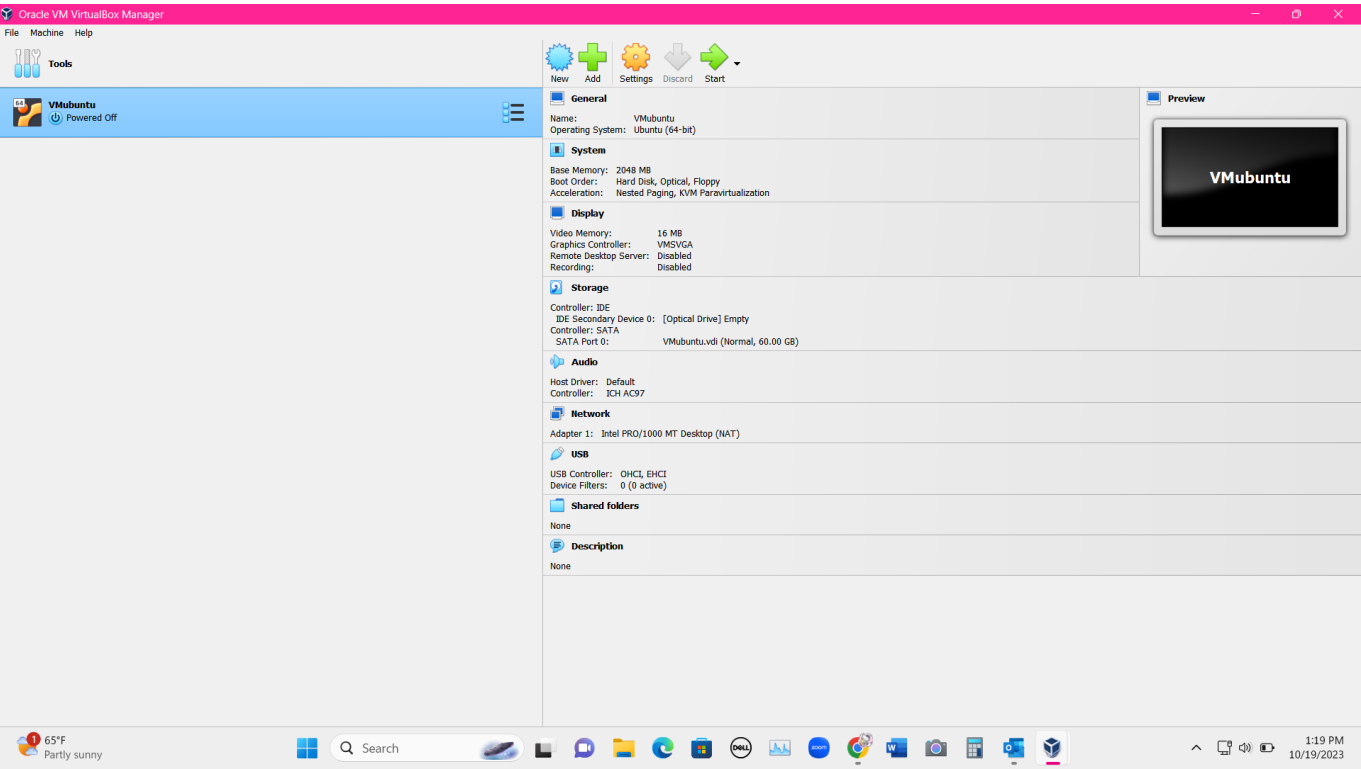
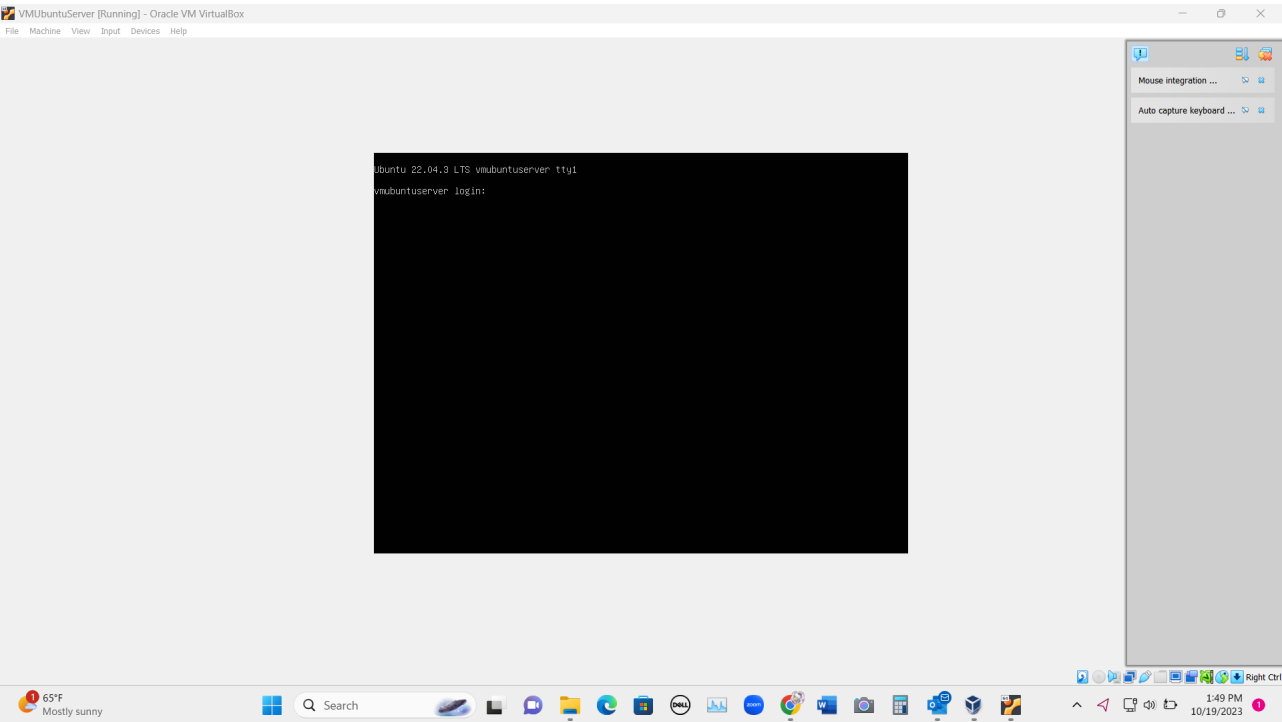


