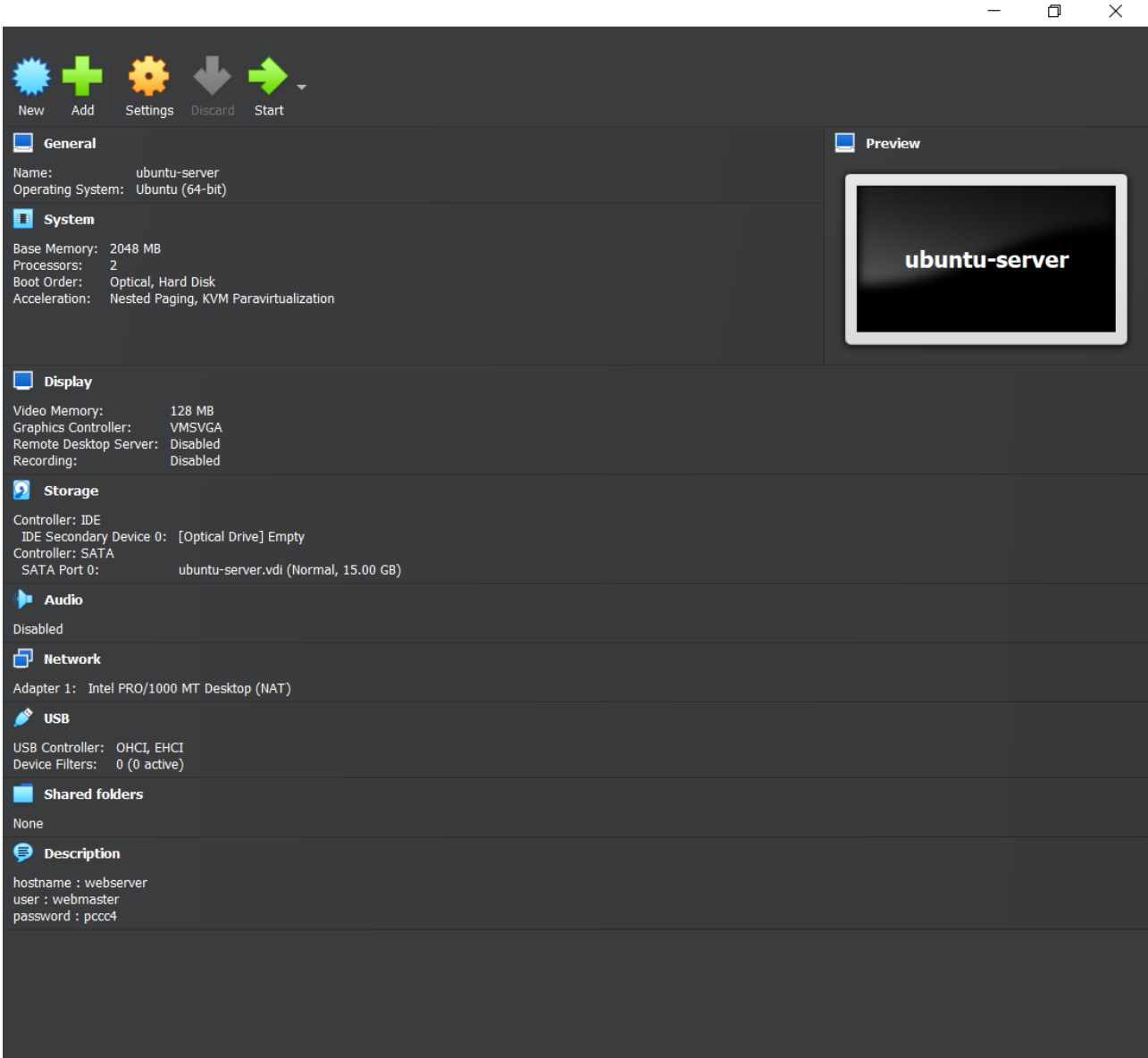


Deliverable 2

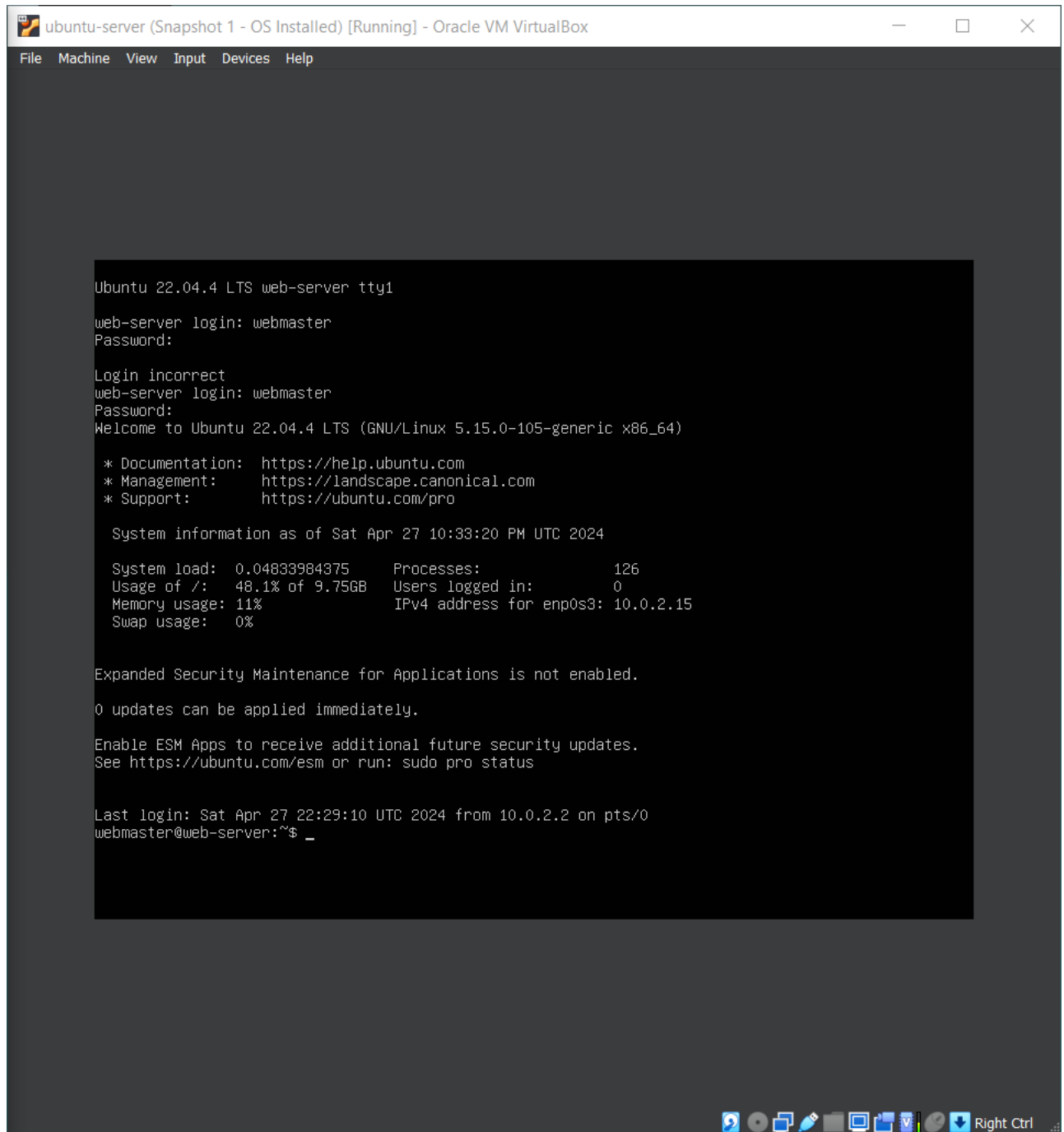
Server Hardware Specs

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



Ubuntu Server Log In

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



Additional Questions

- What is the IP address of your Ubuntu Server Virtual Machine?
 - The IP address of my Ubuntu Server is 10.0.2.15.
- How do you enable the Ubuntu Firewall?
 - You enable the Ubuntu Firewall by running the command "sudo ufw enable".
- How do you check if the Ubuntu Firewall is running?
 - You can check the status of the Ubuntu Firewall by running the command "sudo ufw status".
- How do you disable the Ubuntu Firewall?

