◆ Core Technical Skills

- **Networking Fundamentals** — TCP/IP, DNS, DHCP, VLANs, routing, switching, VPNs - CCNA

- **Operating Systems** — Deep understanding of **Linux** (especially security hardening, permissions, log analysis) and **Windows** (Active Directory, GPO, event logging).

- **Firewalls & IDS/IPS** — Configuring and managing firewalls (e.g., Cisco ASA, Palo Alto, Sophos) and intrusion detection/prevention systems.

- **Cloud Security** — AWS, Azure, GCP security controls, IAM policies, cloud monitoring tools.

- **Cryptography** — Encryption, hashing, SSL/TLS, PKI, digital signatures, certificates.

- **Vulnerability Management** — Scanning (Nessus, OpenVAS, Qualys), patch management, remediation planning.

- **Penetration Testing Knowledge** — Familiarity with Metasploit, Burp Suite, OWASP Top 10, privilege escalation (Linux & Windows).

- **SIEM Tools** — Splunk, ELK, QRadar for log analysis, correlation, and incident detection.

- **Endpoint Security** — EDR solutions (CrowdStrike, Carbon Black, Defender ATP).

- **Scripting & Automation** — Python, Bash, PowerShell for automating security tasks and incident response.

- **NIST, ISO 27001, CIS Controls** — Understanding frameworks for building policies and controls.

- **GDPR, HIPAA, PCI-DSS** — Knowledge of compliance and regulatory requirements.

- **Zero Trust Architecture** — Modern security design principles.

DAY 1

Ethical hacking course

https://www.netacad.com/courses/ethical-hacker?courseLang=en-US

CCNA Course

1. https://www.udemy.com/course/complete-networking-fundamentals-course-ccna-start

or

2. https://www.youtube.com/watch?v=H8W9oMNSuwo&list=PLxbwE86jKRgMpuZuLBivzlM8s2Dk5lXBQ

Task for research team : Curate projects that cut across Networking, ethical hacking, cryptography, cloud, and firewall configuration.

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