# Deliverable 2

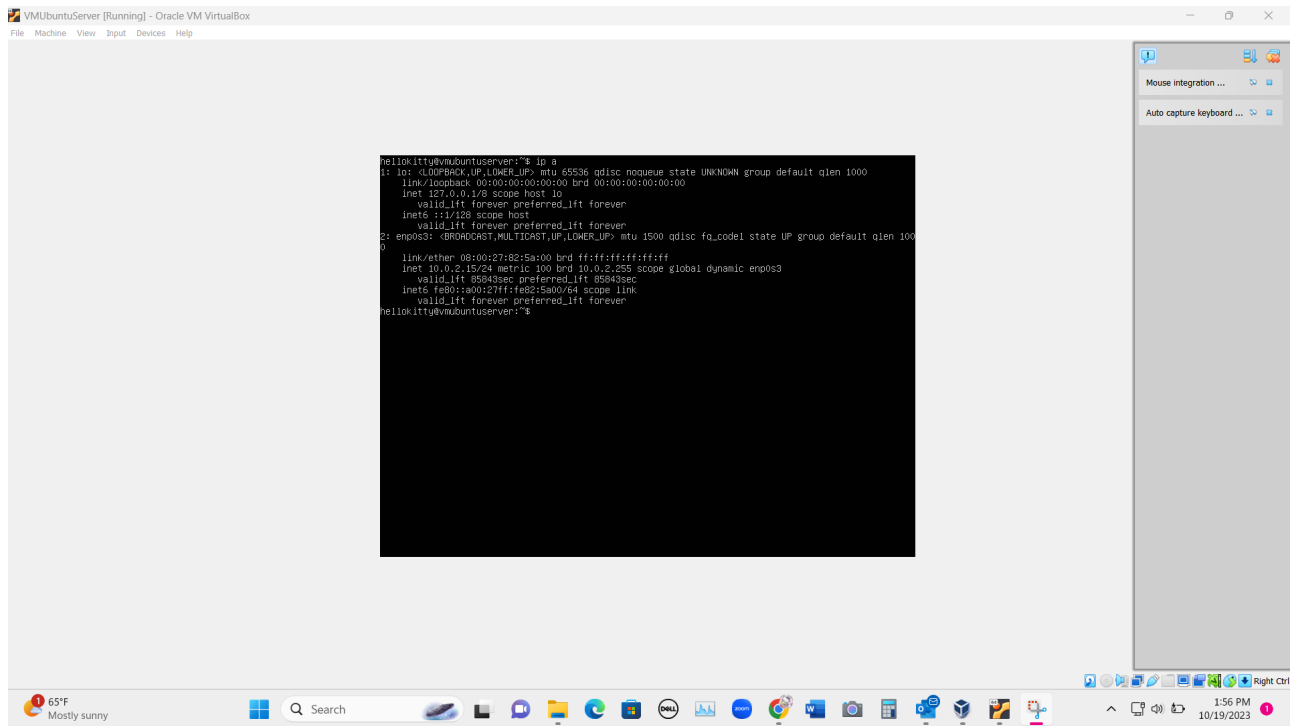
1. What are the server hardware specifications (virtual machine settings)? Take a screenshot - don't type it!



