Chapter 13: Quick Revision & Cheat Sheets

Purpose of this chapter
This chapter is for:

- Rapid recall
- Confidence boost
- Mental clarity before interviews

Use this when you have **30 minutes to 2 hours** before an interview.

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1. Linux One-Line Core Concepts (Must Remember)

- **Linux is an open-source, Unix-like operating system**
- **Kernel manages hardware and resources**
- **Shell is the interface between user and kernel**
- **Everything in Linux is treated as a file**
- **Linux is multi-user and multi-tasking**

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2. Linux Boot Process (One-Line Flow)

```
Power On → BIOS/UEFI → GRUB → Kernel → systemd (PID 1) → Services → Login
```

Interview line:

"systemd is the first user-space process."

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3. Important Directories (Instant Recall)

Directory	Purpose
/	Root of filesystem
/etc	Configuration files
/var	Logs and variable data
/usr	User programs and libraries

Directory	Purpose
/tmp	Temporary files
/home	User home directories
/proc	Kernel and process info

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4. Permissions Cheat Sheet

Permission Values

- **Read = 4**
- **Write = 2**
- **Execute = 1**

Common Permissions

- 755 → rwxr-xr-x
- 644 → rw-r--r--

Special permissions:

- **SUID → runs as owner**
- **SGID → runs as group**
- **Sticky bit → prevents deletion by others**

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5. Process & Memory Quick Facts

- **Process = running program**
- **Thread = lightweight execution unit**
- **Zombie = dead child, parent alive**
- **Orphan = parent dead, adopted by PID 1**
- **OOM Killer kills processes to save system**
- **High load ≠ high CPU always**

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6. Networking Quick Facts

- TCP = reliable, slower
- UDP = fast, unreliable
- Port identifies service
- Socket = IP + Port + Protocol
- /etc/hosts checked before DNS
- NAT hides private IPs

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7. Monitoring Commands (Instant Recall)

Purpose	Command
CPU usage	top
Memory usage	free -h
Disk usage	df -h
Large directories	du -sh
Disk I/O	iostat
Open ports	ss -tulnp
Logs	journalctl

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8. High-Frequency Interview Commands

```
ps aux
top
free -h
df -h
du -sh /*
ss -tulnp
systemctl status
journalctl -u service
```

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9. Troubleshooting Flow (Say This in Interviews)

“I check CPU first, then memory, then disk, then network, and finally logs.”

Interviewers love this structured answer.

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10. Common Interview Traps (Avoid These)

- **Saying “Linux is Unix” (wrong)**
- **Panic when free memory is low**
- **Killing processes without checking**
- **Ignoring SELinux**
- **Random command dumping**
- **Skipping explanation**

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11. Last-Day Revision Checklist

Before interview, ensure you can explain:

- **Linux architecture**
- **Boot process**
- **Permissions & ownership**
- **Process vs thread**
- **Memory & swap**
- **Networking basics**
- **Monitoring & debugging flow**

If yes → you are interview-**ready**.

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12. How to Speak Confidently in Interviews

- Speak slowly
- Explain approach first
- Use simple language
- Avoid unnecessary flags
- Admit when unsure, then explain logic

Power line to remember:

“I focus on isolating the problem first, then fixing it.”

Final Words

If you have gone through this document:

- You understand Linux **conceptually**
- You can handle **scenario-based questions**
- You can explain answers **clearly and calmly**
- You are ready for **DevOps / SysAdmin Linux interviews**

This guide **complete and interview-grade**.
