

# ETHICAL HACKING

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Computer Engineering

**4.PHASES  
OF  
ETHICAL  
HACKING**

**5.ROAD  
TO  
ETHICAL  
HACKING**

**2.WHY  
ETHICAL  
HACKING**

**3.TYPES  
OF  
ETHICAL  
HACKING**

**6.TOOLS**

**1.OVERVIEW**

**8.THANK  
YOU**

**7.ANY  
QUESTIONS**



## Definition

Ethical hacking involves an authorized attempt to gain unauthorized access to a computer system, application, or data. Carrying out an ethical hack involves duplicating strategies and actions of malicious attackers.



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# Why Ethical Hacking

As warfare increasingly relies on technology-integrated weapons, vulnerabilities emerge. Unauthorized access by adversaries during critical battles could lead to catastrophic consequences, including compromised targeting and disrupted communication.



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# BLACK BOX TESTING

In black-box testing, the hacker operates without prior knowledge of the system. They assess the software from an external perspective, attempting to identify vulnerabilities. For instance, when testing a website, they might not be aware of the server type or the programming languages used in its creation.

White box Testing

Gray box Testing

Other Types



# WHITE BOX TESTING

White-box testing involves a hacker who possesses comprehensive knowledge about the system, including its inner workings and vulnerabilities. Developers often conduct white-box testing to assess how well their systems perform under pressure before deploying them in production environments, where attackers may attempt unauthorized access.



# GRAY BOX TESTING

Gray box testing combines elements of both white-box and black-box testing. Testers possess partial knowledge about the system, allowing them to use deductive reasoning and technical expertise to identify vulnerabilities within the system or network being tested.

Gray hackers might create computer viruses to steal money from banks or other companies, blurring the line between ethical and unethical actions.



## OTHER TYPES

- Web Application Hacking
- Hacking Wireless Networks
- Social engineering
- System hacking
- Web server hacking



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# Reconnaissance

The goal is to gather as much information as possible about the target. Attackers collect data such as passwords and employee details. Tools like HTTPTrack or search engines like Maltego aid in this process. Reconnaissance helps identify potential vulnerabilities in an organization's systems.

Gaining Access

Scanning

Maintaining Access

Clearing Track



# Scanning

In the scanning phase, attackers seek ways to gather target information. Four common scanning practices include:

1. Vulnerability Scanning:

- Targets weaknesses and exploits using automated tools (e.g., Netsparker, OpenVAS, Nmap).

2. Port Scanning:

- Listens to open TCP and UDP ports, identifying potential access points.
- Helps attackers find open doors to an organization's systems.

3. Network Scanning:

- Detects active devices on a network.
- Strengthens network security by identifying vulnerabilities and open doors.



# Gaining Access

Attackers use tools and methods to infiltrate systems, applications, or networks.

- Goals include downloading malicious software, stealing sensitive data, or demanding ransom.
- Ethical hackers secure entry points, protect systems with passwords, and employ firewalls.
- Social engineering helps identify vulnerable employees.



## Maintaining access

Once the attacker manages to access the target's system, they try their best to maintain that access. In this stage, the hacker continuously exploits the system, launches DDoS attacks, uses the hijacked system as a launching pad, or steals the entire database



# Clearing Track

In the final phase of ethical hacking, attackers cover their tracks to avoid detection. They delete logs, corrupt registry values, and uninstall software to erase evidence. The goal is to maintain their connection without being identified by incident response or forensics teams



