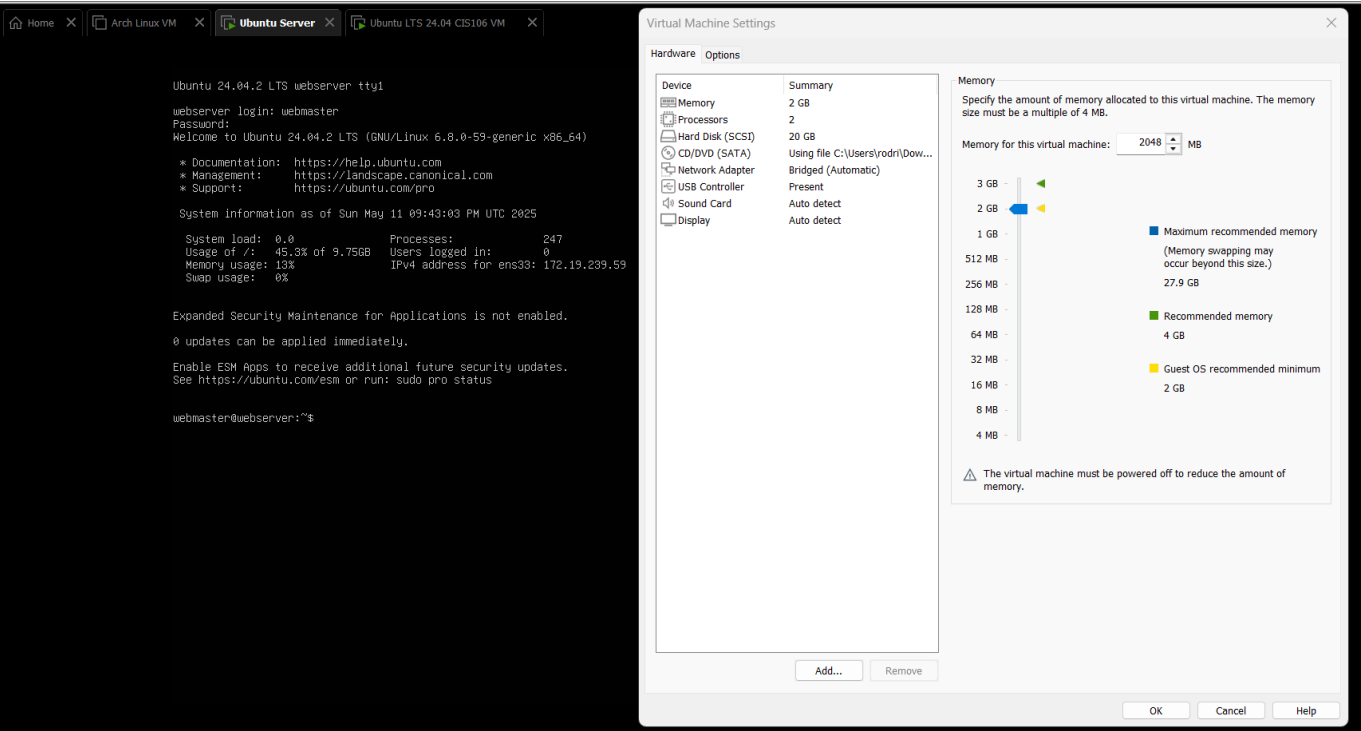


Deliverable 2 Submission

Ubuntu Login Screen & Server Specifications



Questions

2. What is the IP address of your Ubuntu Server Virtual Machine?

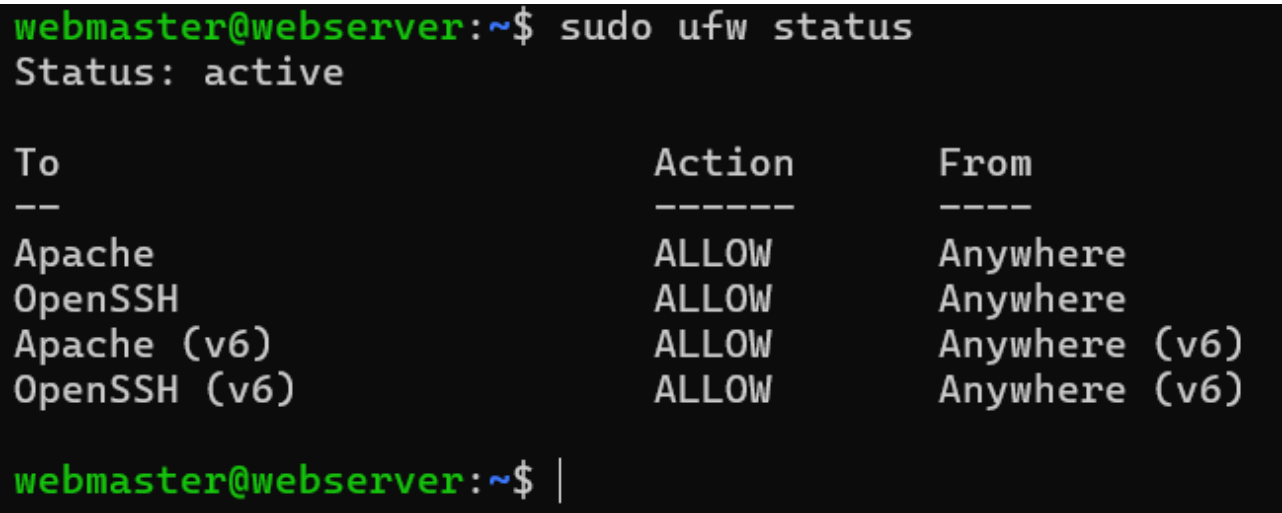
172.19.239.59

3. How do you enable the Ubuntu Firewall?

sudo ufw enable

4. How do you check if the Ubuntu Firewall is running?

sudo ufw status



5. How do you disable the Ubuntu Firewall?

sudo ufw disable

6. How do you add Apache to the Firewall?

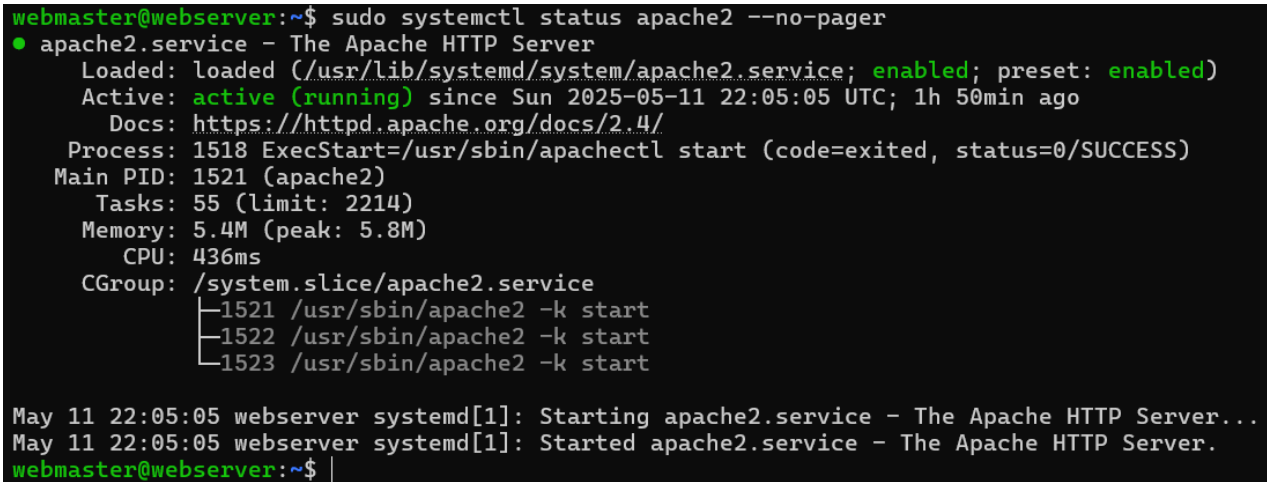
```
sudo ufw allow 'Apache'
```

7. What is the command you used to install Apache?

```
sudo apt install apache2
```

8. What is the command you use to check if Apache is running?

```
systemctl status apache2 --no-pager
```

A terminal window showing the output of the command 'systemctl status apache2 --no-pager'. The output displays the status of the 'apache2.service' as 'active (running)'. It includes details such as the service's path, loaded state, active time, documentation link, process ID, main PID, tasks, memory usage, CPU time, and CGroup. It also shows the start logs for the service, indicating it was started successfully on May 11, 2025, at 22:05:05 UTC.

```
webmaster@webserver:~$ sudo systemctl status apache2 --no-pager
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: enabled)
   Active: active (running) since Sun 2025-05-11 22:05:05 UTC; 1h 50min ago
     Docs: https://httpd.apache.org/docs/2.4/
   Process: 1518 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
    Main PID: 1521 (apache2)
       Tasks: 55 (limit: 2214)
      Memory: 5.4M (peak: 5.8M)
         CPU: 436ms
        CGroup: /system.slice/apache2.service
                └─1521 /usr/sbin/apache2 -k start
                  └─1522 /usr/sbin/apache2 -k start
                    └─1523 /usr/sbin/apache2 -k start

May 11 22:05:05 webserver systemd[1]: Starting apache2.service - The Apache HTTP Server...
May 11 22:05:05 webserver systemd[1]: Started apache2.service - The Apache HTTP Server.
webmaster@webserver:~$
```

