

Quick reference

Linux Terminal 03 - Evidence Before Action

Method: observe -> one hypothesis -> discriminating test -> record result.

Question	Focused check	What it establishes
Which machine and time?	hostname; date -u; whoami; pwd	Context for subsequent evidence
Does the known process exist?	ps -p PID -o pid,ppid,stat,etime,comm	Identity and a process-state snapshot
Is resource pressure plausible?	Linux: uptime, free -h, df -h .	Load, memory, filesystem context
What did the application report?	grep -n -C 2 'status=503' app.log	Matching log lines with context
What happened recently in a unit?	journalctl -u shop.service --since '15 minutes ago' -n 100 --no-pager	Bounded systemd journal window
Is TCP listening?	Linux: ss -ltn	Listening TCP addresses and ports
Does the operation work?	Request the exact route with bounded curl	Result from this client's request path

HTTP test template: replace the example port with the actual port.

```
curl -sS --connect-timeout 2 --max-time 5 \
  -o response.txt -w 'HTTP %{http_code}\n' \
  http://127.0.0.1:8080/orders
```

Two statuses: HTTP status describes the response; shell exit status describes curl's result. Curl may exit zero for an HTTP error unless you use `--fail` or explicitly inspect the HTTP status. The lab's 503 produces exit 22 with `--fail`.

Three boundaries: a process exists $\neq$ it is listening; a listener exists $\neq$ every client reaches it; a health route succeeds $\neq$ every business operation succeeds.

Portable lab: `bash lab/run-lab.sh` - Bash 3.2+, Python 3, curl. Local loopback only. Expected health 200, orders 503, synthetic inventory timeout, then PASS. Automatic cleanup stops its own child and removes exact temporary files.

Linux versus macOS: `ss`, `free`, and `systemd's journalctl` are Linux-oriented. macOS can use `lsof -nP -iTCP -sTCP:LISTEN` for a listener view when available; memory and system logs use

different tools. The supplied local lab supports both platforms.

Handoff: symptom · scope · evidence · next test · limit. After a change, repeat the original failing operation. Use small, redacted excerpts.

References checked September 18, 2026: [ps](#), [ss](#), [journalctl](#), [curl](#). Full teaching context is in `lesson.md`.