



Ethical Hacking Certification Training

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About the Program

This Certified Ethical Hacking course will help you clear the EC Council's CEH v11 certification. It has carefully been designed with help of top Ethical hacker from various major organizations. This CEH certification course will help you master skills sets like system penetration testing, building firewalls, network security and more to become certified Ethical hacker. This Ethical hacking training will help you master methodologies used by the hackers to help you prevent and block security attacks at your organization.



About Intellipaate

Intellipaate is one of the leading online e-learning training providers with more than 600,000 learners across 55+ countries. We are on a mission to democratize education as we believe that everyone has the right to quality education.

Our courses are delivered by subject matter experts from top MNCs, and our world-class pedagogy enables to quickly learn difficult topics in no time. Our 24/7 technical support and career services will help learners jump-start their careers in their dream companies.

Key Features



**40 HRS INSTRUCTOR-LED
TRAINING**



8 HRS SELF-PACED TRAINING



6 Months Access to Cloud Lab



LIFETIME ACCESS



24/7 TECHNICAL SUPPORT



**INDUSTRY-RECOGNIZED
CERTIFICATION**



**JOB ASSISTANCE THROUGH
80+ CORPORATE TIE-UPS**



FLEXIBLE SCHEDULING

Career Support



SESSIONS WITH INDUSTRY MENTORS

Attend sessions from top industry experts and get guidance on how to boost your career growth



MOCK INTERVIEWS

Mock interviews to make you prepare for cracking interviews by top employers



GUARANTEED INTERVIEWS & JOB SUPPORT

Get interviewed by our 400+ hiring partners



RESUME PREPARATION

Get assistance in creating a world-class resume from our career services team



Why take up this course?

- The United States offers 4,000+ CEH jobs for certified professionals – LinkedIn
- Major companies, like Citibank, Deloitte, Accenture, IBM, Oracle, etc., are mass hiring professionals in Ethical Hacking – Indeed
- The average salary of Ethical Hackers in India is about ₹655k per annum – Glassdoor

Who should take up this course?

- Network Security Officers
- Site Administrators
- IT/IS Auditors
- IT Security Officers
- Technical Support Engineers
- IT/IS Analysts and Specialists
- System Analysts
- Network Specialists
- IT Operations Managers
- Senior System Engineers

Program Curriculum

Ethical Hacking Training Course Content

1. Introduction to Ethical Hacking

- Information Security Overview

 - 1.1 Internet is Integral Part of Business and Personal Life – What Happens Online in 60 Seconds

 - 1.2 Essential Terminology

 - 1.3 Elements of Information Security

 - 1.4 The Security, Functionality, and Usability Triangle

- Information Security Threats and Attack Vectors

 - 1.5 Motives, Goals, and Objectives of Information Security Attacks

 - 1.6 Top Information Security Attack Vectors

 - 1.7 Information Security Threat Categories

 - 1.8 Types of Attacks on a System

 - 1.9 Information Warfare

- Hacking Concepts

 - 1.10 What is Hacking?

 - 1.11 Who is a Hacker?

 - 1.12 Hacker Classes

 - 1.13 Hacking Phases

 - Reconnaissance

 - Scanning

 - Gaining Access

 - Maintaining Access

 - Clearing Tracks

- Ethical Hacking Concepts

 - 1.14 What is Ethical Hacking?

 - 1.15 Why Ethical Hacking is Necessary

 - 1.16 Scope and Limitations of Ethical Hacking

 - 1.17 Skills of an Ethical Hacker

- Information Security Controls
 - 1.18 Information Assurance (IA)
 - 1.19 Information Security Management Program
 - 1.20 Enterprise Information Security Architecture (EISA)
 - 1.21 Network Security Zoning
 - 1.22 Defense-in-Depth
 - 1.23 Information Security Policies
 - Types of Security Policies
 - Examples of Security Policies
 - Privacy Policies at Workplace
 - Steps to Create and Implement Security Policies
 - HR/Legal Implications of Security Policy Enforcement
 - 1.24 Physical Security
 - Types of Physical Security Control
 - Physical Security Controls
 - 1.25 What is Risk?
 - Risk Management
 - Key Roles and Responsibilities in Risk Management
 - 1.26 Threat Modeling
 - 1.27 Incident Management
 - Incident Management Process
 - Responsibilities of an Incident Response Team
 - 1.28 Security Incident and Event Management (SIEM)
 - SIEM Architecture
 - 1.29 User Behavior Analytics (UBA)
 - 1.30 Network Security Controls

- Access Control
- Types of Access Control
- User Identification, Authentication, Authorization and Accounting

1.31 Identity and Access Management (IAM)

1.32 Data Leakage

- Data Leakage Threats
- What is Data Loss Prevention (DLP)?

