

## Week 2: Security Planning and Performance Testing

## 1. Installing Monitoring Tools

**Explanation:**

Installed essential tools (`htop`, `sysstat`, `ifstat`, `nload`) to monitor CPU, memory, disk, and network performance on the server. These tools will be used in later weeks to test system performance under different workloads.

```

vboxuser@ubuntuS:~$ free -h
              total        used        free      shared  buff/cache   available
Mem:          4.8GiB       461MiB       3.9GiB       1.0Mi       620Mi       4.3GiB
Swap:         0B          0B          0B          0B          0B          0B
vboxuser@ubuntuS:~$ sar -r 5 5
Linux 6.8.0-88-generic (ubuntuS)      12/15/2025      _x86_64_      (2 CPU)

01:48:59 AM kbavail kbmemused %memused kbbuffers kbcached kbcommit %commit kbactive kbinacl kbdirty
01:49:04 AM 4128232 4534396 197396 3.94 24784 585644 279676 5.59 225736 417636 12
01:49:09 AM 4128232 4534396 197388 3.94 24784 585644 279676 5.59 225736 417636 28
01:49:15 AM 4128232 4535004 197388 3.94 24784 585644 279676 5.59 225748 417644 0
01:49:20 AM 4128232 4535004 197388 3.94 24784 585644 279676 5.59 225748 417644 0
01:49:25 AM 4128232 4535004 197388 3.94 24784 585644 279676 5.59 225748 417644 0
Average: 4128232 4535004 197396 3.94 24784 585642 279676 5.59 225743 417641 8
vboxuser@ubuntuS:~$ dd if=/dev/zero of=testfile bs=1M count=1024
1024+0 records in
1024+0 records out
1048576 bytes transferred in 0.000000 secs (1048576 KB/s)
vboxuser@ubuntuS:~$

```

```

Lynis security scan details:
Hardening index : 63 (#####)
Tests performed : 269
Plugins enabled : 1

Components:
- Firewall [G]
- Malware scanner [X]

Scan mode:
Normal [G] Forensics [ ] Integration [ ] Pentest [ ]

Lynis modules:
- Compliance status [G]
- Security audit [G]
- Vulnerability scan [G]

Files:
- Test and debug information : /var/log/lynis.log
- Report data : /var/log/lynis-report.dat
=====

Lynis 3.0.9

auditing, system hardening, and compliance for UNIX-based systems
(CLinux, macOS, BSD, and others)
2007-2021, CISSofty - https://cissofty.com/lynis/
Enterprise support available (compliance, plugins, interface and tools)
=====

[Tip]: Enhance Lynis audits by adding your settings to custom.prf (see /etc/lynis/default.prf for all settings)
chocuser@ubuntu:~$

```

[illegible]

```
=====
lynis security scan details:
hardening index : 63 (#####)
tests performed : 200
plugins enabled : 1

components:
- Firewall
- Software scanner

=====
SCAN RESULTS:
Norms (5) Forensics ( ) Integration ( ) Pentest ( )

=====
lynis modules:
- Compliance status
- Vulnerability scan

=====
Files and debug information : /var/log/lynis.log
- Report data : /var/log/lynis-report.dat

=====

lynis 3.0.3
auditing, system hardening, and compliance for UNIX-based systems
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=====
[REDACTED] Enable Lynis audit by adding your settings to custom.conf (see /etc/lynis/default.conf for all settings)
=====
```