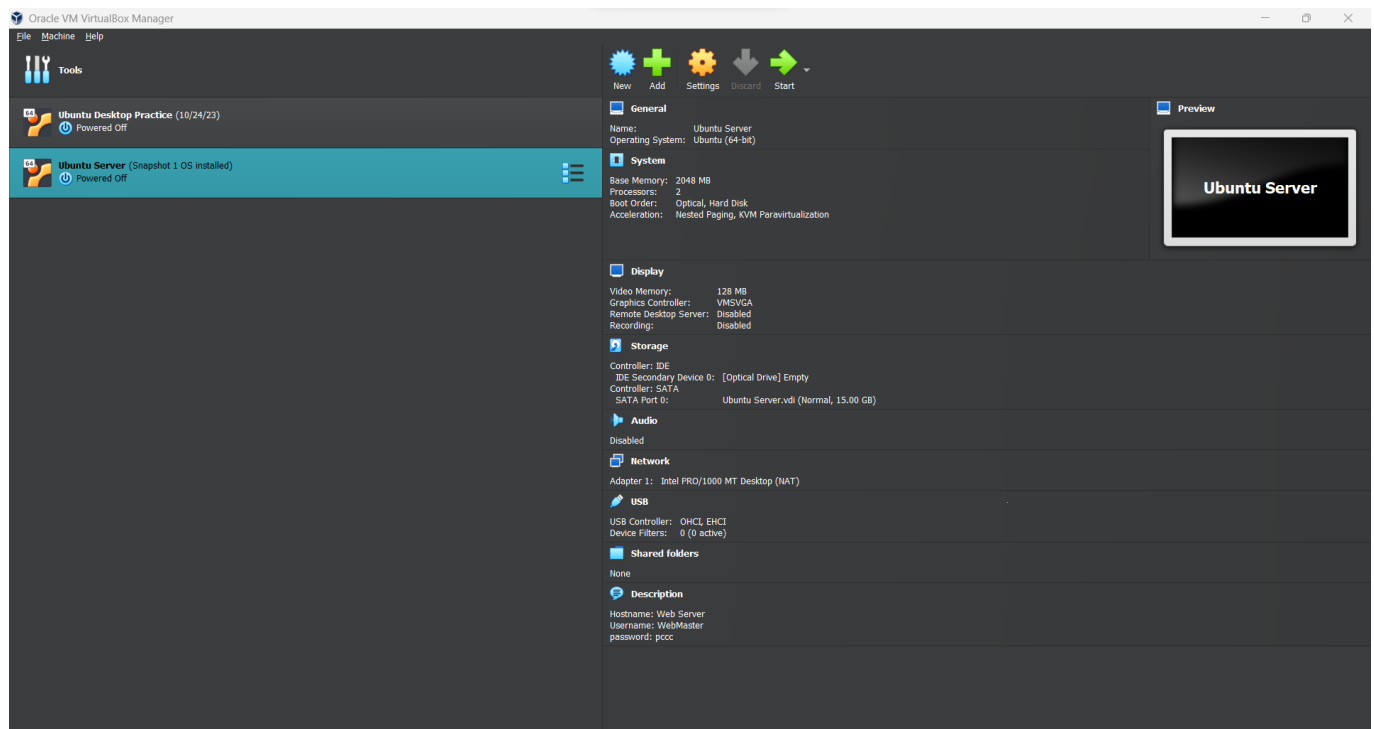
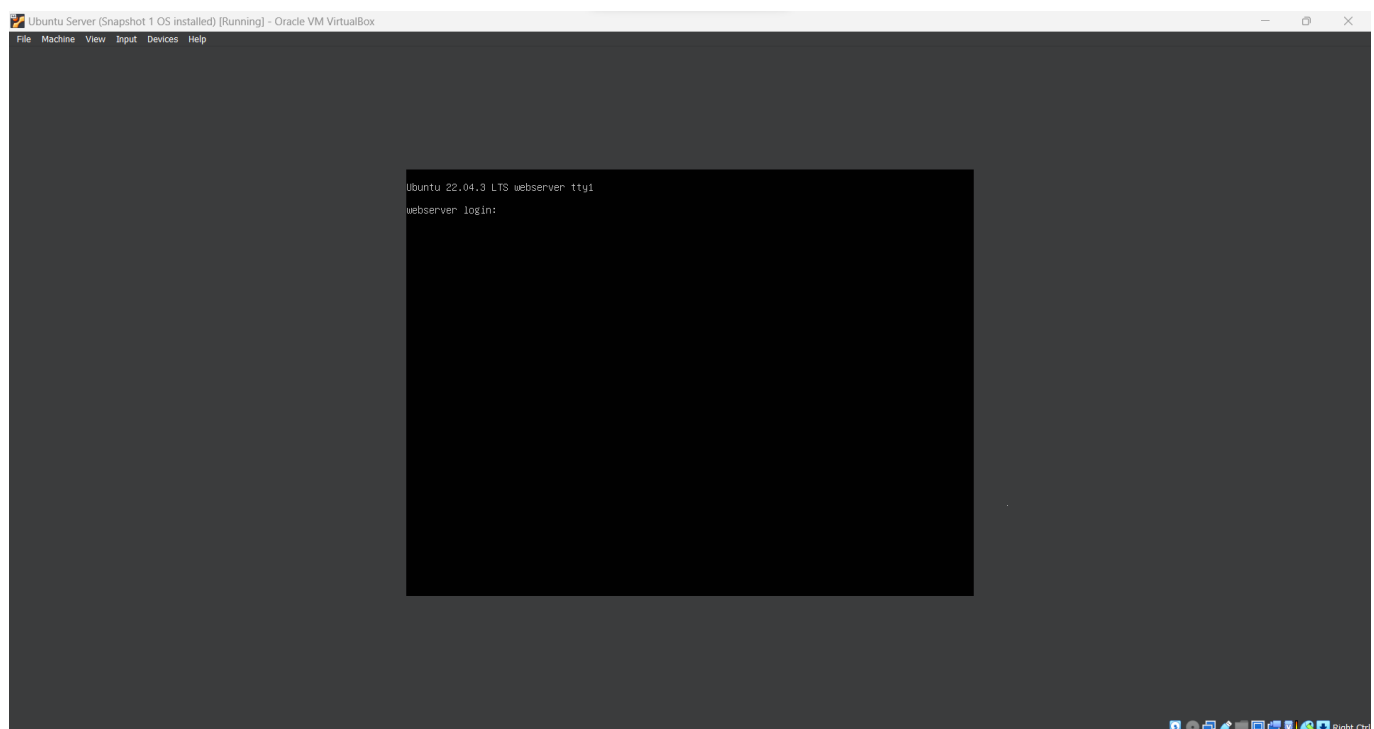


