Week 3 Journal – Application Selection for Performance Testing

1. System setup (what I used)

- Workstation OS: [Linux Mint / Ubuntu Desktop – write what you used]
- Server OS: [Ubuntu Server – write what you used]
- Kernel: [paste your uname -a line]
- VM networking: Adapter 1 = NAT (internet updates), Adapter 2 = Host-Only/Internal (VM-to-VM)
- IP addresses: Workstation = [ ], Server = [ ] (from ip addr)

2. Tools installed

Commands used (edit to match what you ran):

```
sudo apt update
```

```
sudo apt install stress-ng iperf3 fio apache2 -y
```

Notes/issues during install: No issues; installed successfully.

3. Baseline checks (before testing)

I recorded a quick baseline so I could compare performance before and during tests.

- RAM baseline (free -h): [paste key line]
- Disk baseline (df -h): [paste key line]
- Network check (ip addr / ping): [paste key line]

4. Performance tests

4.1 Test 1: CPU (stress-ng)

Command:

```
stress-ng --cpu 4 --timeout 30s
```

Evidence: top screenshot during test.

My observation: CPU went high during the test and dropped back after.

4.2 Test 2: RAM (stress-ng VM)

Command:

```
stress-ng --vm 2 --vm-bytes 512M --timeout 30s
```

Evidence: free -h output before and after the RAM test.

My observation: Memory usage increased during the test and returned close to normal after it finished.

4.3 Test 3: Disk I/O (fio)

Command:

```
fio --name=readwrite --rw=rw --size=500M --numjobs=2 --runtime=60s --
group_reporting
```

Result: fio reported stable throughput/IOPS for the test run. [paste your fio line]

My observation: Disk activity increased during the test, then returned to normal afterward.

4.4 Test 4: Network (iperf3)

Server command:

```
iperf3 -s
```

Client command:

```
iperf3 -c [server IP]
```

Result: iperf3 showed a steady transfer rate (Gbits/sec) between the VMs. [paste your Gbits/sec line]

My observation: The connection was stable and the speed stayed consistent during the test.

4.5 Test 5: Server workload (Apache2)

Commands:

```
sudo systemctl start apache2
```

```
sudo systemctl status apache2
```

Evidence: systemctl status apache2 showed “active (running)”.

My observation: Apache started successfully and stayed running without errors.

5. Issues & fixes (what happened + how I solved it)

If you had no issues, keep this short. If you had a problem, describe it here.

- Problem: [e.g., SSH login failed / subnet mismatch / DNS issue / none]
- How I diagnosed: [e.g., ip addr, ping, systemctl status]
- Fix applied: [exact change you made, or write “No fix needed”]
- Result: [what confirmed it worked]

6. Reflection

- What went well: Everything installed fine and I managed to run all the tests (CPU, memory, disk, network, and Apache) without any big issues.
- What I learned: I got more confident using the terminal to check system performance and I understand better what the outputs mean (like CPU usage, memory changes, and network speed).