

Essential logs to watch

For an Ubuntu server administrator, I recommend monitoring logs in **six major areas: kernel/hardware, storage, system services, security, networking, and applications.**

1. System and Kernel Logs — highest priority

Kernel messages

```
journalctl -k  
dmesg -T
```

Watch for:

- I/O error
- EXT4-fs error
- Buffer I/O error
- reset
- disconnect
- USB error
- Out of memory
- OOM killer
- segfault
- hardware error
- thermal
- watchdog

For live monitoring:

```
journalctl -kf
```

2. Storage and Disk Health ⚠️

Especially important for servers running databases, Docker, Nextcloud, Immich, etc.

Filesystem errors

```
journalctl -k | grep -iE "error|ext4|xfs|btrfs|i/o"
```

Critical messages include:

```
EXT4-fs error
Buffer I/O error
blk_update_request
I/O error
device offline
reset
```

Disk SMART health

```
sudo smartctl -a /dev/sda
```

Monitor:

SMART Attribute	Concern
Reallocated_Sector_Ct	Growing
Current_Pending_Sector	> 0
Offline_Uncorrectable	> 0
UDMA_CRC_Error_Count	Increasing
Temperature	High

SMART Attribute	Concern
Power_On_Hours	Aging disks

Run long tests periodically:

```
sudo smartctl -t long /dev/sda
```

3. Memory and OOM Events

OOM killer

```
journalctl | grep -iE "out of memory|oom|killed process"
```

Live:

```
journalctl -f | grep -iE "oom|memory"
```

Check memory:

```
free -h
```

Swap:

```
swapon --show
```

For servers, unexpected OOM events are **high priority** because they may silently kill:

- MariaDB

- PHP-FPM
 - Redis
 - Docker containers
 - Nextcloud background processes
-

4. Failed System Services

One of the most useful administrator commands:

```
systemctl --failed
```

Check system errors:

```
journalctl -p err..alert
```

Recent boot errors:

```
journalctl -b -p warning
```

Useful services to watch:

```
systemctl status nginx
systemctl status php8.3-fpm
systemctl status mariadb
systemctl status redis-server
systemctl status docker
```

Depending on your PHP version:

```
systemctl list-units --type=service
```

5. Nginx Web Server

For web servers:

```
tail -f /var/log/nginx/error.log
```

Access log:

```
tail -f /var/log/nginx/access.log
```

Important errors:

```
502 Bad Gateway
504 Gateway Timeout
connect() failed
upstream timed out
permission denied
too many open files
```

For error frequency:

```
grep -i "error" /var/log/nginx/error.log
```

6. PHP-FPM

Check:

```
journalctl -u php8.3-fpm
```

Live:

```
journalctl -fu php8.3-fpm
```

Watch for:

- PHP worker crashes
- `server reached pm.max_children`
- Out of memory
- Slow requests
- Permission errors
- Session errors

A particularly important message:

```
server reached pm.max_children
```

This usually means PHP-FPM is saturated.

7. MariaDB / MySQL Database

Check logs:

```
journalctl -u mariadb
```

Live:

```
journalctl -fu mariadb
```

Watch for:

- InnoDB corruption
- Disk full
- Connection exhaustion
- Crashes
- Table corruption

Useful checks:

```
mysqladmin status
```

Connections:

```
mysqladmin processlist
```

8. Docker

For your type of server setup, Docker should be monitored continuously.

Docker daemon

```
journalctl -u docker
```

Live:

```
journalctl -fu docker
```

Container status

```
docker ps
```

Stopped containers:

```
docker ps -a
```

Container logs:

```
docker logs CONTAINER_NAME
```

Live:

```
docker logs -f CONTAINER_NAME
```

Check Docker disk usage:

```
docker system df
```

This is important because Docker logs and images can unexpectedly fill the filesystem.

9. Disk Space

Run:

```
df -h
```

Also check inode exhaustion:

```
df -ih
```

Administrators should generally investigate:

Usage	Status
< 70%	Normal
70-85%	Monitor
85-95%	Warning
>95%	Critical

Find large directories:

```
sudo du -xh / --max-depth=1 2>/dev/null | sort -h
```

For logs:

```
journalctl --disk-usage
```

Reduce old journals if necessary:

```
sudo journalctl --vacuum-time=14d
```

10. Network Problems

Check networking services:

```
journalctl -u NetworkManager
```

For Ubuntu Server using systemd-networkd:

```
journalctl -u systemd-networkd
```

Current network connections:

```
ss -tulpn
```

Network errors:

```
ip -s link
```

Watch for:

- RX errors
- TX errors
- Dropped packets
- Interface resets

11. SSH and Security ☑☑

Ubuntu authentication log:

```
sudo tail -f /var/log/auth.log
```

Failed SSH attempts:

```
grep "Failed password" /var/log/auth.log
```

Successful logins:

```
grep "Accepted" /var/log/auth.log
```

Current users:

```
who
```

Recent logins:

```
last
```

Failed login database:

```
lastb
```

12. System Reboots and Unexpected Shutdowns

Check reboot history:

```
last reboot
```

Previous boot:

```
journalctl -b -1
```

Check for unexpected shutdown:

```
journalctl | grep -iE "shutdown|reboot|panic|crash"
```

Kernel panic:

```
journalctl -k | grep -i panic
```

13. Cron and Scheduled Jobs

Depending on Ubuntu configuration:

```
journalctl -u cron
```

Or:

```
grep CRON /var/log/syslog
```

Important for:

- Nextcloud cron
 - Backups
 - Database dumps
 - SSL certificate renewal
 - Monitoring scripts
-

14. Nextcloud-specific Monitoring

For your Nextcloud servers, I would specifically watch:

```
sudo -u www-data php /var/www/nextcloud/occ status
```

Cron:

```
sudo -u www-data php /var/www/nextcloud/occ background:cron
```

Logs:

```
tail -f /path/to/nextcloud/data/nextcloud.log
```

Watch for:

- Database errors
- Redis connection failures
- File locking problems
- PHP memory exhaustion
- Background job failures
- WebDAV errors
- WOPI/Collabora errors

☐ My Recommended Administrator Dashboard

For a self-hosted Ubuntu server, these are the **most important things to continuously monitor** :

Ubuntu Server Monitoring	
▣▣Disk I/O / Filesystem errors	
▣▣SMART disk health	
▣▣Disk space / inode usage	
▣▣OOM / memory exhaustion	
▣▣Failed systemd services	
▣▣Docker container failures	
▣▣Nginx 502/504 errors	
▣▣PHP-FPM saturation	
▣▣MariaDB errors	
▣▣Network interface errors	
▣▣SSH/security attacks	
▣▣Backup failures	
▣▣SSL certificate expiration	
▣▣Temperature / hardware issues	

▣▣ My recommended daily commands

```
# Critical system errors
journalctl -p err..alert --since today

# Failed services
systemctl --failed

# Disk usage
df -h
```

```
# Memory
free -h

# Docker containers
docker ps -a

# Kernel/hardware errors
journalctl -k -p err..alert

# Recent authentication failures
grep "Failed password" /var/log/auth.log | tail
```

For your Ubuntu servers specifically

Given that you operate **multiple Ubuntu servers with Nextcloud, Nginx, PHP-FPM, MariaDB, Redis, Docker, Immich, and other self-hosted services**, I would prioritize:

1. Disk I/O errors → 2. SMART health → 3. OOM events → 4. disk capacity → 5. failed services → 6. Docker container health → 7. Nginx/PHP/MariaDB errors.

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