

Deliverable 2 Submission

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

| Device | Summary |
|------------------|------------------------------------|
| Memory | 4 GB |
| Processors | 2 |
| Hard Disk (SCSI) | 15 GB |
| CD/DVD (SATA) | Using file E:\virtual machine\u... |
| Network Adapter | Bridged (Automatic) |
| USB Controller | Present |
| Sound Card | Auto detect |
| Printer | Present |
| Display | Auto detect |

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

```
ubuntu 22.04.3 LTS webserver tty1
webserver login: [ 23.736942] hub 2-2:1.0: hub_ext_port_status failed (err = -110)
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 Sat Dec  9 07:08:33 PM UTC 2023

System load:  0.24755859375   Processes:            244
Usage of /:   29.7% of 9.75GB   Users logged in:      0
Memory usage: 3%              IPv4 address for ens33: 192.168.1.180
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: Sat Dec  9 18:07:36 UTC 2023 from 192.168.1.27 on pts/0
webmaster@webserver:~$
```

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

```
IPv4 address for ens33: 192.168.1.180
http://192.168.1.180/
```

How do you enable the Ubuntu Firewall?

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

How do you check if the Ubuntu Firewall is running?

```
webmaster@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)

webmaster@webserver:~$ _
```

sudo ufw status

How do you disable the Ubuntu Firewall?

```
webmaster@webserver:~$ sudo ufw disable
Firewall stopped and disabled on system startup
webmaster@webserver:~$ _
```

sudo ufw disable

How do you add Apache to the Firewall?

```
webmaster@webserver:~$ sudo ufw allow 'Apache'
Skipping adding existing rule
Skipping adding existing rule (v6)
webmaster@webserver:~$ _
```

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:

Description: Used to control and interact with Linux services via the systemd service manager.

Example: `sudo systemctl status apache2`

journalctl:

Description: Used to query and view logs generated by systemd, providing information about Apache's service status and errors.

Example: `sudo journalctl apache2`

apachectl:

Description: Used to check Apache's configuration and perform various operations, including testing the configuration.

Example: `sudo apachectl configtest`

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

```
[Sat Dec 09 17:51:48.621511 2023] [mpm_event:notice] [pid 1833:tid 139929270830976] AH00492: caught
SIGWINCH, shutting down gracefully
[Sat Dec 09 17:51:48.659895 2023] [mpm_event:notice] [pid 2399:tid 139942057981824] AH00489: Apache/
2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Dec 09 17:51:48.659975 2023] [core:notice] [pid 2399:tid 139942057981824] AH00094: Command line
: '/usr/sbin/apache2'
[Sat Dec 09 17:52:10.607773 2023] [mpm_event:notice] [pid 2399:tid 139942057981824] AH00492: caught
SIGWINCH, shutting down gracefully
[Sat Dec 09 17:52:10.646651 2023] [mpm_event:notice] [pid 2471:tid 139638102833024] AH00489: Apache/
2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Dec 09 17:52:10.646730 2023] [core:notice] [pid 2471:tid 139638102833024] AH00094: Command line
: '/usr/sbin/apache2'
[Sat Dec 09 17:54:17.241686 2023] [mpm_event:notice] [pid 2471:tid 139638102833024] AH00492: caught
SIGWINCH, shutting down gracefully
[Sat Dec 09 17:58:01.775723 2023] [mpm_event:notice] [pid 971:tid 140686821386112] AH00489: Apache/2
.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Dec 09 17:58:01.780472 2023] [core:notice] [pid 971:tid 140686821386112] AH00094: Command line:
'/usr/sbin/apache2'
[Sat Dec 09 18:05:45.269916 2023] [mpm_event:notice] [pid 971:tid 140686821386112] AH00492: caught S
IGWINCH, shutting down gracefully
[Sat Dec 09 18:07:00.726092 2023] [mpm_event:notice] [pid 985:tid 140049992169344] AH00489: Apache/2
.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Dec 09 18:07:00.738103 2023] [core:notice] [pid 985:tid 140049992169344] AH00094: Command line:
'/usr/sbin/apache2'
[Sat Dec 09 18:25:51.088999 2023] [mpm_event:notice] [pid 985:tid 140049992169344] AH00492: caught S
IGWINCH, shutting down gracefully
[Sat Dec 09 18:25:51.125496 2023] [mpm_event:notice] [pid 1492:tid 140471532177280] AH00489: Apache/
2.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Dec 09 18:25:51.125579 2023] [core:notice] [pid 1492:tid 140471532177280] AH00094: Command line
: '/usr/sbin/apache2'
[Sat Dec 09 18:29:27.224959 2023] [mpm_event:notice] [pid 1492:tid 140471532177280] AH00492: caught
SIGWINCH, shutting down gracefully
[Sat Dec 09 19:07:34.201834 2023] [mpm_event:notice] [pid 988:tid 140599396112256] AH00489: Apache/2
.4.52 (Ubuntu) configured -- resuming normal operations
[Sat Dec 09 19:07:34.213665 2023] [core:notice] [pid 988:tid 140599396112256] AH00094: Command line:
'/usr/sbin/apache2'
webmaster@webserver:~$
```

Apache log files are essential for troubleshooting, capturing errors, and providing diagnostic information. They are separate from systemd logs and include access logs and error logs.

Example: `/var/log/apache2/error.log`