

# 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