WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Ethical Hacking Essential Skills in Cyber Security Carrier

Md. Sohel Rana

Assistant Programmer, Department of ICT, Dhaka, Bangladesh
E-mail:soheltee@gmail.com, Phone: 8801736454608

ABSTRACT

In Information Superhighway the term hacking means to get unauthorized access of any computer network system to damage any vital information. On the other hand, to protect any network system from hacking is called ethical hacking. Nowadays ethical hacking is one of the most important part of information security. In this paper I will cover a lot of things regarding ethical hacking, also know how to test a system vulnerability to find the weakness of any computer system to protect from the black hat hacker attack.

Keywords: cyber security, ethical hacking, IT security, Forensic, Phishing;

1. INTRODUCTION

Ethical Hacking is a term where a hacker can get legal access of an internet group of any organization property with official permission. Ethical Hacker is a person with strong knowledge who can help those people who are facing the problem by this hacking. A good hacker, or security specialist acting as an ethical hacker, just has to know how a computer system works and identify what tools to work in order to find a security fault. By learning the similar skills and using the software tools used by black-hat hackers, you will be capable to defend your computer networks, systems in contradiction of malicious attacks.

a. What is hacking?

Hacking is not a diffident process or classification of instructions as many deliberate. Hacking is a high skillful knowledge. Hacking is an illegal use of computer and network properties. Computer hacking is the art of altering computer hardware and software to attain an impartial outside of the author's original determination. People who comprise in computer hacking events are called as hackers.

b.What is Ethical hacking?

Ethical Hacking also known as white-hat hacking or penetration testing. The skill of testing the system lumps and network for security vulnerabilities and plugging the dumps find before the bad guys get achance to exploit them. Ethical hacking and ethical hacker are expressions used to explain hacking achieved by a company or individual to support identify potential threats on a computer system or network. An ethical hacker efforts to avoid way past the system security and pursuit for any weak facts that could be ill-treated by malicious hackers.

2. TYPE OF ETHICAL HACKERS

Generally Ethical hackers can be classified into three categories.

1. **White Hats Hackers:** They areGood guys, do ethical hacking to find a system loopholes and protect the system from various cyber-attack. It include ethical hacker.
2. **Black Hats Hackers:** They areBad guys, always perform their programming knowledge to gain harmful activities to get illegal benefit from destroying any system. It include malicious hackers.
3. **Gray Hats Hackers:** They may beGood or bad hacker; depends on the circumstances.

Ethical hackers typically fall into the white-hat type, but occasionally they're former gray hats who have become security specialists and who now practice their talents in an ethical manner.

3. PHASES OF ETHICAL HACKING

There are five phases of ethical hacking. The following figure shows each phase of ethical hacking.

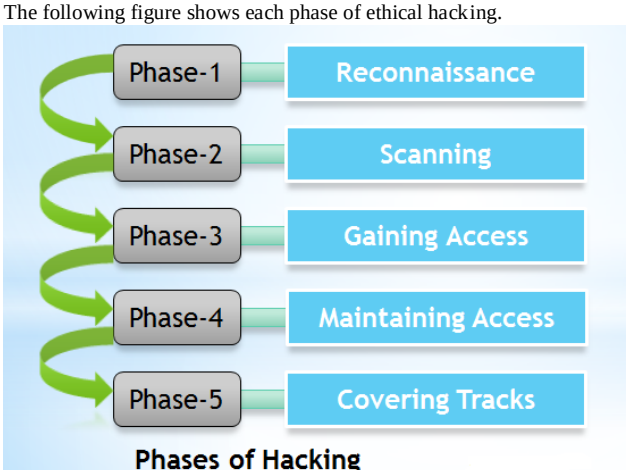

Fig-1: Phases of Ethical Hacking

- **Reconnaissance:** Reconnaissance is a set of procedures used to secretly determine and collect information regarding a target system.
- **Scanning:** Scanning is a common method used by a pen tester to determine the open doors.
- **Gaining Access:** Gaining access is a method to use bypassing techniques or password cracking techniques.
- **Maintaining access:** once an attacker has obtained the access of the targeted system, he can feat both the system and its properties and also use the system as a launch pad to test and damage other systems.
- **Covering Tracks:** It is the final stage of hacking.Once hackers have successfully gained supervisor access on a system, they will attempt to cover the tracks to circumvent their detection.

