



Hacking stages

1. Reconnaissance

- Also known as **footprinting**, **fingerprinting** or **information gathering**
-  Reconnaissance, *noun*, preliminary surveying or research about the target.
-  Necessary first step as an attack would not be successful without it.

2. Scanning

- Hacker utilizes information from previous stage to conduct more technical scan.
- Often maps the routers and firewalls
- Use tools such as port scanners, network mappers, vulnerability scanners, etc.

Reconnaissance vs Scanning

- In scanning you're acting on gathered information to gather information
- Examples

| <u>Reconnaissance</u> | <u>Scanning</u> |
|--|--|
| Scan the perimeter network you need the IP addresses | Use e.g. nmap to figure out what the configuration is. |
| Get e-mails. | Use phishing to gather personal data |
| Learn where service physically are | Do dumpster diving |

3. Gaining Access

- Attack stage
- Steps:
 - i. Find an entry point to the target OS or application on the system
 - ii. Use it to perform the attack
 - Hackers may escalate privileges to gain complete control over the system/network.
- Examples:

- Password crack with brute-force or dictionary attack
- Exploit buffer overflow
- Session hijack
- DoS attacks

4. Maintaining Access

- Keeping admin/root privileges so hacker can continue using the system.
 - After breaking into a system, you attempt to elevate privileges to do more.
- Maintain persistent access, because your connection might break, then you start again
- Can prevent other hackers from accessing the system by installing backdoors, rootkits, or trojans.
- 💡 You can install tools to give you persistence access and gathers data to use compromise more such as keylogger.
- 💡 You can use the machine as proxy so all traces are lead back to the proxy.
 - You can minimize the risks being discovered this way.
 - 🚨 As pen-tester document those as you'll get other people in trouble

5. Clearing tracks

- Hackers do everything they can do to hide their activities
- Goal is to maintain the access to the system but remain unnoticed in the process.
 - If you're detected: the vulnerability will be patched and you'll lose access.
- Vital to clear all tracks as fast as possible, or if it's possible generate none.
- Activities:
 - Clear certain entries in log files: Not all, or it'll be suspicious
 - Masquerade your activities: Make them as similar as possible as legitimate activities
 - E.g. a good keylogger masquerade itself behind legitimate activities
 - Mimics other programs behavior by adding more behavior.