1.33 Data Backup

1.34 Data Recovery

1.35 Role of AI/ML in Cyber Security

- Penetration Testing Concepts

1.36 Penetration Testing

1.37 Why Penetration Testing

1.38 Comparing Security Audit, Vulnerability Assessment, and Penetration Testing

1.39 Blue Teaming/Red Teaming

1.40 Types of Penetration Testing

1.41 Phases of Penetration Testing

1.42 Security Testing Methodology

- Information Security Laws and Standards

1.43 Payment Card Industry Data Security Standard (PCI-DSS)

1.44 ISO/IEC 27001:2013

1.45 Health Insurance Portability and Accountability Act (HIPAA)

1.46 Sarbanes Oxley Act (SOX)

1.47 The Digital Millennium Copyright Act (DMCA)

1.48 Federal Information Security Management Act (FISMA)

1.49 Cyber Law in Different Countries

2. Footprinting and Reconnaissance

- Footprinting Concepts

2.1 What is Footprinting?

2.2 Objectives of Footprinting

- Footprinting through Search Engines

2.3 Footprinting through Search Engines

2.4 Footprint Using Advanced Google Hacking Techniques

2.5 Information Gathering Using Google Advanced Search and Image Search

2.6 Google Hacking Database

2.7 VoIP and VPN Footprinting through Google Hacking Database

- Footprinting through Web Services

2.8 Finding Company's Top-level Domains (TLDs) and Sub-domains

2.9 Finding the Geographical Location of the Target

2.10 People Search on Social Networking Sites and People Search Services

2.11 Gathering Information from LinkedIn

2.12 Gather Information from Financial Services

2.13 Footprinting through Job Sites

2.14 Monitoring Target Using Alerts

2.15 Information Gathering Using Groups, Forums, and Blogs

2.16 Determining the Operating System

2.17 VoIP and VPN Footprinting through SHODAN

- Footprinting through Social Networking Sites

2.18 Collecting Information through Social Engineering on Social Networking Sites

- Website Footprinting

2.19 Website Footprinting

2.20 Website Footprinting using Web Spiders

2.21 Mirroring Entire Website

2.22 Extracting Website Information from <https://archive.org>

2.23 Extracting Metadata of Public Documents

2.24 Monitoring Web Pages for Updates and Changes

- Email Footprinting

- 2.25 Tracking Email Communications
- 2.26 Collecting Information from Email Header
- 2.27 Email Tracking Tools

- Competitive Intelligence

- 2.28 Competitive Intelligence Gathering
- 2.29 Competitive Intelligence – When Did this Company Begin? How Did it Develop?
- 2.30 Competitive Intelligence – What Are the Company’s Plans?
- 2.31 Competitive Intelligence – What Expert Opinions Say About the Company
- 2.32 Monitoring Website Traffic of Target Company
- 2.33 Tracking Online Reputation of the Target

- Whois Footprinting

- 2.34 Whois Lookup
- 2.35 Whois Lookup Result Analysis
- 2.36 Whois Lookup Tools
- 2.37 Finding IP Geolocation Information

- DNS Footprinting

- 2.38 Extracting DNS Information
- 2.39 DNS Interrogation Tools

- Network Footprinting

- 2.40 Locate the Network Range
- 2.41 Traceroute
- 2.42 Traceroute Analysis
- 2.43 Traceroute Tools

- Footprinting through Social Engineering

- 2.44 Footprinting through Social Engineering
- 2.45 Collect Information Using Eavesdropping, Shoulder Surfing, and Dumpster Diving

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- 2.46 Maltego
- 2.47 Recon-ng

2.48 FOCA

2.49 Recon-Dog

2.50 OSRFramework

2.51 Additional Footprinting Tools

- Countermeasures

2.52 Footprinting Countermeasures

- Footprinting Pen Testing

2.53 Footprinting Pen Testing

2.54 Footprinting Pen Testing Report Templates

3. Scanning Networks

- Network Scanning Concepts

3.1 Overview of Network Scanning

3.2 TCP Communication Flags

3.3 TCP/IP Communication

3.4 Creating Custom Packet Using TCP Flags

3.5 Scanning in IPv6 Networks

- Scanning Tools

3.6 Nmap

3.7 Hping2 / Hping3

- Hping Commands

3.8 Scanning Tools

3.9 Scanning Tools for Mobile

- Scanning Techniques

3.10 Scanning Techniques

- ICMP Scanning – Checking for Live Systems
- Ping Sweep – Checking for Live Systems
 - Ping Sweep Tools

