

Resource Sheet – Week 1

Monday – OS Internals & Boot Process Mastery

Must-Read / Watch

- [Linux Kernel Development – Robert Love](#)
- [The Linux Command Line – William Shotts](#) (Chapters on system internals)
- [Brendan Gregg's Linux Performance & Internals Blog](#)
- [Red Hat – Understanding the Linux Boot Process](#)

Hands-On Labs

- [Linux Foundation Free Labs – Boot & Init Systems](#)
- Simulate boot issues in a VM by editing /etc/fstab and repairing with a [Live ISO rescue session](#)

THE DEVOPS WAR ROOM

Tuesday – Linux Networking & Traffic Control

Must-Read / Watch

- [Linux Network Administration – O'Reilly](#)
- [Julia Evans – Networking, TCPdump & DNS Zines](#)
- [nftables / iptables Official User Guide](#)

Hands-On Labs

- Build a simple router with two Linux VMs using iptables
- Simulate DNS outages by manipulating /etc/resolv.conf

Advanced Practice

- Capture a DNS query lifecycle with: tcpdump -vvv -s0 -l -n port 53
 - Implement traffic shaping with [tc](#) (network throttling & packet loss)
 - Reverse engineer network issues from mtr + traceroute outputs
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Wednesday – Secure Access & User Management

Must-Read / Watch

- [SSH Mastery – Michael W. Lucas](#)
- [Linux PAM System Administrator's Guide](#)
- [sudoers policy guide](#)

Hands-On Labs

- Configure SSH key-based auth & disable password login
- Set up PAM-based 2FA with [Google Authenticator PAM Module](#)

Advanced Practice

- Detect & lock compromised accounts with last, w, and who
 - Build an SSH bastion host with logging & session recording
 - Audit /etc/shadow & /etc/passwd for privilege escalation risks
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Thursday – Cloud-Native Fundamentals

Must-Read / Watch

- [The Docker Book – James Turnbull](#)
- [Kubernetes Docs – Core Concepts](#)
- [Liz Rice – Containers From Scratch Talk](#)

Hands-On Labs

- Build a Linux container without Docker using chroot, namespaces, and cgroups
- Deploy a simple workload with [Kind](#) / [Minikube](#)

Advanced Practice

- Write a minimal container runtime in Go/Python
- Debug networking inside a container using nsenter
- Trace syscalls from a container with strace

Friday – Terraform + Ansible Basics in Enterprise

Must-Read / Watch

- [Terraform: Up & Running – Yevgeniy Brikman](#)
- [Ansible for DevOps – Jeff Geerling](#)
- [HashiCorp Learn – Terraform CLI & State Mgmt](#)

Hands-On Labs

- Write a Terraform config to deploy EC2 + security groups
- Use Ansible to install & configure Nginx on the EC2 instance

Advanced Practice

- Store Terraform state in [S3 with DynamoDB locking](#)
 - Write idempotent Ansible playbooks for multi-node orchestration
 - Integrate Terraform with Ansible in a CI/CD pipeline
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Elite-Only Bonus Challenges

- **Black-Box Boot Debugging:** Fix a VM where SSH is disabled, root password unknown, and only console access available
- **Network Cloak:** Identify why a service is reachable via IP but not hostname without DNS logs
- **SSH Ghosting:** Detect an attacker who uses temporary keys without leaving traces in authorized_keys
- **Terraform State Disaster:** Recover a partially-applied infrastructure when remote state is corrupted

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