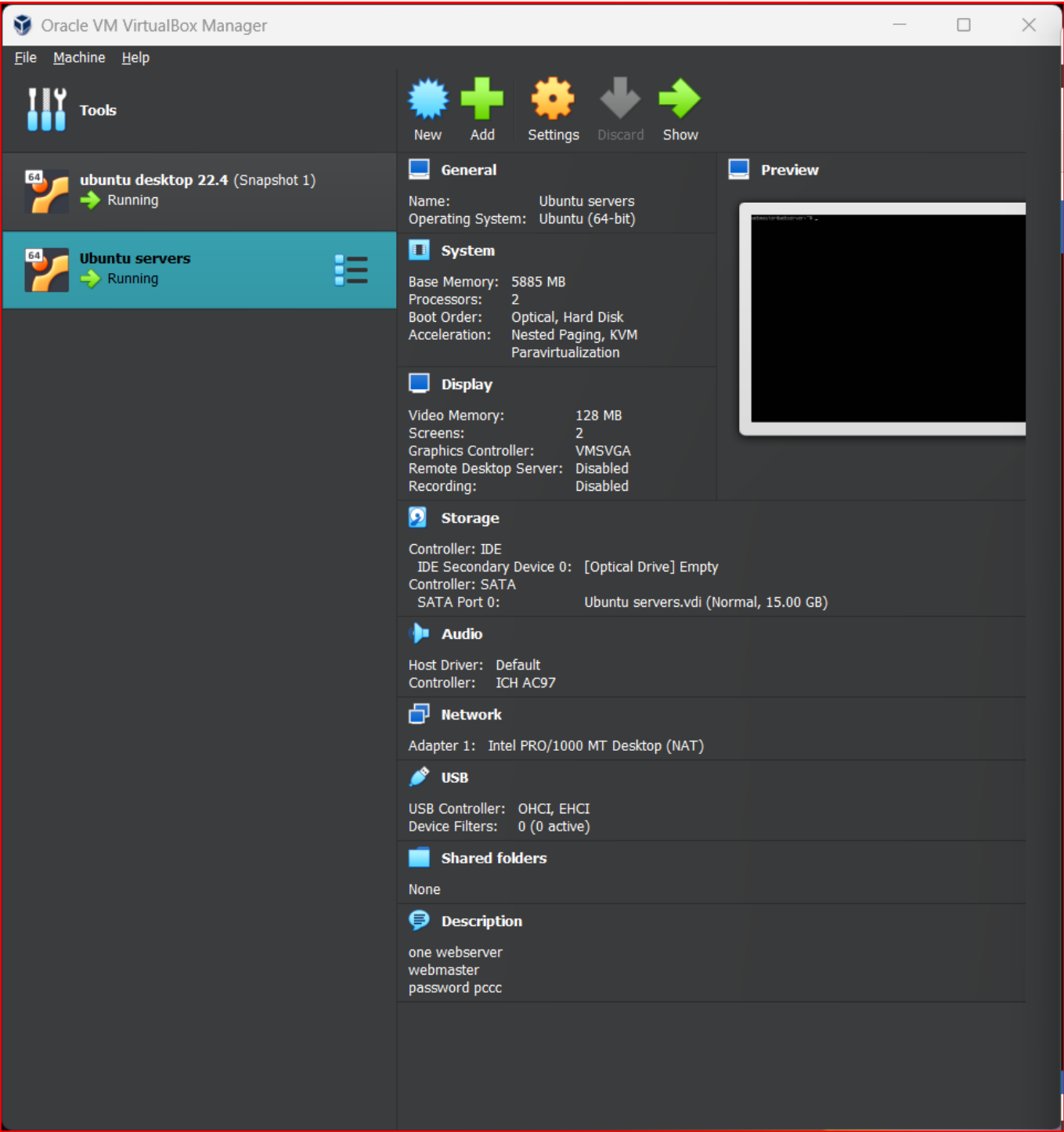


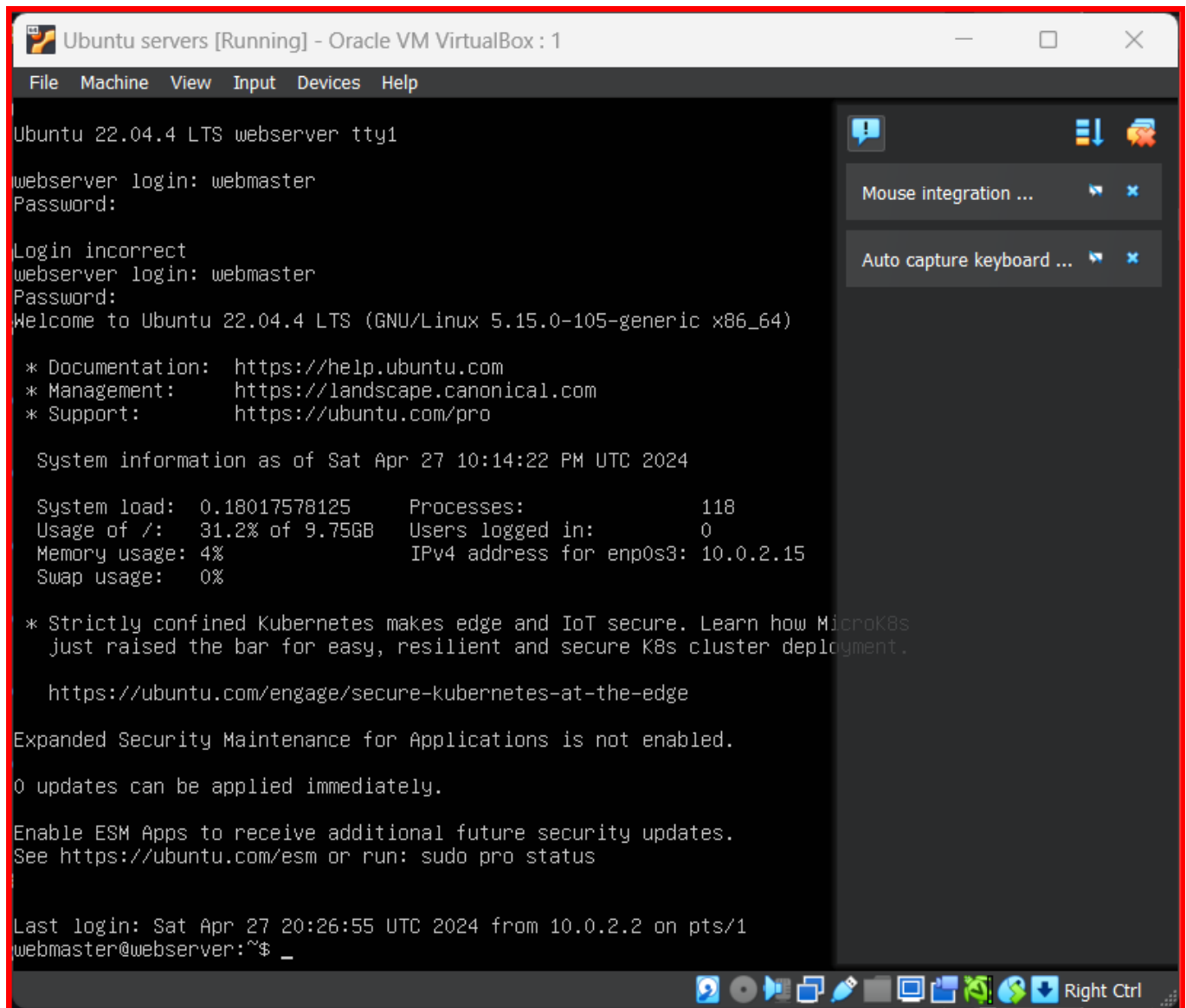
.

# Deliverable 2 Submission

## Server Specifications



## Ubuntu login Screen



```
Ubuntu servers [Running] - Oracle VM VirtualBox : 1
File Machine View Input Devices Help

Ubuntu 22.04.4 LTS webserver tty1
webserver login: webmaster
Password:
Login incorrect
webserver login: webmaster
Password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.0-105-generic x86_64)

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

System information as of Sat Apr 27 10:14:22 PM UTC 2024

System load:  0.18017578125      Processes:            118
Usage of /:   31.2% of 9.75GB    Users logged in:     0
Memory usage: 4%                IPv4 address for enp0s3: 10.0.2.15
Swap usage:   0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Sat Apr 27 20:26:55 UTC 2024 from 10.0.2.2 on pts/1
webmaster@webserver:~$ _
```

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

*An IP address (Internet Protocol address) is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication.*

```

Ubuntu servers [Running] - Oracle VM VirtualBox : 1
File Machine View Input Devices Help

webserver login: webmaster
Password:

Login incorrect
webserver login: webmaster
Password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.0-105-generic x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
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* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
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  https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Sat Apr 27 20:26:55 UTC 2024 from 10.0.2.2 on pts/1
webmaster@webserver:~$ hostname -I
10.0.2.15
webmaster@webserver:~$

```

## 4.How do you enable the Ubuntu Firewall?

To enable the firewall on Ubuntu, you typically use a utility called *ufw* (Uncomplicated Firewall), which provides a straightforward command-line interface for managing firewall rules. Here's how you can enable the Ubuntu Firewall using *ufw*:

for is example `sudo ufw status*`

```

webmaster@webserver:~$ sudo a2ensite mywebsite.conf
Enabling site mywebsite.
To activate the new configuration, you need to run:
    systemctl reload apache2
webmaster@webserver:~$ sudo a2dissite 000-default.conf