- ICMP Echo Scanning
- TCP Connect / Full Open Scan
- Stealth Scan (Half-open Scan)
- Inverse TCP Flag Scanning
- Xmas Scan
- ACK Flag Probe Scanning
- IDLE/IPID Header Scan
- UDP Scanning
- SSDP and List Scanning
- Port Scanning Countermeasures
- Scanning Beyond IDS and Firewall

3.11 IDS/Firewall Evasion Techniques

- Packet Fragmentation
- Source Routing
- IP Address Decoy
- IP Address Spoofing
 - IP Spoofing Detection Techniques: Direct TTL Probes
 - IP Spoofing Detection Techniques: IP Identification Number
 - IP Spoofing Detection Techniques: TCP Flow Control Method
 - IP Spoofing Countermeasures
- Proxy Servers
 - Proxy Chaining
 - Proxy Tools
 - Proxy Tools for Mobile
- Anonymizers

- Censorship Circumvention Tools: Alkasir and Tails
- Anonymizers
- Anonymizers for Mobile
- Banner Grabbing
 - 3.12 Banner Grabbing
 - 3.13 How to Identify Target System OS
 - 3.14 Banner Grabbing Countermeasures
- Draw Network Diagrams
 - 3.15 Drawing Network Diagrams
 - 3.16 Network Discovery and Mapping Tools
 - 3.17 Network Discovery Tools for Mobile
- Scanning Pen Testing
 - 3.18 Scanning Pen Testing

4. Enumeration

- Enumeration Concepts
 - 4.1 What is Enumeration?
 - 4.2 Techniques for Enumeration
 - 4.3 Services and Ports to Enumerate
- NetBIOS Enumeration
 - 4.4 NetBIOS Enumeration
 - 4.5 NetBIOS Enumeration Tools
 - 4.6 Enumerating User Accounts
 - 4.7 Enumerating Shared Resources Using Net View
- SNMP Enumeration
 - 4.8 SNMP (Simple Network Management Protocol) Enumeration
 - 4.9 Working of SNMP
 - 4.10 Management Information Base (MIB)
 - 4.11 SNMP Enumeration Tools

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 - 4.12 LDAP Enumeration
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 - 4.14 NTP Enumeration
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 - 4.16 NTP Enumeration Tools
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 - 4.17 SMTP Enumeration
 - 4.18 SMTP Enumeration Tools
 - 4.19 DNS Enumeration Using Zone Transfer
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 - 4.20 IPsec Enumeration
 - 4.21 VoIP Enumeration
 - 4.22 RPC Enumeration
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 - 4.24 Enumeration Countermeasures
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5. Vulnerability Analysis

- Vulnerability Assessment Concepts
 - 5.1 Vulnerability Research
 - 5.2 Vulnerability Classification
 - 5.3 What is Vulnerability Assessment?
 - 5.4 Types of Vulnerability Assessment
 - 5.5 Vulnerability-Management Life Cycle

- Pre-Assessment Phase: Creating a Baseline
- Vulnerability Assessment Phase
- Post Assessment Phase
- Vulnerability Assessment Solutions
 - 5.6 Comparing Approaches to Vulnerability Assessment
 - 5.7 Working of Vulnerability Scanning Solutions
 - 5.8 Types of Vulnerability Assessment Tools
 - 5.9 Characteristics of a Good Vulnerability Assessment Solution
 - 5.10 Choosing a Vulnerability Assessment Tool
 - 5.11 Criteria for Choosing a Vulnerability Assessment Tool
 - 5.12 Best Practices for Selecting Vulnerability Assessment Tools
- Vulnerability Scoring Systems
 - 5.13 Common Vulnerability Scoring System (CVSS)
 - 5.14 Common Vulnerabilities and Exposures (CVE)
 - 5.15 National Vulnerability Database (NVD)
 - 5.16 Resources for Vulnerability Research
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 - 5.17 Vulnerability Assessment Tools
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 - Nessus Professional
 - GFI LanGuard
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 - Nikto
 - OpenVAS
 - Retina CS
 - SAINT
 - Microsoft Baseline Security Analyzer (MBSA)
 - AVDS – Automated Vulnerability Detection System

