COMP.SE.140 Exercise1 Report

1. Basic Information

- **Hardware / VM:** MacBook Air M2
- **OS:** macOS 12.5
- **Docker Version:** 24.0.5
- **Docker Compose Version:** 2.23.1

2. Service Diagram

```
flowchart TD
    Service1["Service1\n0.0.0.0:8199"]
    Service2["Service2"]
    Storage["Storage"]
    vStorage["vStorage (host-mounted)"]

    Service1 --> Service2
    Service1 --> Storage
    Service1 --> vStorage
    Service2 --> Storage
    Service2 --> vStorage
```

3. Status Record Analysis: 2025-09-29T09:37:38Z: uptime 0.00 hours, free disk in root: 972727 MBytes 2025-09-29T09:37:38Z: uptime 0.00 hours, free disk in root: 972727 MBytes Observations:

Disk space measured in MB using df /.

Uptime measured in hours using uptime -p.

Each /status request generates two log entries, one per service.

4. Persistent Storage Comparison Observations:

Both storage solutions persist logs between container restarts.

Outputs from curl localhost:8199/log and cat ./vstorage/log.txt are identical. 5. Instructions for Cleaning Storage:

rm -f ./vstorage/log.txt docker volume rm compse140-exercise1_vStorage docker-compose down docker volume prune

6. Difficulties & Problems

Service1 initially crashed because it used localhost instead of Docker service names (service2, storage).

Debugging container networking was required.

Correct volume mounting for vStorage to persist logs was tricky.

Ensuring both Service1 and Service2 logs were identical and persistent.

7.Docker Status Containers: CONTAINER ID IMAGE COMMAND STATUS PORTS NAMES 7f277a9ebd80 compse140-exercise1-service1 "python app.py" Up 34 seconds 0.0.0.0:8199->5000/tcp compse140-exercise1-service1-1 4f3a8d16a9b0 compse140-exercise1-service2 "docker-entrypoint.s..." Up 34 seconds compse140-exercise1-service2-1 3e3a75b2cc6f compse140-exercise1-storage "python app.py" Up 34 seconds compse140-exercise1-storage-1 Networks: NETWORK ID NAME DRIVER SCOPE 2ee8c07098b6 bridge bridge local b75f532c443a compse140-exercise1_default bridge local 544d806fefcb host host local e4393ed778da none null local