Deliverable 2

What are the server hardware specifications



What is Ubuntu server log in screen?



What Is THE IP address of your Ubuntu Server Virtual Machine

- By Using `ip -4 a` or `ip -6 a` we can find our IPV4 addresses as well as our IPV6 addresses
- IPV4

- 127.0.0.1/8
- 10.0.2.15/24
- IPV6
 - fe80::a00:27ff::f350:e2f9/64

How do you enable the Ubuntu Firewall?

- `sudo ufw enable`

How do you check if the Ubuntu Firewall is running

- `sudo ufw status`

How do you disable the Ubuntu Firewall

- `sudo UFW disable.`

How do you add Apache to the Firewall

- `sudo ufw allow 'Apache'`

What is the command you used to install Apache

- `sudo apt install apache2 -y`

What is the command you use to check is Apache is running

- `systemctl status apache2 --no-pager`

What is the command you use to stop Apache

- `sudo systemctl stop apache2.`

What is the command you use to restart Apache

- `sudo systemctl restart apache2`

What is the command used to test Apache configuration

- `sudo apachectl -t`

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

- `sudo apache2 -v`

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

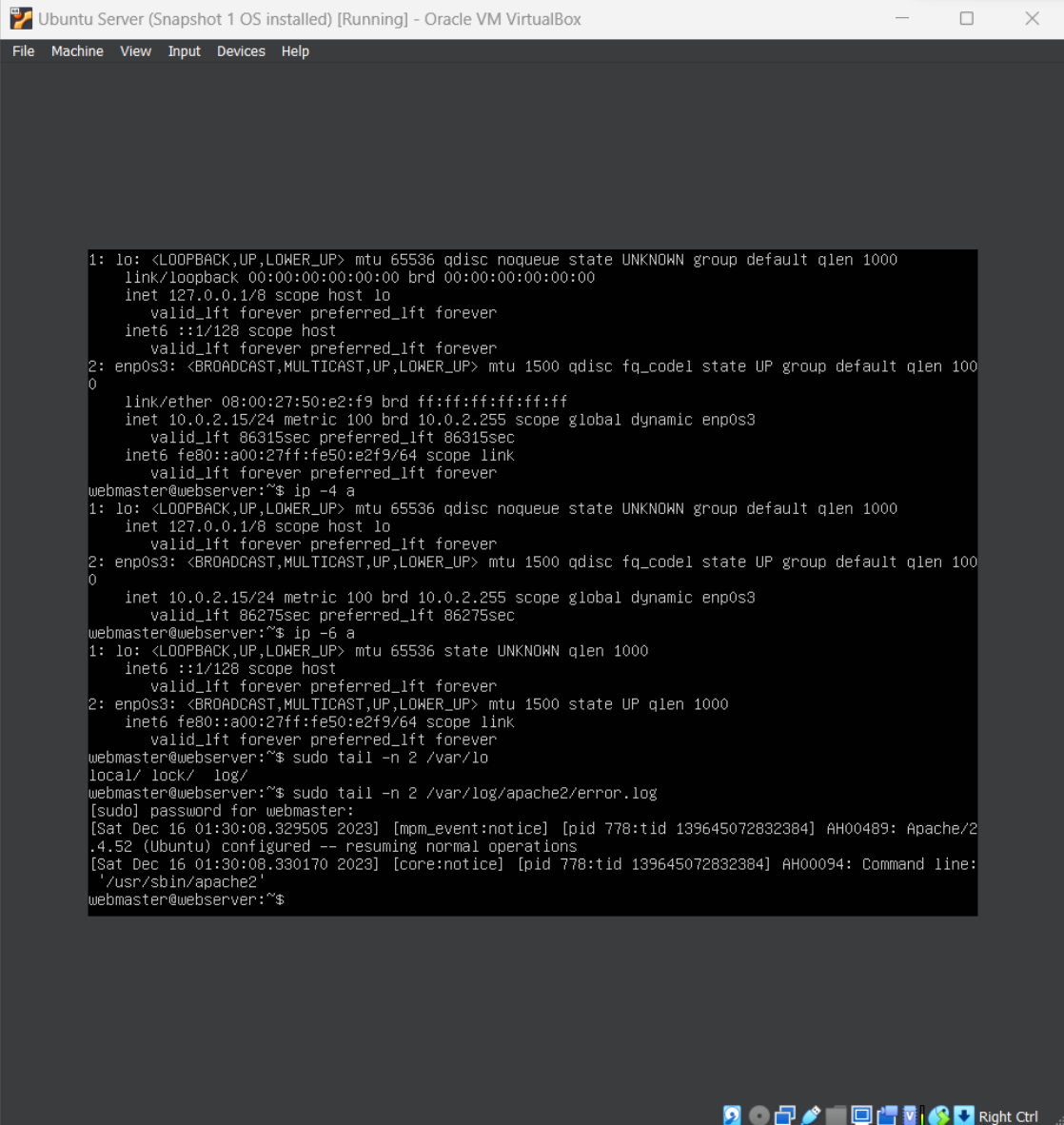
- `sudo systemctl status apache2.service -l --no-pager`

- this is the first step in troubleshooting Apache, You must inspect the state of processes on your system.
- If apache does not show active running in the processes it could be an indication that your server has an error
- `sudo journalctl -u apache2.service --since today --no-pager`
 - To troubleshoot further into your configuration we can use this command to inspect the system logs.
 - These logs are separate from other logs in the APache server and only describe the apache service itself
 - If there is an error you should see an output that shows the Apache HTTP server failed to start. If there is an error message you can check for errors further into the configuration with another command
- `sudo apachectl configtest`
 - This command will go through your Apache files and detect any errors or missing settings before attempting to start the server
 - If an error is found this command will notify you in the output what the error is. However finding a solution for the error can be found in the Apache error log where more detailed information can often be found.

Which are APache Log Files and what are they used for? Provide examples and screenshots

- Apache log files are a recourse for troubleshooting. For the majority of errors on Apache there is a corresponding entry on the Apache error log
- `sudo tail -n 2 /var/log/apache2/error.log`
 - This command will show you the last two lines of the error log of an Ubuntu server

- this is where text handling commands start becoming incredibly useful



The screenshot shows a terminal window titled "Ubuntu Server (Snapshot 1 OS installed) [Running] - Oracle VM VirtualBox". The terminal output displays network interface details for 'lo' and 'enp0s3', followed by commands to configure IP addresses and view system logs.

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:50:e2:f9 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 metric 100 brd 10.0.2.255 scope global dynamic enp0s3
        valid_lft 86315sec preferred_lft 86315sec
    inet6 fe80::a00:27ff:fe50:e2f9/64 scope link
        valid_lft forever preferred_lft forever
webmaster@webserver:~$ ip -4 a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    inet 10.0.2.15/24 metric 100 brd 10.0.2.255 scope global dynamic enp0s3
        valid_lft 86275sec preferred_lft 86275sec
webmaster@webserver:~$ ip -6 a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 state UNKNOWN qlen 1000
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 state UP qlen 1000
    inet6 fe80::a00:27ff:fe50:e2f9/64 scope link
        valid_lft forever preferred_lft forever
webmaster@webserver:~$ sudo tail -n 2 /var/log
local/ lock/ log/
webmaster@webserver:~$ sudo tail -n 2 /var/log/apache2/error.log
[Sat Dec 16 01:30:08.329505 2023] [mpm_event:notice] [pid 778:tid 139645072832384] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Dec 16 01:30:08.330170 2023] [core:notice] [pid 778:tid 139645072832384] AH00094: Command line: '/usr/sbin/apache2'
webmaster@webserver:~$
```