- Vulnerability Assessment Tools

5.18 Vulnerability Assessment Tools for Mobile

- Vulnerability Assessment Reports

5.19 Vulnerability Assessment Reports

5.20 Analyzing Vulnerability Scanning Report

6. System Hacking

- System Hacking Concepts

6.1 CEH Hacking Methodology (CHM)

6.2 System Hacking Goals

- Cracking Passwords

6.3 Password Cracking

6.4 Types of Password Attacks

- Non-Electronic Attacks
- Active Online Attack
 - Dictionary, Brute Forcing and Rule-based Attack
 - Password Guessing
 - Default Passwords
 - Trojan/Spyware/Keylogger
 - Example of Active Online Attack Using USB Drive
 - Hash Injection Attack
 - LLMNR/NBT-NS Poisoning
- Passive Online Attack
 - Wire Sniffing
 - Man-in-the-Middle and Replay Attack
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- Tools to Create Rainbow Tables: rtgen and Winrtgen
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6.7 How Hash Passwords Are Stored in Windows SAM?

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6.12 Password Cracking Tools

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- Escalating Privileges

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6.22 Executing Applications

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- Hardware Keyloggers
- Keyloggers for Windows
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- How Rootkit Works
- Rootkits
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- NTFS Stream Manipulation
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- Classification of Steganography
- Types of Steganography based on Cover Medium
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 - Video Steganography
 - Audio Steganography
 - Folder Steganography
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- Steganography Tools for Mobile Phones
- Steganalysis
- Steganalysis Methods/Attacks on Steganography
- Detecting Steganography (Text, Image, Audio, and Video Files)
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6.32 Clearing Logs

6.33 Manually Clearing Event Logs

6.34 Ways to Clear Online Tracks

6.35 Covering BASH Shell Tracks

6.36 Covering Tracks on Network

6.37 Covering Tracks on OS

6.38 Covering Tracks Tools

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6.39 Password Cracking

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6.41 Executing Applications

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- Malware Concepts

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7.2 Different Ways a Malware can Get into a System

7.3 Common Techniques Attackers Use to Distribute Malware on the Web

7.4 Components of Malware

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7.5 What is a Trojan?

7.6 How Hackers Use Trojans

7.7 Common Ports used by Trojans

7.8 How to Infect Systems Using a Trojan

7.9 Trojan Horse Construction Kit

7.10 Wrappers

7.11 Crypters

7.12 How Attackers Deploy a Trojan

7.13 Exploit Kits

7.14 Evading Anti-Virus Techniques

7.15 Types of Trojans

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- Backdoor Trojans

- Botnet Trojans

- Rootkit Trojans
- E-banking Trojans
 - Working of E-banking Trojans
 - E-banking Trojan: Zeus
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 - 7.17 Stages of Virus Life
 - 7.18 Working of Viruses
 - 7.19 Indications of Virus Attack
 - 7.20 How does a Computer Get Infected by Viruses
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 - 7.22 Fake Antiviruses
 - 7.23 Ransomware
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 - Multipartite and Macro Viruses
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7.29 Anti-Virus Sensor Systems

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7.31 Malware Analysis Procedure: Preparing Testbed

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1.18.2 Local and Online Malware Scanning

1.18.3 Performing Strings Search

1.18.4 Identifying Packing/ Obfuscation Methods

1.18.5 Finding the Portable Executables (PE) Information

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- 1.18.10 Registry Monitoring
- 1.18.11 Windows Services Monitoring
- 1.18.12 Startup Programs Monitoring
- 1.18.13 Event Logs Monitoring/Analysis
- 1.18.14 Installation Monitoring
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7.35 Trojan Analysis: ZeuS/Zbot

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7.39 Virus and Worms Countermeasures

3. Anti-Malware Software

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7.42 Malware Penetration Testing

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8.3 How an Attacker Hacks the Network Using Sniffers

- 8.4 Protocols Vulnerable to Sniffing
- 8.5 Sniffing in the Data Link Layer of the OSI Model
- 8.6 Hardware Protocol Analyzers
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- 8.10 MAC Address/CAM Table
- 8.11 How CAM Works
- 8.12 What Happens When CAM Table Is Full?
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- 8.17 DHCP Request/Reply Messages
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- 8.27 ARP Spoofing Detection Tools

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- 8.28 MAC Spoofing/Duplicating
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- 8.30 MAC Spoofing Tools

8.31 IRDP Spoofing

8.32 How to Defend Against MAC Spoofing

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8.33 DNS Poisoning Techniques

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- Follow TCP Stream in Wireshark

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8.41 How to Detect Sniffing

8.42 Sniffer Detection Techniques

- Ping Method
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9.2 Phases of a Social Engineering Attack

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9.3 Types of Social Engineering

