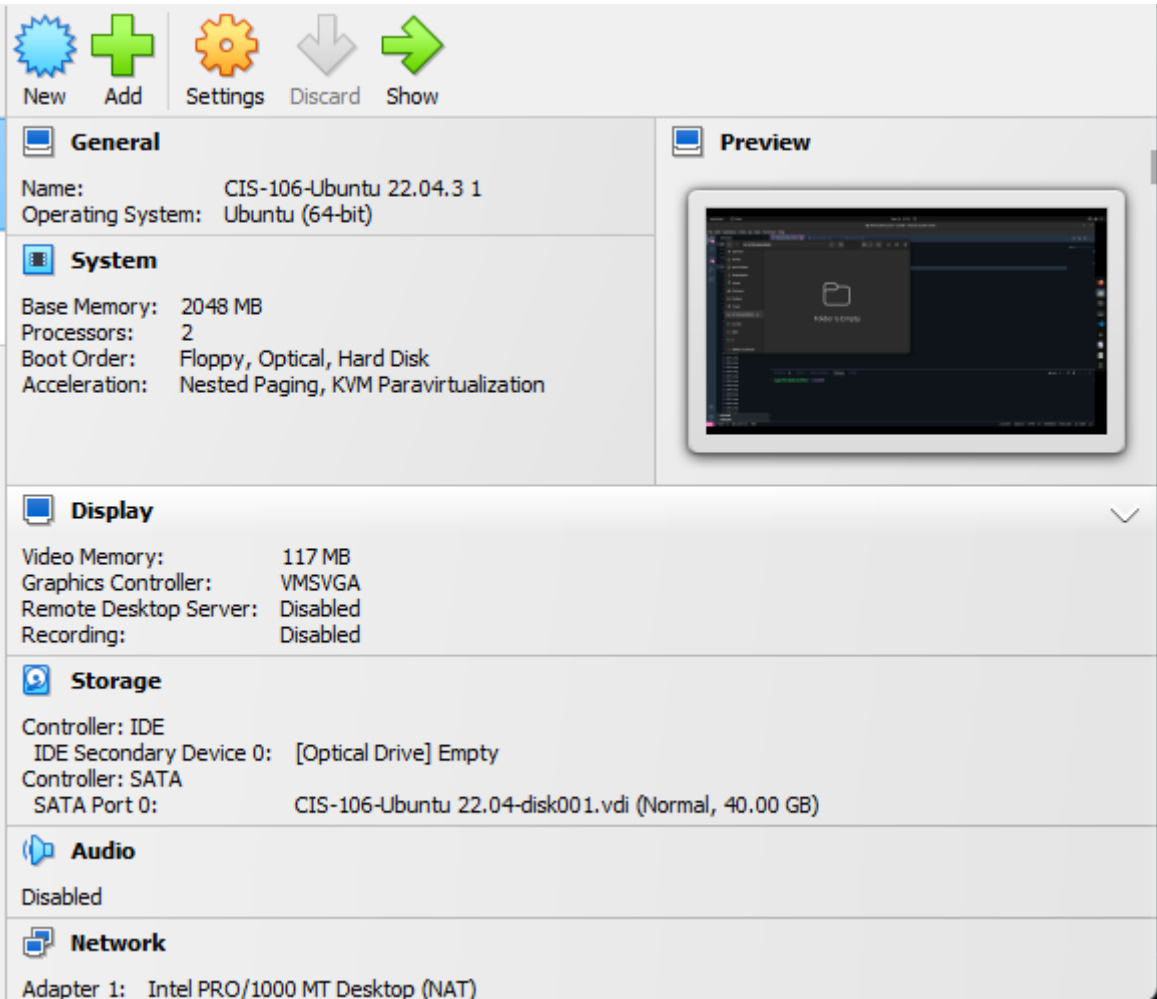


What are the server hardware specifications?