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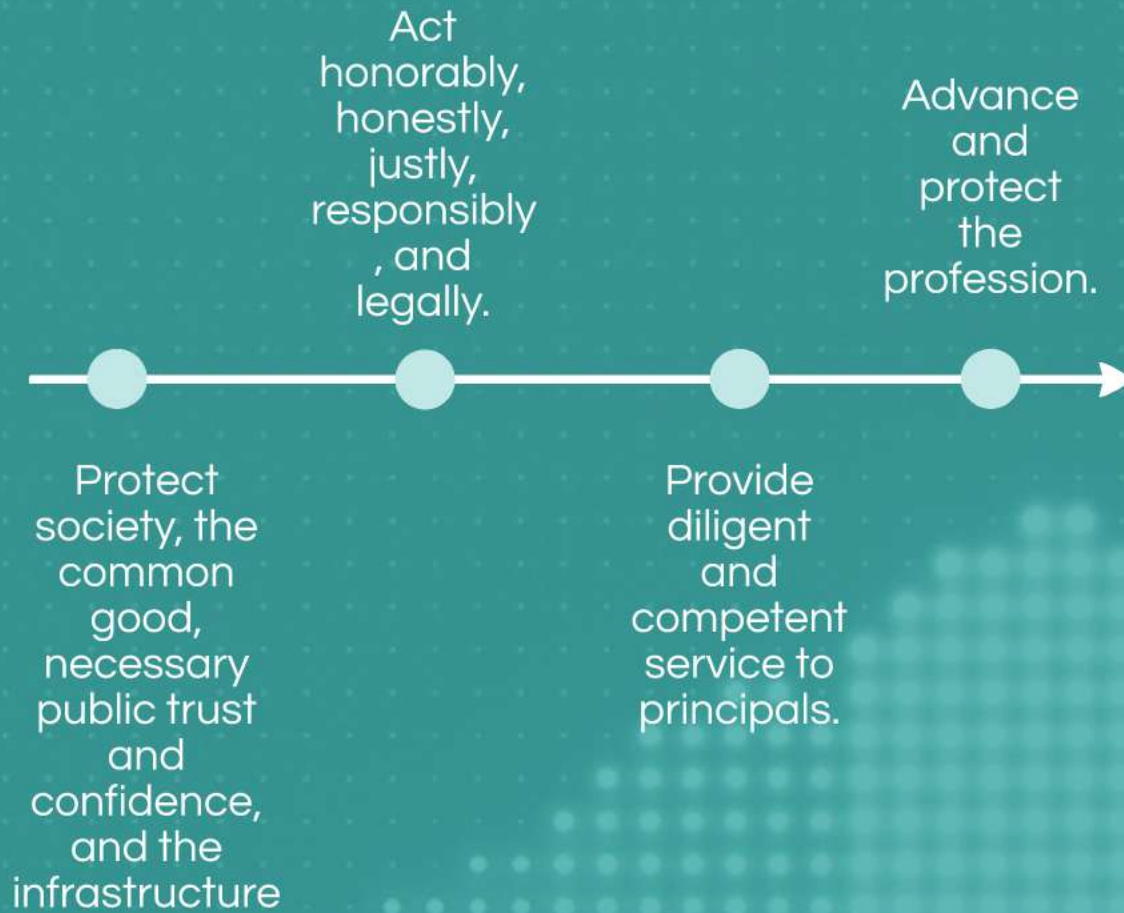
# Skills

- Footprinting and reconnaissance
- Scanning networks
- Vulnerability analysis
- System hacking
- Malware threats
- Social engineering
- Session hijacking
- Evading intrusion detection systems, firewalls, and honeypots
- Hacking web servers
- Hacking web applications
- Hacking wireless networks
- Hacking mobile applications
- Cloud computing
- Cryptography

Ethics



# ETHICS





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# TOOLS





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## SOURCES:

- <https://www.ibm.com/topics/ethical-hacking>
- <https://www.knowledgehut.com/blog/security/need-of-ethical-hacking#need-for-ethical-hacking>
- <https://www.eccouncil.org/cybersecurity-exchange/ethical-hacking/ethical-hacking-understanding-basics/>
- [https://www.hackthebox.com/blog/become-an-ethical-hacker-a-career-guide-for-ethical-hacking#the\\_traits\\_of\\_an\\_effective\\_ethical\\_hacker](https://www.hackthebox.com/blog/become-an-ethical-hacker-a-career-guide-for-ethical-hacking#the_traits_of_an_effective_ethical_hacker)





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- <https://www.eccouncil.org/cybersecurity-exchange/ethical-hacking/ethical-hacking-understanding-basics/>
- [https://www.hackthebox.com/blog/become-an-ethical-hacker-a-career-guide-for-ethical-hacking#the\\_traits\\_of\\_an\\_effective\\_ethical\\_hacker](https://www.hackthebox.com/blog/become-an-ethical-hacker-a-career-guide-for-ethical-hacking#the_traits_of_an_effective_ethical_hacker)



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