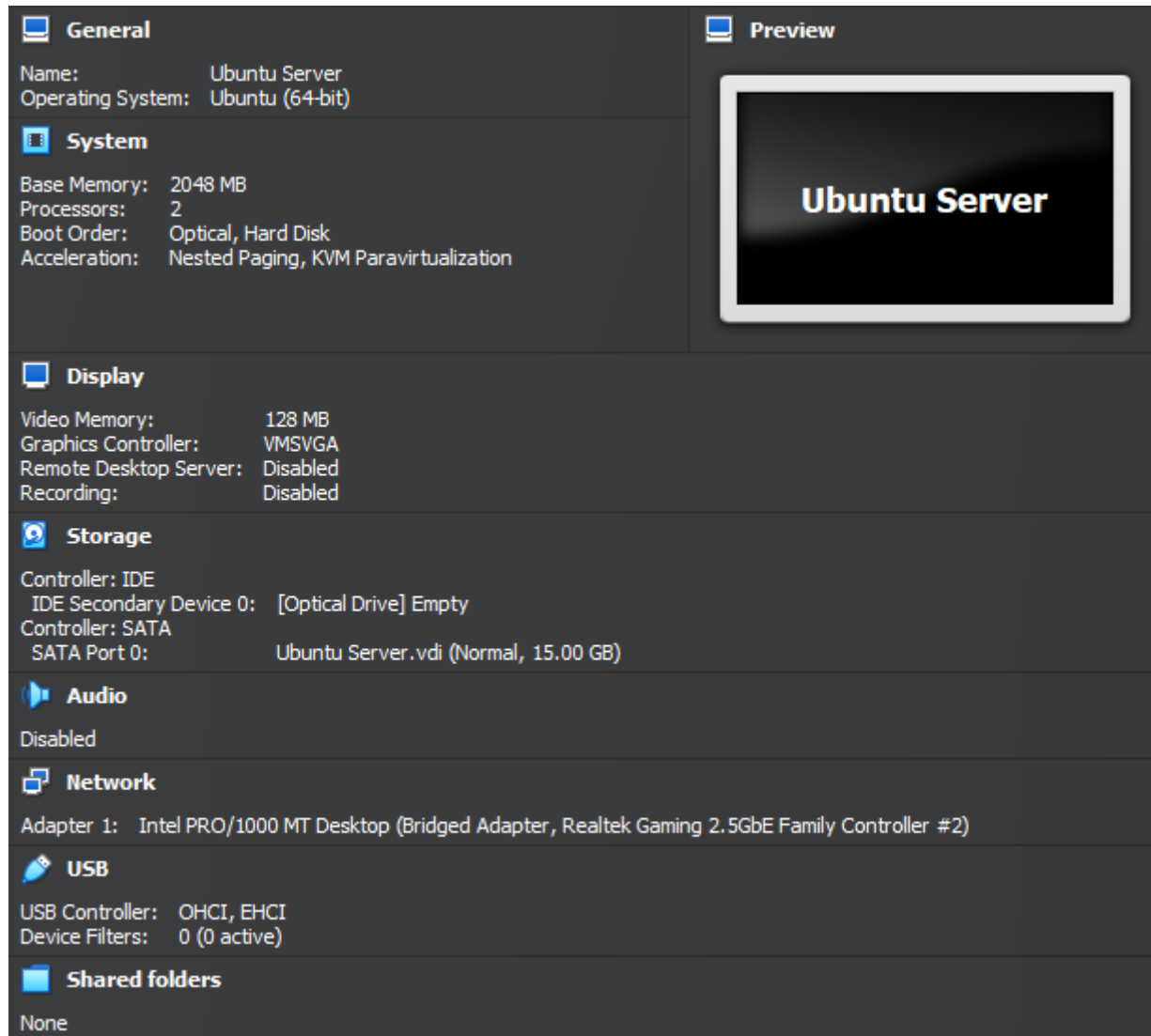


Deliverable 2 Submission

What are the server hardware specifications (virtual machine settings)?
Take a screenshot - don't type it!



What is Ubuntu server log in screen? Take screenshot - do not type it!

```
Ubuntu 22.04.3 LTS webserver tty1
webserver login: webmaster
Password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-89-generic x86_64)

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

System information as of Mon Dec  4 05:22:59 AM UTC 2023

System load:  0.18115234375      Processes:            122
Usage of /:   48.1% of 9.75GB    Users logged in:     0
Memory usage: 11%               IPv4 address for enp0s3: 192.168.1.61
Swap usage:   0%

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: Mon Dec  4 02:53:24 UTC 2023 from 192.168.1.80 on pts/0
webmaster@webserver:~$
```

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

192.168.1.61

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

What is the command you use to check if 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 apache2ctl configtest
```

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

```
apache2 -v
```

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

- `systemctl` - Controls and interacts with Linux services via the `systemd` service manager
- `journalctl` - Queries and views 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? Provide examples and screenshots.

The apache log files are located in `/var/log/apache2/error.log` and they are crucial for troubleshooting. They contain detailed information about errors with timestamps, error modules, error codes, and text descriptions. Below are error log examples:

```
[Wed Jul 15 01:34:12.093005 2020] [proxy:error] [pid 13949:tid 140150453516032]  
(13)Permission denied: AH00957: HTTP: attempt to connect to 127.0.0.1:9090  
(127.0.0.1) failed
```

```
[Wed Jul 15 01:34:12.093078 2020] [proxy_http:error] [pid 13949:tid  
140150453516032] [client 127.0.0.1:42480] AH01114: HTTP: failed to make  
connection to backend: 127.0.0.1
```