What is Ubuntu server log in screen?

```
webserver login: webmaster
Password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-91-generic x86_64)

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

System information as of Tue Dec 19 07:12:04 PM UTC 2023

System load:  0.08740234375      Processes:            118
Usage of /:   52.5% of 8.02GB    Users logged in:     0
Memory usage: 11%               IPv4 address for enp0s3: 192.168.1.31
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: Tue Dec 19 19:06:21 UTC 2023 on tty1
webmaster@webserver:~$ hostname -I
192.168.1.31
webmaster@webserver:~$ _
```

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

192.168.1.31

How do you enable 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?

systemctl stop apache2

What is the command you use to restart Apache?

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?

systemctl, journalctl and apachectl systemctl is used to check the status and start, restart or stop the apache service it is used like: systemctl status apache2 --no-page checks the status of apache and prints to the screen no pager allows it to do it without having to interact at all systemctl start apache2 used to start apache

Journalctl is used to check apache logs and is used like: sudo journalctl -u apache2.service --since today --no-pager this prints the logs for the apache service that happened today

Lastly, apachectl is used to troubleshoot configurations for your apache server and to test them and it is used: sudo apachectl configtest runs the apache config file to make sure that everything is good to go if so it will say Syntax OK if not it will tell you where the error is.

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

Apache log files are a resource where any errors related to configuration, built in modules and other debugging information are input and it is used for troubleshooting any errors that you have with a browser or another HTTP client it will have entry's that look like this:

```
rootmaster@webserver:~$ cat /var/log/apache2/error.log
[Tue Dec 19 19:09:18.346188 2023] [mpm_event:notice] [pid 15157:tid 140143186536320] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Tue Dec 19 19:09:18.346226 2023] [core:notice] [pid 15157:tid 140143186536320] AH00894: Command line: '/usr/sbin/apache2'
[Tue Dec 19 19:18:53.347948 2023] [mpm_event:notice] [pid 15157:tid 140143186536320] AH00492: caught SIGWINCH, shutting down gracefully
[Tue Dec 19 19:11:21.571344 2023] [mpm_event:notice] [pid 769:tid 140034858198912] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Tue Dec 19 19:11:21.575514 2023] [core:notice] [pid 769:tid 140034858198912] AH00894: Command line: '/usr/sbin/apache2' [Tue Dec 19 19:17:32.641203 2023] [mpm_event:notice] [pid 769:tid 140034858198912] AH0049
3: SIGUSR1 received. Doing graceful restart
[Tue Dec 19 19:17:32.643228 2023] [mpm_event:notice] [pid 769:tid 140034858198912] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Tue Dec 19 19:17:32.643234 2023] [core:notice] [pid 769:tid 140034858198912] AH00894: Command line: '/usr/sbin/apache2' [Tue Dec 19 19:53:30.538232 2023] [mpm_event:notice] [pid 769:tid 140034858198912] AH0049
2: caught SIGWINCH, shutting down gracefully
[Tue Dec 19 19:53:30.570375 2023] [mpm_event:notice] [pid 1434:tid 140598075983744] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Tue Dec 19 19:53:30.570419 2023] [core:notice] [pid 1434:tid 140598075983744] AH00894: Command line: '/usr/sbin/apache2'
[Tue Dec 19 20:36:53.290136 2023] [mpm_event:notice] [pid 785:tid 140537496164224] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Tue Dec 19 20:36:53.291119 2023] [core:notice] [pid 785:tid 140537496164224] AH00894: Command line: '/usr/sbin/apache2' [Tue Dec 19 20:41:04.111343 2023] [mpm_event:notice] [pid 785:tid 140537496164224] AH0049
2: caught SIGWINCH, shutting down gracefully
[Tue Dec 19 20:41:04.144006 2023] [mpm_event:notice] [pid 1653:tid 140704031778688] AH00489: Apache/2.4.52 (Ubuntu) configured -- resuming normal operations
[Tue Dec 19 20:41:04.144991 2023] [core:notice] [pid 1653:tid 140704031778688] AH00894: Command line: '/usr/sbin/apache2'
```