- ■ You enable the Ubuntu Firewall by running the command "sudo ufw disable" .
- How do you add Apache to the Firewall?
 - To add Apache to the Firewall by running the command "sudo ufw allow "Apache" " .
- What is the command you used to install Apache?
 - The command to install Apache is "sudo apt install apache2 -y" .
- What is the command you use to check if Apache is running?
 - The command to check if Apache is running is "systemctl status apache2 --no-pager" .
- What is the command you use to stop Apache?
 - The command you used to stop Apache is "sudo systemctl stop apache2" .
- What is the command you use to restart Apache?
 - The command to restart Apache is "sudo systemctl restart apache2" .
- What is the command used to test Apache configuration?
 - The command to test Apache configuration is "sudo apachectl -t" .
- What is the command used to check the installed version of Apache?
 - The command used to check the installed version of Apache is "sudo apache2 -v" .
- What are the most common commands to troubleshoot Apache errors? Provide a brief description of each command.
 - The most common commands to troubleshoot Apache errors are:
 - 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? Provide examples and screenshots.
 - Apache log files are a very helpful resource for troubleshooting, any error that you receive in a browser or other HTTP client will have a corresponding entry in Apache's logs.
 - Example:
 - Showing Apache2 Log Files using tail and head

```
webmaster@web-server:~$ tail -5 /var/log/apache2/error.log
[Sat Apr 27 22:30:18.676031 2024] [mpm_event:notice] [pid 785:tid 140443552753536] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Apr 27 22:30:18.681653 2024] [core:notice] [pid 785:tid 140443552753536] AH00094: Command line: '/usr/sbin/apache2'
[Sat Apr 27 22:34:00.337196 2024] [mpm_event:notice] [pid 785:tid 140443552753536] AH00492: caught SIGWINCH, shutting down gracefully
[Wed May 01 05:43:54.466833 2024] [mpm_event:notice] [pid 881:tid 139989112317824] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Wed May 01 05:43:54.468850 2024] [core:notice] [pid 881:tid 139989112317824] AH00094: Command line: '/usr/sbin/apache2'
webmaster@web-server:~$ head /var/log/apache2/error.log
[Sat Apr 27 18:46:52.440139 2024] [mpm_event:notice] [pid 1531:tid 140657184155520] AH00089: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Apr 27 18:46:52.440317 2024] [core:notice] [pid 1531:tid 140657184155520] AH00094: Command line: '/usr/sbin/apache2'
[Sat Apr 27 18:52:17.895089 2024] [mpm_event:notice] [pid 1531:tid 140657184155520] AH00492: caught SIGWINCH, shutting down gracefully
[Sat Apr 27 19:05:45.229260 2024] [mpm_event:notice] [pid 791:tid 140420257470336] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Apr 27 19:05:45.229999 2024] [core:notice] [pid 791:tid 140420257470336] AH00094: Command line: '/usr/sbin/apache2'
[Sat Apr 27 20:12:27.617034 2024] [mpm_event:notice] [pid 791:tid 140420257470336] AH00492: caught SIGWINCH, shutting down gracefully
[Sat Apr 27 20:12:27.666990 2024] [mpm_event:notice] [pid 1418:tid 140247649421184] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Apr 27 20:12:27.666284 2024] [core:notice] [pid 1418:tid 140247649421184] AH00094: Command line: '/usr/sbin/apache2'
[Sat Apr 27 22:30:11.689141 2024] [mpm_event:notice] [pid 1418:tid 140247649421184] AH00492: caught SIGWINCH, shutting down gracefully
[Sat Apr 27 22:30:18.676031 2024] [mpm_event:notice] [pid 785:tid 140443552753536] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
```

- Showing Apache2 Log Files using cut and delimiters

```
webmaster@web-server:~$ cut -d']]' -f1 /var/log/apache2/error.log
[Sat Apr 27 18:46:52.440139 2024
[Sat Apr 27 18:46:52.440317 2024
[Sat Apr 27 18:52:17.895009 2024
[Sat Apr 27 19:05:45.229260 2024
[Sat Apr 27 19:05:45.229999 2024
[Sat Apr 27 20:12:27.617434 2024
[Sat Apr 27 20:12:27.666090 2024
[Sat Apr 27 20:12:27.666284 2024
[Sat Apr 27 22:30:11.689141 2024
[Sat Apr 27 22:30:18.676031 2024
[Sat Apr 27 22:30:18.681653 2024
[Sat Apr 27 22:34:00.337196 2024
[Wed May 01 05:43:54.466833 2024
[Wed May 01 05:43:54.468850 2024
```