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



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



### 4. How do you enable the Ubuntu Firewall?

- TYPE IN COMMAND: `$ sudo ufw enable`

```

hellokitty@cis106:~$ sudo ufw enable
[sudo] password for hellokitty:
Firewall is active and enabled on system startup
hellokitty@cis106:~$
  
```

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

- TYPE IN COMMAND: `$ sudo systemctl status ufw`

```

hellokitty@cis106:~$ sudo systemctl status ufw
● ufw.service - Uncomplicated firewall
   Loaded: loaded (/lib/systemd/system/ufw.service; enabled; vendor preset: enabled)
   Active: active (exited) since Thu 2023-12-14 15:40:11 EST; 4h 49min ago
     Docs: man:ufw(8)
  Process: 384 ExecStart=/lib/ufw/ufw-init start quiet (code=exited, status=0/SUCCESS)
    Main PID: 384 (code=exited, status=0/SUCCESS)
      CPU: 308ms

Dec 14 15:40:10 cis106 systemd[1]: Starting Uncomplicated firewall...
Dec 14 15:40:11 cis106 systemd[1]: Finished Uncomplicated firewall.
  
```

### 6. How do you disable the Ubuntu Firewall?

- \$ sudo ufw disable

```

VMUbuntuServer [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

ubuntu 22.04.3 LTS vmubuntuserver tty1
vmubuntuserver login: hellokitty
Password:
Login incorrect
vmubuntuserver login: hellokitty
Password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-87-generic x86_64)

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

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.
To restore this content, you can run the 'unminimize' command.
Last login: Thu Oct 19 17:51:01 UTC 2023 on tty1
hellokitty@vmubuntuserver:~$ systemctl ufw status
Unknown command verb ufw.
hellokitty@vmubuntuserver:~$ sudo systemctl status ufw
[sudo] password for hellokitty:
* ufw.service - Uncomplicated firewall
   Loaded: loaded (/lib/systemd/system/ufw.service; enabled; vendor preset: enabled)
   Active: active (exited) since Thu 2023-10-19 18:20:00 UTC; 1min 24s ago
   Docs: man:ufw(8)
   Process: 553 ExecStart=/lib/ufw/ufw-init start quiet (code=exited, status=0/SUCCESS)
   Main PID: 553 (code=exited, status=0/SUCCESS)
   CPU: 89ms

Oct 19 18:19:42 vmubuntuserver systemd[1]: Starting Uncomplicated Firewall...
Oct 19 18:20:00 vmubuntuserver systemd[1]: Finished Uncomplicated Firewall.
hellokitty@vmubuntuserver:~$ sudo ufw disable
Firewall stopped and disabled on system startup
hellokitty@vmubuntuserver:~$
  
```

7. How do you add Apache to the Firewall?

```

hellokitty@cis106:~$ sudo ufw allow "Apache"
[sudo] password for hellokitty:
Skipping adding existing rule
Skipping adding existing rule (v6)
hellokitty@cis106:~$
  
