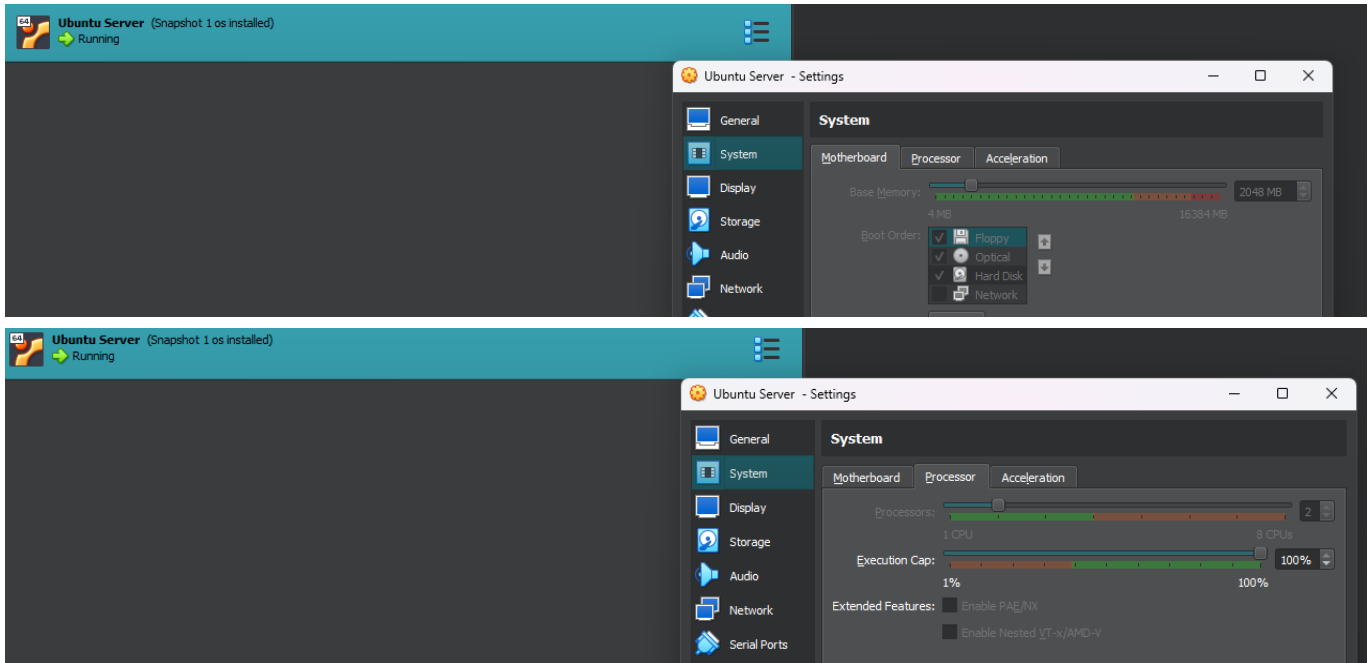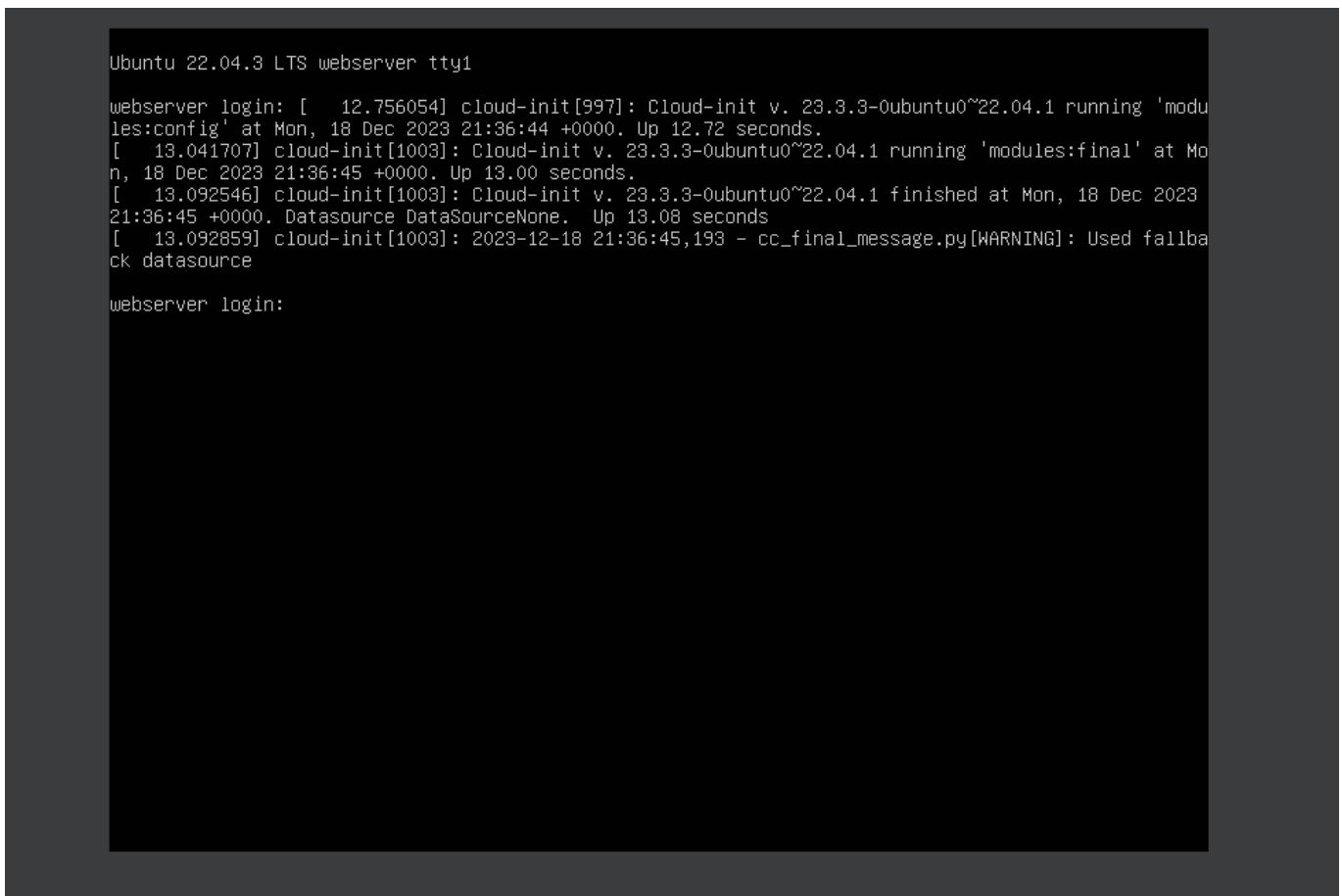# Deliverable 2 Submission