9.4 Human-based Social Engineering

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- Impersonation (Vishing)
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9.5 Computer-based Social Engineering

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9.7 Insider Threat / Insider Attack

9.8 Type of Insider Threats

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9.9 Social Engineering Through Impersonation on Social Networking Sites

9.10 Impersonation on Facebook

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9.12 Identity Theft

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9.14 Insider Threats Countermeasures

9.15 Identity Theft Countermeasures

9.16 How to Detect Phishing Emails?

9.17 Anti-Phishing Toolbar

9.18 Common Social Engineering Targets and Defense Strategies

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9.19 Social Engineering Pen Testing

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10.2 What is Distributed Denial-of-Service Attack?

DoS/DDoS Attack Techniques

10.3 Basic Categories of DoS/DDoS Attack Vectors

10.4 UDP Flood Attack

10.5 ICMP Flood Attack

10.6 Ping of Death and Smurf Attack

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10.8 Fragmentation Attack

10.9 HTTP GET/POST and Slowloris Attacks

10.10 Multi-Vector Attack

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10.12 Permanent Denial-of-Service Attack

10.13 Distributed Reflection Denial-of-Service (DRDoS)

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10.15 Botnet

10.16 A Typical Botnet Setup

10.17 Botnet Ecosystem

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10.19 How Malicious Code Propagates?

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10.21 DDoS Attack

10.22 Hackers Advertise Links to Download Botnet

10.23 Use of Mobile Devices as Botnets for Launching DDoS Attacks

10.24 DDoS Case Study: Dyn DDoS Attack

DoS/DDoS Attack Tools

10.25 DoS/DDoS Attack Tools

10.26 DoS and DDoS Attack Tool for Mobile

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10.27 Detection Techniques

10.28 DoS/DDoS Countermeasure Strategies

10.29 DDoS Attack Countermeasures

- Protect Secondary Victims
- Detect and Neutralize Handlers
- Prevent Potential Attacks

- Deflect Attacks
- Mitigate Attacks
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10.34 Advanced DDoS Protection Appliances

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11.2 Why Session Hijacking is Successful?

11.3 Session Hijacking Process

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11.8 Application Level Session Hijacking

11.9 Compromising Session IDs using Sniffing and by Predicting Session Token

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- Steps to Perform Man-in-the-Browser Attack

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11.33 Approaches Vulnerable to Session Hijacking and their Preventative Solutions

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11.35 IPsec

- Components of IPsec
- Benefits of IPsec

- Modes of IPsec
- IPsec Architecture
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11.36 Session Hijacking Prevention Tools

Penetration Testing

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12. Evading IDS, Firewalls, and Honeypots

IDS, Firewall and Honeypot Concepts

12.1 Intrusion Detection System (IDS)

- How IDS Detects an Intrusion
- General Indications of Intrusions
- Types of Intrusion Detection Systems
- Types of IDS Alerts

12.2 Firewall

- Firewall Architecture
- DeMilitarized Zone (DMZ)
- Types of Firewalls
- Firewall Technologies
- Packet Filtering Firewall
- Circuit-Level Gateway Firewall
- Application-Level Firewall
- Stateful Multilayer Inspection Firewall
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- Overlapping Fragments
- Time-To-Live Attacks
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20.16 Public Key Infrastructure (PKI)

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Project Work

Ethical Hacker Projects Covered

Threat Detection

Being a part of your organization's Ethical Hacking team, you need to detect threats and data breaches through in-depth strategies to predict and protect your company from cybercrimes.

Cracking Wifi

You have to use various tools, technologies, and techniques to crack WPA/WPA2 wifi routers.

Certification

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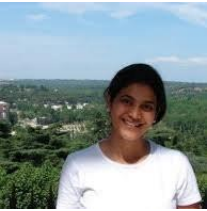
Tushar Patil

Excellent course The manner in which IntelliPaat conducted the course was really good. The trainer was extremely knowledgeable. The biggest plus point of this course was the support. I was able to ask my concern and they were readily available for assistance. I highly recommend IntelliPaat if you are planning to learn any trending technology.



Vishal Pentakota

The best part of this course is the series of hands-on demonstrations that the trainer performed. Not only did he explain each concept theoretically, but also implemented all those concepts practically. Great job. Must go for beginners.



Rinki Dutta

The Cyber Security online training course I completed with Intellipaate was great. The trainer was really helpful in explaining all topics in depth. I was able to understand the topics clearly. The trainer also used real-life examples in order to explain complicated modules and topics. The online sessions were also extremely helpful.

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