

Ethical Hacking for Cyber Defense

Duration: 48hrs (6days)

Module 1: Introduction to Ethical Hacking

- 1.1 Overview of Ethical Hacking and Penetration Testing
- 1.2 Core Concepts: Information Security and Threat Landscapes
- 1.3 Phases of Ethical Hacking

Module 2: Footprinting and Reconnaissance

- 2.1 Footprinting Concepts and Techniques
- 2.2 Active vs. Passive Reconnaissance
- 2.3 Tools for Reconnaissance

Module 3: Scanning Networks

- 3.1 Network Scanning Techniques
- 3.2 Tools for Scanning
- 3.3 Identifying Open Ports and Services

Module 4: Enumeration

- 4.1 Enumerating Users, Groups, and Shared Resources
- 4.2 Tools for Enumeration

Module 5: Vulnerability Analysis

- 5.1 Understanding Vulnerability Assessment
- 5.2 Using Vulnerability Scanners

Module 6: System Hacking

- 6.1 Understanding Password Attacks (Brute Force, Dictionary)
- 6.2 Privilege Escalation Techniques
- 6.3 Clearing Tracks and Covering Traces

Module 7: Malware Threats

7.1 Types of Malware (Viruses, Trojans, Ransomware)

7.2 Evading Anti-Virus Mechanisms

Module 8: Sniffing and Evasion

8.1 Packet Sniffing Concepts and Tools

8.2 Techniques to Evade IDS/IPS and Firewalls

Module 9: Social Engineering

9.1 Understanding Social Engineering Techniques

9.2 Real-Life Social Engineering Scenarios

Module 10: Session Hijacking

10.1 Session Hijacking Concepts

10.2 Tools and Techniques for Session Hijacking

Module 11: Hacking Web Applications

11.1 OWASP Top 10 Vulnerabilities

11.2 Exploiting SQL Injection and Cross-Site Scripting (XSS)

11.3 Tools for Web Application Testing

Module 12: Hacking Wireless Networks

12.1 Wireless Encryption Protocols (WEP, WPA, WPA2)

12.2 Cracking Wireless Networks

Module 13: Hacking Mobile Platforms and IoT

13.1 Security Challenges in IoT Devices

13.2 Mobile Security: Tools and Techniques

Module 14: Cloud Security

14.1 Cloud Vulnerabilities and Threats

14.2 Hacking and Securing Cloud Platforms

Module 15: Ethical Hacking Process Wrap-Up

15.1 Reporting and Documentation in Ethical Hacking

15.2 Remediation Techniques and Recommendations

15.3 Ethics and Legal Considerations in Ethical Hacking