

# Ethical Hacking

## Month 1: Introduction to Ethical Hacking and Reconnaissance

Week 1: Introduction to Ethical Hacking

- Overview of ethical hacking
- Role and responsibilities of an ethical hacker
- Legal and ethical considerations

Week 2-3: Networking Fundamentals

- Basics of networking and the OSI model
- TCP/IP fundamentals
- Understanding protocols (HTTP, DNS, FTP, etc.)

Week 4-5: Information Gathering and Footprinting

- Passive and active information gathering techniques
- Footprinting and reconnaissance
- Tools: WHOIS, DNS lookup, Google hacking

Week 6: Scanning and Enumeration

- Network scanning techniques
- Enumerating systems and services
- Tools: Nmap, Nessus, Wireshark

## Month 2: Vulnerability Assessment, Exploitation, and Defense

Week 1-2: Vulnerability Assessment

- Conducting vulnerability assessments
- Identifying and prioritizing vulnerabilities
- Tools: OpenVAS, Nexpose, Qualys

Week 3-4: Exploitation and Post-Exploitation

- Exploiting vulnerabilities responsibly
- Gaining access and maintaining persistence
- Post-exploitation techniques
- Tools: Metasploit, Burp Suite

Week 5-6: Defensive Strategies and Reporting

- Implementing defensive strategies

- Countermeasures and remediation
- Writing comprehensive security reports
- Ethics in reporting vulnerabilities