9. What is the command you use to stop Apache?

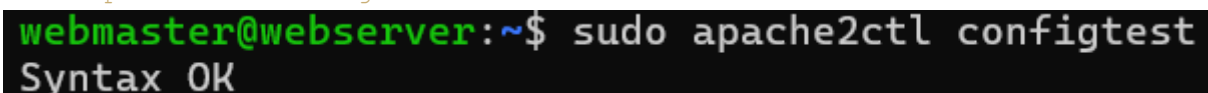
```
sudo systemctl stop apache2
```

10. What is the command you use to restart Apache?

```
sudo systemctl restart apache2
```

11. What is the command used to test Apache configuration?

```
sudo apache2ctl configtest
```

A terminal window showing the output of the command 'sudo apache2ctl configtest'. The output is 'Syntax OK', indicating that the Apache configuration files are valid.

```
webmaster@webserver:~$ sudo apache2ctl configtest
Syntax OK
```

12. What is the command used to check the installed version of Apache?

```
apache2 -v
```

13. What are the most common commands to troubleshoot Apache errors? Provide a brief description of each command.

- `systemctl status apache2`: Check the status of Apache and any active issues.
- `journalctl -xe`: View detailed system logs for debugging startup issues.
- `apache2ctl configtest`: Test the syntax of Apache configuration files.
- `tail -f /var/log/apache2/error.log`: Watch the Apache error log in real-time for new entries.

14. Which are Apache Log Files, and what are they used for? Provide examples and screenshots.

Apache logs are stored in `/var/log/apache2/`. The two most important ones are:

- `access.log`: Records incoming HTTP requests and responses.

Example:

```
sudo tail /var/log/apache2/access.log
```

```
webmaster@webserver:~$ sudo tail /var/log/apache2/access.log
172.19.224.1 - - [11/May/2025:22:07:55 +0000] "GET / HTTP/1.1" 200 450 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36"
172.19.224.1 - - [11/May/2025:22:07:56 +0000] "GET /favicon.ico HTTP/1.1" 404 491 "http://172.19.239.59/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebkit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36"
172.19.224.1 - - [11/May/2025:22:08:47 +0000] "-" 408 0 "-" "-"
webmaster@webserver:~$
```

- **error.log**: Contains errors, warnings, and diagnostic information.

Example:

```
sudo tail /var/log/apache2/error.log
```

```
webmaster@webserver:~$ sudo tail /var/log/apache2/error.log
[Sun May 11 21:30:52.231155 2025] [core:notice] [pid 1303:tid 136111524640640] AH00094: Command line: '/usr/sbin/apache2'
[Sun May 11 21:33:16.627433 2025] [mpm_event:notice] [pid 1303:tid 136111524640640] AH00492: caught SIGWINCH, shutting down gracefully
[Sun May 11 21:36:30.478468 2025] [mpm_event:notice] [pid 1308:tid 125527011411840] AH00489: Apache/2.4.58 (Ubuntu) configured -- resuming normal operations
[Sun May 11 21:36:30.481279 2025] [core:notice] [pid 1308:tid 125527011411840] AH00094: Command line: '/usr/sbin/apache2'
[Sun May 11 21:38:15.991218 2025] [mpm_event:notice] [pid 1308:tid 125527011411840] AH00492: caught SIGWINCH, shutting down gracefully
[Sun May 11 21:39:51.303325 2025] [mpm_event:notice] [pid 1111:tid 135199520466816] AH00489: Apache/2.4.58 (Ubuntu) configured -- resuming normal operations
[Sun May 11 21:39:51.307371 2025] [core:notice] [pid 1111:tid 135199520466816] AH00094: Command line: '/usr/sbin/apache2'
[Sun May 11 22:05:04.985676 2025] [mpm_event:notice] [pid 1111:tid 135199520466816] AH00492: caught SIGWINCH, shutting down gracefully
[Sun May 11 22:05:05.046585 2025] [mpm_event:notice] [pid 1521:tid 128553060480896] AH00489: Apache/2.4.58 (Ubuntu) configured -- resuming normal operations
[Sun May 11 22:05:05.046681 2025] [core:notice] [pid 1521:tid 128553060480896] AH00094: Command line: '/usr/sbin/apache2'
webmaster@webserver:~$
```