4. AN ETHICAL HACKER'S SKILL

Ethical hackers who halt a step forward of malicious hackersshould be computer systems specialists who are very familiar about computer networking, programming and operating systems. Thorough knowledge about extremely targeted platforms (such as Linux, UNIX, and Windows) is also a prerequisite. Persistence, Patience & immense perseverance are essential qualities for ethical hackers since the length of time and level of attentionrequired for utmost attacks to pay off. Webprogramming, Networking and database skills are all suitable in carrying out vulnerability testing and ethical hacking. Maximum ethical hackers are soundcurvy with wide skill on computers and networking. Sometimes, an ethical hacker will perform as part of a tiger-team who has been appointed to test network structure and computer systems and find susceptibilities. In this case, every member of the team will have different specialties, and the ethical hacker may requisitemore specialized talents in one area ofnetworking and computer systems. Maximum ethical hackers are expertabout security areas and interrelated issues but don't essentiallyhave a resilient command of the countermeasures that can avoid attacks.

5. POPULAR TOOLS USED BY HACKERS:

There are so many popular tools used by hackers. Some of them given below with brief description.

HAVIJ TOOLS is nothing it is a tool to perform the basic sql injection to gain access of any website with some of exta features rather than manual sql injection. By using this tool we can easily find any website database name, table name, column name size and structure of a website database.

OSINT means Open Source Intelligence. By using this technique we can find any critical information. To do this we must thing creative mind and thing positive to get any critical information regarding our target.

BURP SUITE is one of the most powerful tools for web security tester's toolkit of choice. Using this tools we can find more vulnerabilities very faster. Burp suite is the smart automated web scanner and save times. Burp suite is the heart of any web security professional, ethical hacker, penetration tester to make their task easy and faster.

ACUNETIX WEB VULNERABILITY SCANNER is a tool that are used to find out the vulnerability and weakness of website. By using this tools we can easily find that which part of the website are most vulnerable, which pages contains bug or other security hole.

6. IMPORTANCE OF ETHICAL HACKING

Ethical hacking essential for some of the services like War Dialing, Application Testing, Network Testing,System Hardening, Wireless Security, etc. It

used to critic the security programs of the group or organization. It creates Software and codes and more proficient of organizations. Ethical hacking facades the organizations safety risk. There are some advantages and disadvantages of ethical hacking.

Advantage

- This helps to fight against national security holes and cyber crime
- It helps to take preventive action against hackers
- It is the method to find out system vulnerabilities
- It allows them to apply stronger security processes.

Disadvantage

- This may fraudulent the data or files of an organization.
- Main problem with this is reliability of the Ethical hacker.
- This system is illegal.
- Ethical hacker may use the information to malicious activities.
- This practice can harm someone's confidentiality.
-

7. FUTURE SCOPE OF ETHICAL HACKERS

As it as growing branch the scope of improvement in technology is enormous. No ethical hackers can guarantee the system safety by using the same method repeatedly. He would have to develop, improve and discover efficient new paths repeatedly. More enriched software's should be used for best protection. Must need to use updated tools regularly and more effective techniques.

8. CONCLUSION

Ethical hacking is lawful way to securing your system. This paper cooperates most of the elementary terminologies related to ethical hacking. It gives a very basic information regarding who an ethical hacker is, and what they do to protect the world from cyber-attack. It also shows how hacking is occurred and what type of tools and technologies used.

REFERENCES

[1] https://en.wikipedia.org/wiki/Certified_Ethical_Hacker
[2] https://www.eccouncil.org/ethical-hacking/
[3] https://ieeexplore.ieee.org/document/8391982
[4] https://cybersecurityguide.org/resources/ethical-hacker/
[5] Hacking: The Art of Exploitation, 2nd Edition by Jon Erickson
[6] https://www.offensive-security.com/pwk-oscp/