```

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

*UFW*, or Uncomplicated Firewall, is an interface to *iptables* that is geared towards simplifying the process of configuring a firewall. While *iptables* is a solid and flexible tool, it can be difficult for beginners to learn how to use it to properly configure a firewall. If you're looking to get started securing your network, and you're not

sure which tool to use, UFW may be the right choice for you.

```
webmaster@webserver:~$ sudo systemctl restart apache2
ssh
webmaster@webserver:~$ |
```

## 6.How do you disable the Ubuntu Firewall?

In Ubuntu, the default firewall management tool is typically ufw (Uncomplicated Firewall). You can disable the firewall by stopping and disabling the ufw service. Here's how you can do it:

```
webmaster@webserver:~$ sudo a2dissite 000-default.conf
Site 000-default disabled.
To activate the new configuration, you need to run:
systemctl reload apache2
```

## 7.How do you add Apache to the Firewall?

\*To add Apache to the Ubuntu Firewall (UFW), you need to allow incoming connections on the default HTTP port (TCP port 80). Here's how you can do it:

\*sudo apt update; sudo apt upgrade -y

```
1 sudo apt update; sudo apt upgrade -y
2 sudo systemctl enable apache2; sudo systemctl start apache2
3 sudo systemctl enable ssh; sudo systemctl start ssh
4 pccc
5 sudo apt install openssh-server -y
6 sudo systemctl enable ssh; sudo systemctl start ssh
7 ifconfig
```

## 8.What is the command you used to install Apache?

`sudo apt install apache2 -y`

This command updates the package lists (apt update) and then installs the Apache HTTP server (apache2) along with any necessary dependencies. The sudo command is used to run these commands with superuser privileges.

```
pccc
sudo apt install openssh-server -y
sudo systemctl enable ssh; sudo sys
```

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

To check if Apache is running on a Linux system, you can use the systemctl command, which is used to control services in modern Linux distributions that use systemd. Here's the command to check if Apache is

running: systemctl status apache2 systemctl status ssh

```
webmaster@webserver:~$ sudo ufw status
[sudo] password for webmaster:
Status: active

To Action From
--
Apache ALLOW Anywhere
OpenSSH ALLOW Anywhere
Apache (v6) ALLOW Anywhere (v6)
webmaster@webserver:~$ |
OpenSSH (v6) ALLOW Anywhere (v6)
```

## 10.What is the command you use to stop Apache?

To stop the Apache service on a Linux system, you can use the systemctl command if your distribution uses systemd. Here's the command to stop Apache: sudo systemctl stop apache2

```
2 ssh
webmaster@webserver:~$ sudo systemctl stop apache2|
```

## 11.What is the command you use to restart Apache?

to restart the Apache service on Linux system,you can use the systemctl command if your distribution uses systemd. here the command to restart Apache2

sudo systemctl restart apache2

```
41 sudo apachectl configtest
42 sudo systemctl restart apache2
43 history
```

## 12.What is the command used to test Apache configuration?

To test the Apache configuration for syntax errors or other issues, you can use the apachectl command with the -t option. This command checks the configuration files for correctness without actually restarting the Apache service here an example

sudo apachectl configtest

```
37 sudo azensite mywebsite.conf
38 sudo azdissite 000-default.conf
39 sudo a2dissite 000-default.conf
40 sudo nano /etc/apache2/apache2.conf
41 sudo apachectl configtest
```

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

To check the installed version of Apache, you can use the `apache2ctl` command with the `-v` option. This command displays the Apache server version along with some other information. Here's the command:

```
systemctl status apache2 systemctl status ssh
```

```
37 sudo azdissite mywebsite.conf
38 sudo azdissite 000-default.conf
39 sudo a2dissite 000-default.conf
40 sudo nano /etc/apache2/apache2.conf
41 sudo apachectl configtest
```

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

\*tail: The tail command is used to display the last few lines of a file, which is particularly useful for viewing the end of log files where Apache errors are often recorded. Example: `*tail -n 100 /var/log/apache2/error.log`

\*grep: The grep command is used to search for specific patterns or keywords within files. It's often used in conjunction with tail to filter Apache error logs for relevant information. Example: `*tail -n 100 /var/log/apache2/error.log | grep "error"`

```
webmaster@webserver:~$ apache2ctl -v
Server version: Apache/2.4.52 (Ubuntu)
Server built: 2024-04-10T17:45:18
webmaster@webserver:~$ |
```

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

```
webmaster@webserver: ~ Windows PowerShell
Try: sudo apt install <deb name>
webmaster@webserver:~$ ip addr show
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 08:00:27:8f:60:77 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 75284sec preferred_lft 75284sec
    inet6 fe80::a00:27ff:fe8f:6077/64 scope link
        valid_lft forever preferred_lft forever
webmaster@webserver:~$
```

Several common commands can be useful for troubleshooting Apache errors. Here are some of them:

tail: Use the tail command to view the end of a log file, which is often where the most recent error messages are located. For example: