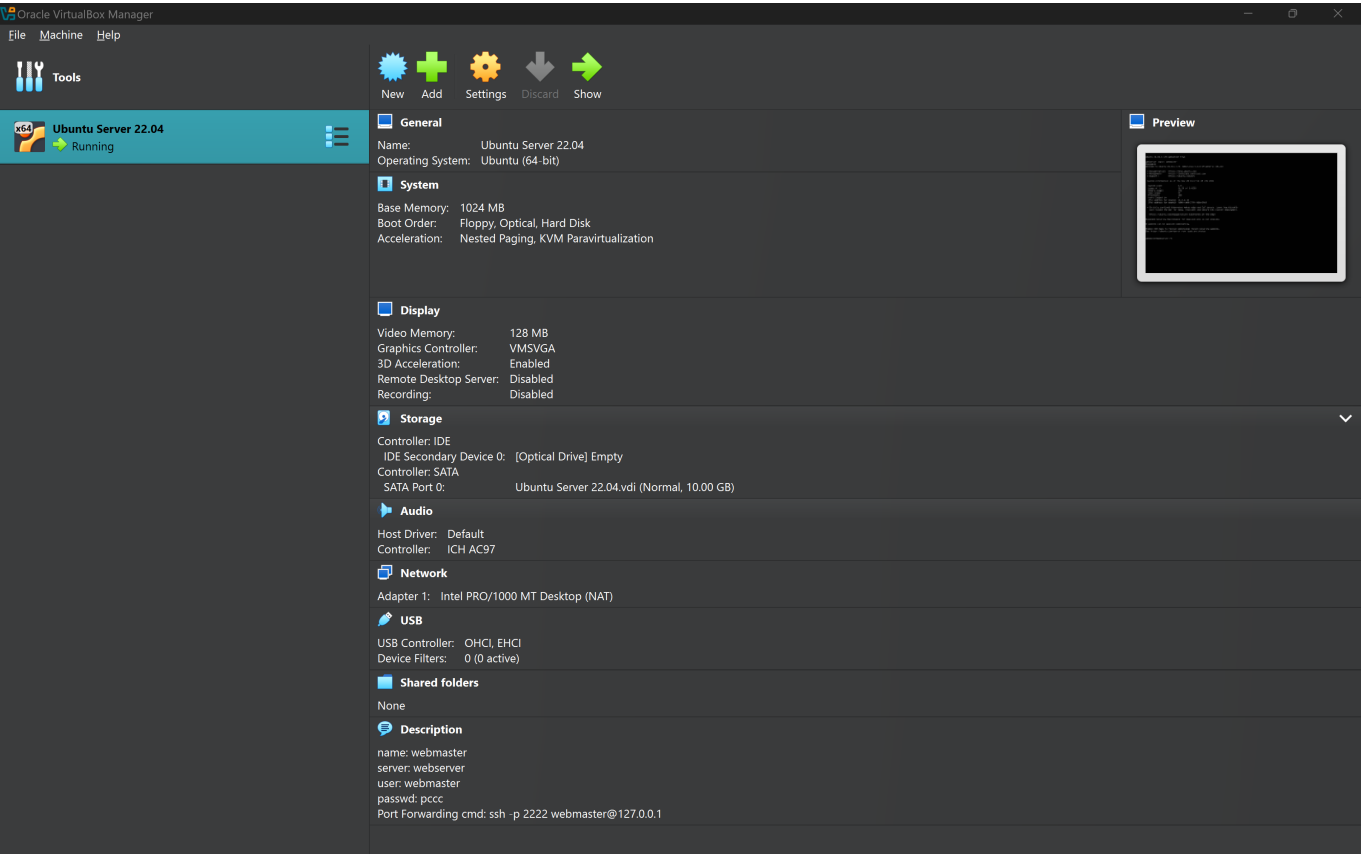
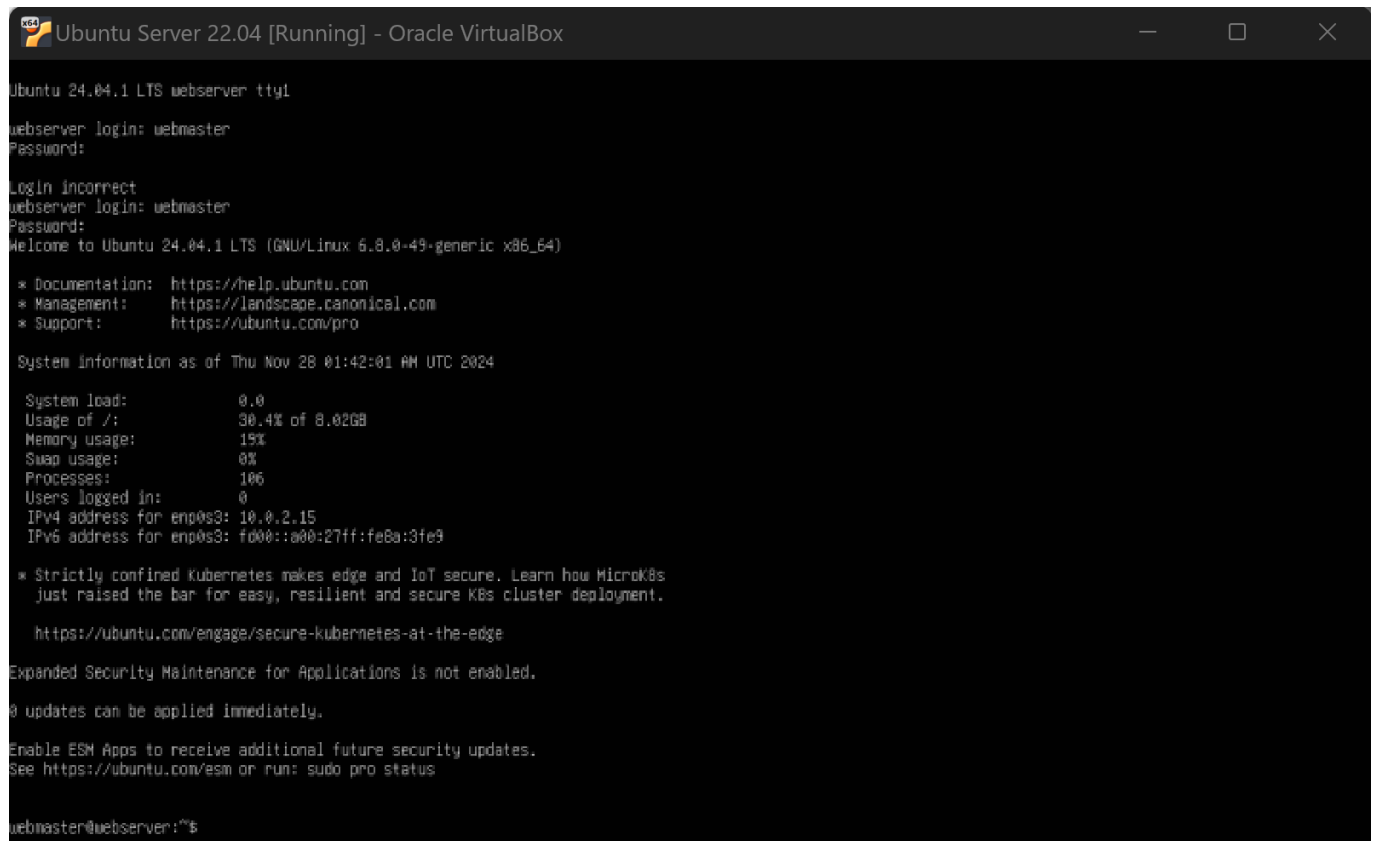


Deliverable 2 Submission

Server Specifications



Ubuntu Login Screen



```
Ubuntu 24.04.1 LTS webserver tty1
webserver login: webmaster
Password:
Login incorrect
webserver login: webmaster
Password:
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-49-generic x86_64)

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

System information as of Thu Nov 28 01:42:01 AM UTC 2024

System load:          0.0
Usage of /:            30.4% of 8.02GB
Memory usage:         15%
Swap usage:           0%
Processes:            106
Users logged in:      0
IPv4 address for enp0s3: 10.0.2.15
IPv6 address for enp0s3: fd00::a00:27ff:fe0a:3fe9

 * 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

webmaster@webserver:~$
```

Questions

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

```
ip address > 127.0.0.1
```

4. How do you enable the Ubuntu Firewall?

```
sudo ufw enable
```

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

```
sudo ufw status
```

6. How do you disable the Ubuntu Firewall?

```
sudo ufw disable
```

7. How do you add Apache to the Firewall?

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

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

```
sudo apt install apache2 -y
```

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

```
sudo systemctl status apache2
```

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

```
sudo systemctl stop apache2
```

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

```
sudo systemctl restart apache2
```

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

```
sudo apache2ctl configtest
```

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

```
apache2 -v
```

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

- Check Apache status:

```
sudo systemctl status apache2
```

Provides details on whether Apache is running and highlights errors.

- Check configuration for syntax errors:

```
sudo apache2ctl configtest
```

Validates the Apache configuration for errors.

- Restart Apache:

```
sudo systemctl restart apache2
```

Reloads Apache after making changes.

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

Apache log files are located in `/var/log/apache2/`. The most common log files are:

- Access Log (**access.log**): Logs all requests made to the server. Useful for tracking visitors.

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

```
webmaster@webserver:~$ sudo tail /var/log/apache2/access.log
10.0.2.2 - - [27/Nov/2024:20:34:00 +0000] "GET / HTTP/1.1" 200 3460 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0 Safari/537.36 Edg/131.0.0.0"
10.0.2.2 - - [27/Nov/2024:20:34:00 +0000] "GET /icons/ubuntu-logo.png HTTP/1.1" 200 3609 "http://127.0.0.1:8080/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0 Safari/537.36 Edg/131.0.0.0"
10.0.2.2 - - [27/Nov/2024:20:34:00 +0000] "GET /favicon.ico HTTP/1.1" 404 489 "http://127.0.0.1:8080/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0 Safari/537.36 Edg/131.0.0.0"
10.0.2.2 - - [27/Nov/2024:20:35:00 +0000] "-" 0/0 "-" "-"
10.0.2.2 - - [27/Nov/2024:21:10:13 +0000] "GET / HTTP/1.1" 200 719 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0 Safari/537.36 Edg/131.0.0.0"
10.0.2.2 - - [27/Nov/2024:22:11:00 +0000] "-" 0/0 "-" "-"
10.0.2.2 - - [27/Nov/2024:23:00:53 +0000] "GET / HTTP/1.1" 200 719 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0 Safari/537.36 Edg/131.0.0.0"
10.0.2.2 - - [27/Nov/2024:23:09:40 +0000] "-" 0/0 "-" "-"
```

- Error Log (**error.log**): Logs error messages, useful for troubleshooting.

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

```
webmaster@webserver:~$ sudo tail /var/log/apache2/error.log
[sudo] password for webmaster:
[Wed Nov 27 20:19:01.287283 2024] [mpm_event:notice] [pid 857:tid 137850087614336] AH00489: Apache/2.4.58 (Ubuntu) configured -- resuming normal operations
[Wed Nov 27 20:19:01.293329 2024] [core:notice] [pid 857:tid 137850087614336] AH00094: Command line: '/usr/sbin/apache2'
[Wed Nov 27 20:21:23.852572 2024] [mpm_event:notice] [pid 857:tid 137850087614336] AH00492: caught SIGWINCH, shutting down gracefully
[Wed Nov 27 20:23:04.268213 2024] [mpm_event:notice] [pid 879:tid 128789870188416] AH00489: Apache/2.4.58 (Ubuntu) configured -- resuming normal operations
[Wed Nov 27 20:23:04.272635 2024] [core:notice] [pid 879:tid 128789870188416] AH00094: Command line: '/usr/sbin/apache2'
[Wed Nov 27 21:10:03.132114 2024] [mpm_event:notice] [pid 879:tid 128789870188416] AH00492: caught SIGWINCH, shutting down gracefully
[Wed Nov 27 21:10:03.169127 2024] [mpm_event:notice] [pid 1513:tid 125688438228864] AH00489: Apache/2.4.58 (Ubuntu) configured -- resuming normal operations
[Wed Nov 27 21:10:03.169161 2024] [core:notice] [pid 1513:tid 125688438228864] AH00094: Command line: '/usr/sbin/apache2'
[Wed Nov 27 22:06:24.903314 2024] [mpm_event:notice] [pid 851:tid 132976524494720] AH00489: Apache/2.4.58 (Ubuntu) configured -- resuming normal operations
[Wed Nov 27 22:06:24.912194 2024] [core:notice] [pid 851:tid 132976524494720] AH00094: Command line: '/usr/sbin/apache2'
```