

Day 05 – Linux Troubleshooting Drill

Goal: Run a focused troubleshooting drill on a real Linux server and document a repeatable runbook.

Target Service / Process

- **Service:** SSH
 - **Process:** sshd(listener)
 - **PID:** 1035
 - **Host:** AWS EC2 – Ubuntu 22.04 LTS
 - **Why chosen:** Always running on servers, clear logs, uses CPU/memory/network.
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Environment Basics (2 commands)

1) uname -a

```
uname -a
```

Observation: Confirms kernel version and architecture; useful for kernel-specific issues.

2) OS Release

```
cat /etc/os-release
```

Observation: Verifies distribution and version (LTS = stable for production).

Filesystem Sanity (2 commands)

3) Create temp directory

```
mkdir /tmp/runbook-demo
```

Observation: Directory creation succeeded filesystem is writable.

4) Copy test file

```
cp /etc/hosts /tmp/runbook-demo/hosts-copy && ls -l /tmp/runbook-demo
```

Observation: File copy succeeded; no permission or IO errors detected.

Snapshot: CPU & Memory (2+ commands)

5) Overall system view

```
top
```

Observation: Load average ~0.09, no CPU spikes; system is healthy.

6) Process-specific usage

```
ps -o pid,pcpu,pmem,comm -p 1035
```

Observation: sshd consuming negligible CPU and <1% memory.

7) Memory summary

```
free -h
```

Observation: Adequate free RAM available; no swap usage.

Snapshot: Disk & IO (2 commands)

8) Disk usage

```
df -h
```

Observation: Root filesystem has sufficient free space.

9) Log directory size

```
du -sh /var/log
```

Observation: Log size within normal limits; no disk pressure from logs.

(Optional)

```
vmstat 1 5
```

Observation: No significant IO wait observed.

Snapshot: Network (2 commands)

10) Listening ports

```
ss -tulpn | grep ssh
```

Observation: SSH listening on port 22 as expected.

11) Connectivity check

```
curl -I http://localhost
```

Observation: Localhost networking functional.

Logs Reviewed (2 commands)

12) SSH service logs

```
journalctl -u ssh -n 50
```

Observation: No recent errors or warnings related to SSH.

13) Authentication logs

```
tail -n 50 /var/log/auth.log
```

Observation: No failed login attempts or authentication issues found.

Quick Findings

- SSH service is healthy and stable.
- No CPU, memory, disk, or network bottlenecks detected.
- Logs indicate normal operation.