```

- \$ sudo apt allow

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

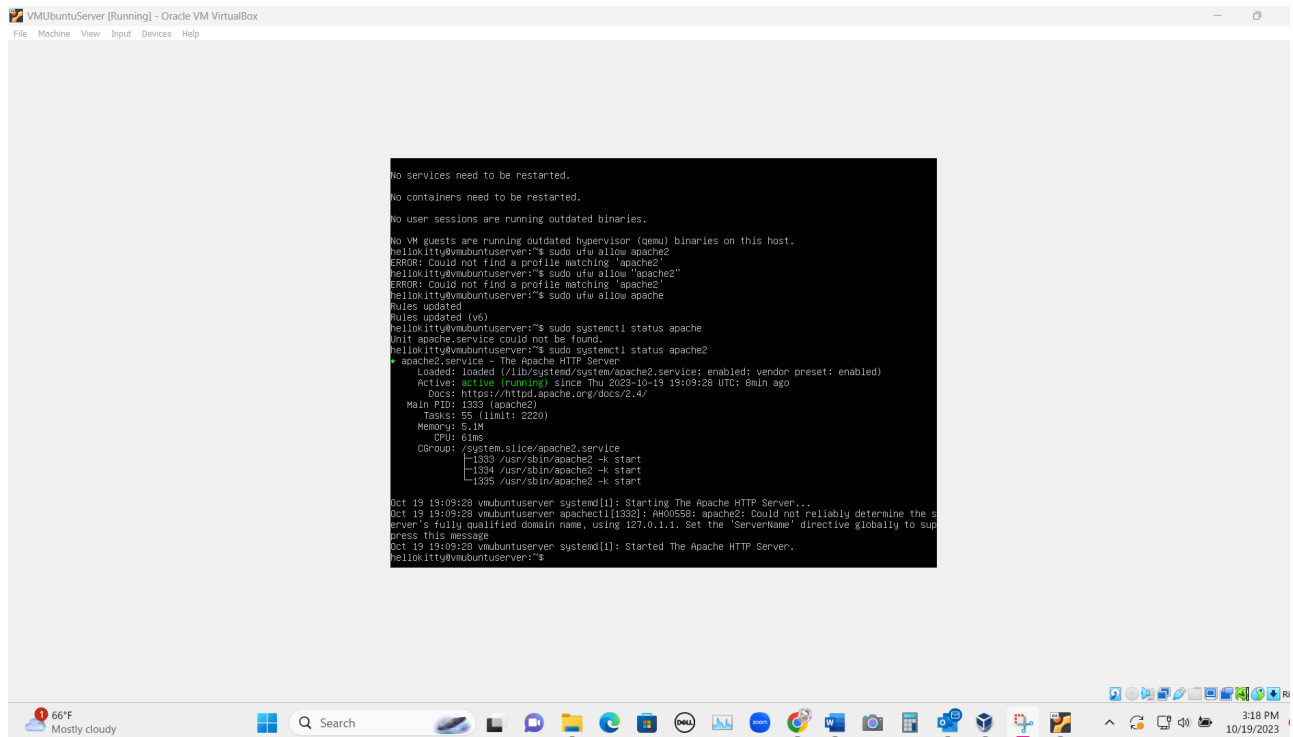
- \$ sudo apt install apache2 -y

```

hellokitty@cis106:~$ sudo apt install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
apache2 is already the newest version (2.4.52-1ubuntu4.7).
The following packages were automatically installed and are no longer required:
  apparmor-symptoms guile-2.2-libs libgnome-games-support-1-3
  libgnome-games-support-common libqqwing2v5 linux-image-6.2.0-36-generic
  linux-modules-6.2.0-36-generic linux-modules-extra-6.2.0-36-generic
  python3-systemd
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 45 not upgraded.
hellokitty@cis106:~$
  
```

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

- `$ systemctl status apache2 --no-pager`



```

No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
hellokitty@vmubuntu:~$ sudo ufw allow apache2
ERROR: Could not find a profile matching 'apache2'
hellokitty@vmubuntu:~$ sudo ufw allow 'apache2'
ERROR: Could not find a profile matching 'apache2'
hellokitty@vmubuntu:~$ sudo ufw allow apache
Rules updated
Rules reloaded
Rules updated (v6)
hellokitty@vmubuntu:~$ sudo systemctl status apache
Unit apache.service could not be found.
hellokitty@vmubuntu:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2023-10-19 19:09:28 UTC; 8min ago
     Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 1333 (apache2)
    Tasks: 55 (limit: 220)
   Memory: 5.1M
      CPU: 61ms
   CGroup: /system.slice/apache2.service
           └─1333 /usr/sbin/apache2 -k start
             └─1334 /usr/sbin/apache2 -k start
               └─1335 /usr/sbin/apache2 -k start

Oct 19 19:09:28 vmubuntu:systemd[1]: Starting The Apache HTTP Server...
Oct 19 19:09:28 vmubuntu:apache2[1332]: AH00558: apache2: Could not reliably determine the
server's fully qualified domain name, using 127.0.1.1. Set the 'ServerName' directive globally to suppress this message
Oct 19 19:09:28 vmubuntu:systemd[1]: Started The Apache HTTP Server.
hellokitty@vmubuntu:~$

```

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

- `$ sudo systemctl stop apache2`

```

hellokitty@cis106:~$ sudo systemctl stop apache2
hellokitty@cis106:~$

```

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

- `$ sudo systemctl restart apache2`

```

hellokitty@cis106:~$ sudo systemctl restart apache2
hellokitty@cis106:~$

```

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

- `apachectl`

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.

- `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