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!

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

192.168.10.145

```
PS C:\Users\kvega> ssh web@192.168.10.145
web@192.168.10.145's 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 Mon Dec 18 10:05:14 PM UTC 2023

  System load:            0.0
  Usage of /:             48.2% of 9.75GB
  Memory usage:           11%
  Swap usage:             0%
  Processes:              115
  Users logged in:        1
  IPv4 address for enp0s3: 192.168.10.145
  IPv6 address for enp0s3: fd56:db13:4274:0:a00:27ff:feee:6fa0
```

How do you enable the Ubuntu Firewall?

sudo ufw enable

```
web@webserver:~$ sudo ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)? y
Firewall is active and enabled on system startup
web@webserver:~$ sudo ufw status
Status: active

To                         Action      From
--                         ------      ----
Apache                     ALLOW       Anywhere
OpenSSH                    ALLOW       Anywhere
Apache (v6)                ALLOW       Anywhere (v6)
OpenSSH (v6)               ALLOW       Anywhere (v6)
```

How do you check if the Ubuntu Firewall is running?

sudo ufw status

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

To                         Action      From
--                         ------      ----
Apache                     ALLOW       Anywhere
OpenSSH                    ALLOW       Anywhere
Apache (v6)                ALLOW       Anywhere (v6)
OpenSSH (v6)               ALLOW       Anywhere (v6)
```

How do you disable the Ubuntu Firewall?

```
web@webserver:~$  sudo ufw disable
Firewall stopped and disabled on system startup
web@webserver:~$ sudo ufw status
Status: inactive
```

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 -y

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

systemctl status apache2 --no-pager

```
web@webserver:~$ systemctl status apache2 --no-pager
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: active (running) since Mon 2023-12-18 21:36:38 UTC; 28min ago
       Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 778 (apache2)
      Tasks: 55 (limit: 2220)
     Memory: 7.5M
        CPU: 87ms
     CGroup: /system.slice/apache2.service
             ├─778 /usr/sbin/apache2 -k start
             ├─779 /usr/sbin/apache2 -k start
             └─780 /usr/sbin/apache2 -k start

Dec 18 21:36:38 webserver systemd[1]: Starting The Apache HTTP Server...
Dec 18 21:36:38 webserver systemd[1]: Started The Apache HTTP Server.
```

What is the command you use to stop Apache?

sudo systemctl stop apache2 --no-pager

```
web@webserver:~$ sudo systemctl stop apache2 --no-pager
web@webserver:~$ sudo systemctl status apache2 --no-pager
○ apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: inactive (dead) since Mon 2023-12-18 22:30:28 UTC; 2s ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 2005 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
    Process: 2073 ExecStop=/usr/sbin/apachectl graceful-stop (code=exited, status=0/SUCCESS)
   Main PID: 2009 (code=exited, status=0/SUCCESS)
        CPU: 32ms

Dec 18 22:27:48 webserver systemd[1]: Starting The Apache HTTP Server...
Dec 18 22:27:48 webserver systemd[1]: Started The Apache HTTP Server.
Dec 18 22:30:28 webserver systemd[1]: Stopping The Apache HTTP Server...
Dec 18 22:30:28 webserver systemd[1]: apache2.service: Deactivated successfully.
Dec 18 22:30:28 webserver systemd[1]: Stopped The Apache HTTP Server.
```
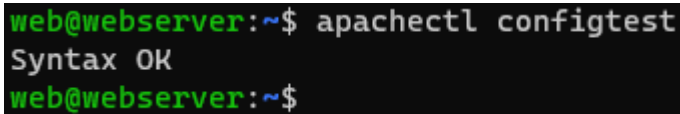
What is the command you use to restart Apache?

sudo systemctl restart apache2 --no-pager
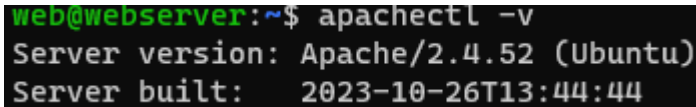
What is the command used to test Apache configuration?

apachectl configtest

```
web@webserver:~$ apachectl configtest
Syntax OK
web@webserver:~$
```

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

apachectl -v

```
web@webserver:~$ apachectl -v
Server version: Apache/2.4.52 (Ubuntu)
Server built:   2023-10-26T13:44:44
```

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

systemctl - It is used to control and manage Linux services

journalctl - It is used to display logs generated by systemd services

apachectl - It is used to check the Apache configuration files for any error

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

Apache log records events handled by the Apache web server, including requests from other computers, responses sent by Apache, and actions internal to the Apache server