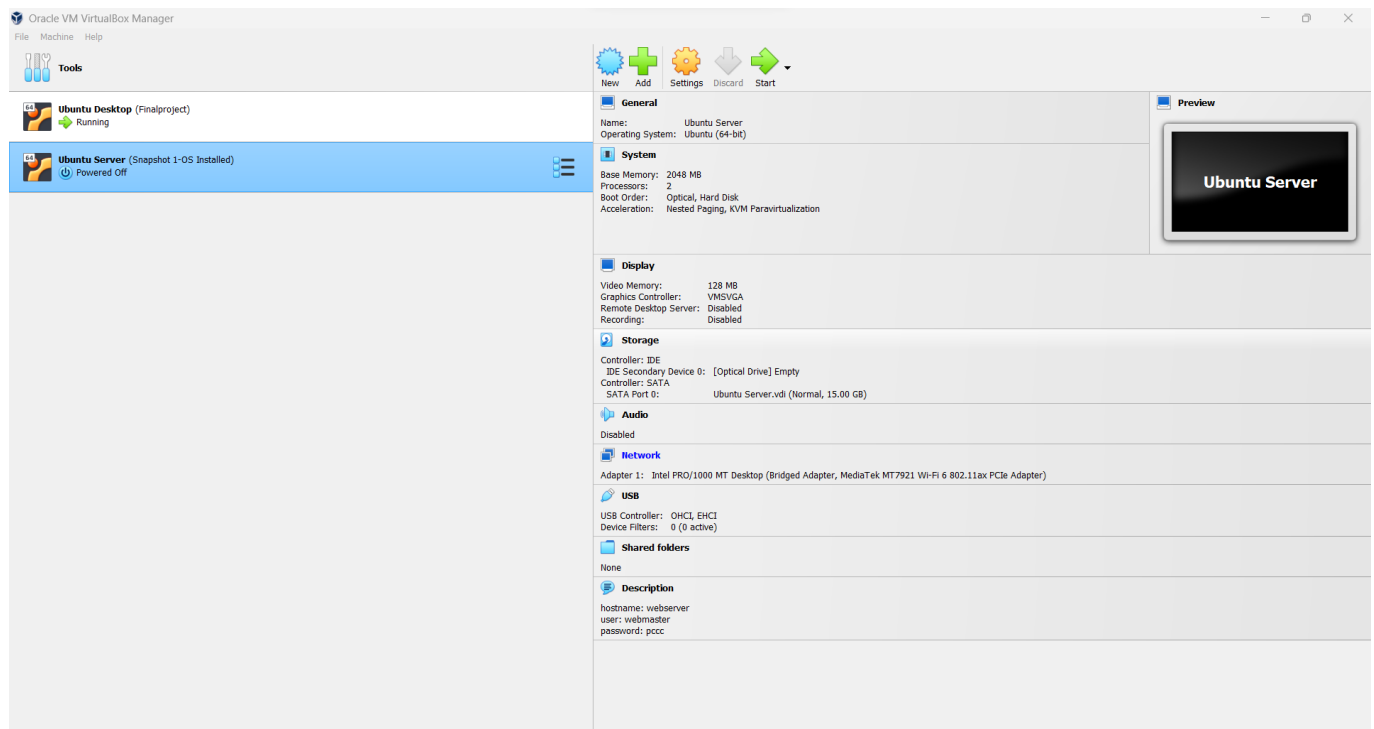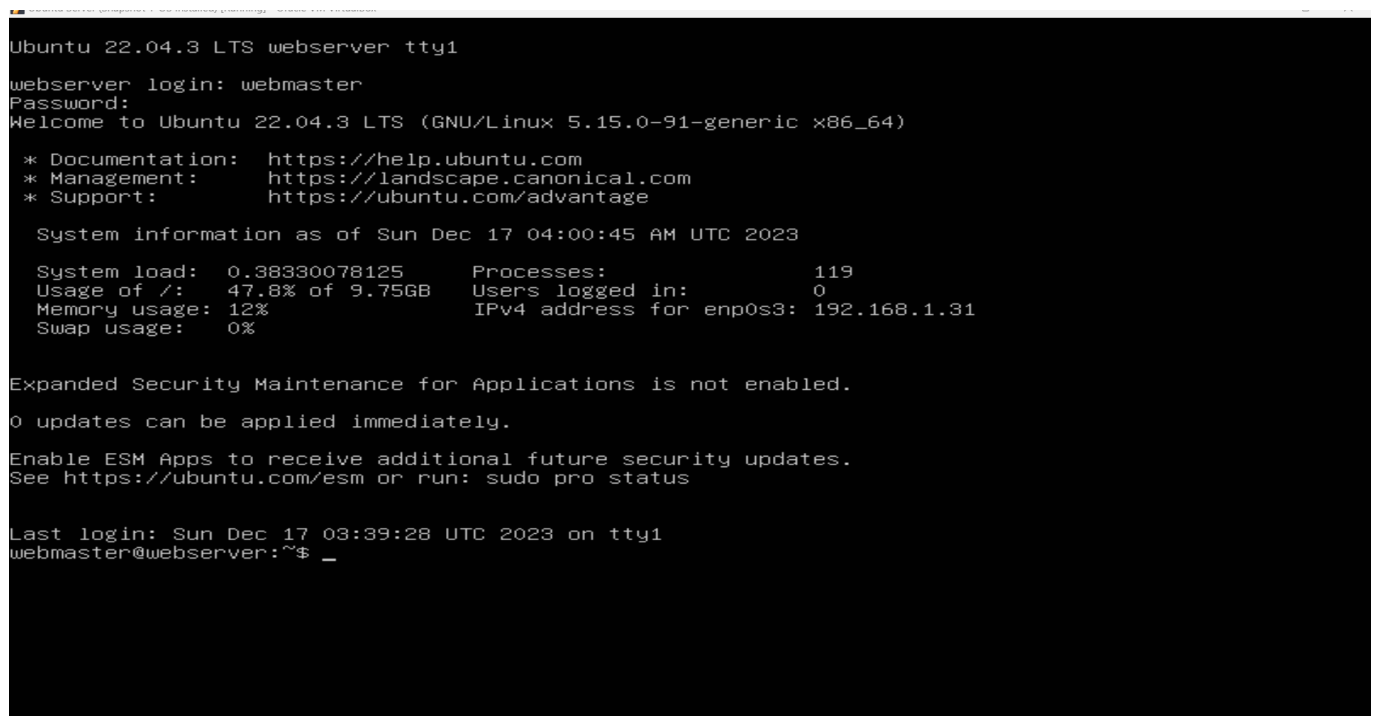# Deliverable 2 Submission

What are the server hardware specifications (virtual machine settings)?

What is Ubuntu server log in screen?

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

How do you enable the Ubuntu Firewall?

- You would enable the Ubuntu firewall by using the command `sudo ufw enable`
- Example:

How do you check if the Ubuntu Firewall is running?

- Check by using the command `sudo ufw status`
- Example:

How do you disable the Ubuntu Firewall?

- Disable by using the command `sudo ufw disable`

- Example:

```
webmaster@webserver:~$ sudo ufw disable
Firewall stopped and disabled on system startup
webmaster@webserver:~$
```

How do you add Apache to the Firewall?

- To add Apache, you will need to run the command `sudo ufw allow 'Apache'`
- Example:

```
webmaster@webserver:~$ sudo ufw allow 'Apache'
[sudo] password for webmaster:
Skipping adding existing rule
Skipping adding existing rule (v6)
webmaster@webserver:~$
```

What is the command you used to install Apache?

- To install Apache, use the command `sudo apt install apache2 -y`
- Example:

```
webmaster@webserver:~$ sudo apt install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apache2 is already the newest version (2.4.52-1ubuntu4.7).
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
webmaster@webserver:~$
```

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

- To check if Apache is running use `systemctl status apache2 --no-pager`
- Example:

```
webmaster@webserver:~$ systemctl status apache2 --no-pager
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor pr
eset: enabled)
     Active: active (running) since Sun 2023-12-17 04:00:01 UTC; 45min ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 704 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/
SUCCESS)
   Main PID: 781 (apache2)
      Tasks: 55 (limit: 2220)
     Memory: 7.5M
        CPU: 272ms
     CGroup: /system.slice/apache2.service
             ├─781 /usr/sbin/apache2 -k start
             ├─785 /usr/sbin/apache2 -k start
             └─786 /usr/sbin/apache2 -k start

Dec 17 04:00:01 webserver systemd[1]: Starting The Apache HTTP Server...
Dec 17 04:00:01 webserver systemd[1]: Started The Apache HTTP Server.
webmaster@webserver:~$
```

What is the command you use to stop Apache?

- To stop Apache run this command `sudo systemctl stop apache2`
- Example:

```
Dec 17 04:00:01 webserver systemd[1]: Started The Apache HTTP
webmaster@webserver:~$ sudo systemctl stop apache2
```

What is the command you use to restart Apache?

- To restart Apache use `sudo systemctl restart apache2`
- Example:

```
webmaster@webserver:~$ sudo systemctl restart apache2
webmaster@webserver:~$ systemctl status apache2 --no-pager
● apache2.service - The Apache HTTP Server
    Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor pr
```

What is the command used to test Apache configuration?

- To test Apache configuration, use `sudo apachectl -t`
- Example:

```
Dec 17 04:51:35 webserver systemd[1]: Started The Apache HTTP Serv
webmaster@webserver:~$ sudo apachectl -t
Syntax OK
webmaster@webserver:~$
```

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

- To check installed version of Apache, use `sudo apache2 -v`
- Example:

```
webmaster@webserver:~$ sudo apache2 -v
Server version: Apache/2.4.52 (Ubuntu)
Server built:   2023-10-26T13:44:44
webmaster@webserver:~$
```

What are the most common commands to troubleshoot Apache errors?

- systemctl - Used to control and interact with Linux services via the systemd service manager.
- journalctl - Used to query and view the logs that are generated by systemd.
- apachectl - When troubleshooting, this command is used to check Apache's configuration.

Which are Apache Log Files, and what are they used for?

- Apache log files are a very helpful resource for troubleshooting.
- Normally, any error that you receive in a browser or other HTTP client will have a corresponding entry in Apache's logs.

- Example:

```
webmaster@webserver:~$ sudo tail -n 2 /var/log/apache2/error.log
[Sun Dec 17 04:51:35.511240 2023] [mpm_event:notice] [pid 1963:tid 139897587
865472] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operat
ions
[Sun Dec 17 04:51:35.511402 2023] [core:notice] [pid 1963:tid 13989758786547
2] AH00094: Command line: '/usr/sbin/apache2'
webmaster@webserver:~$
```