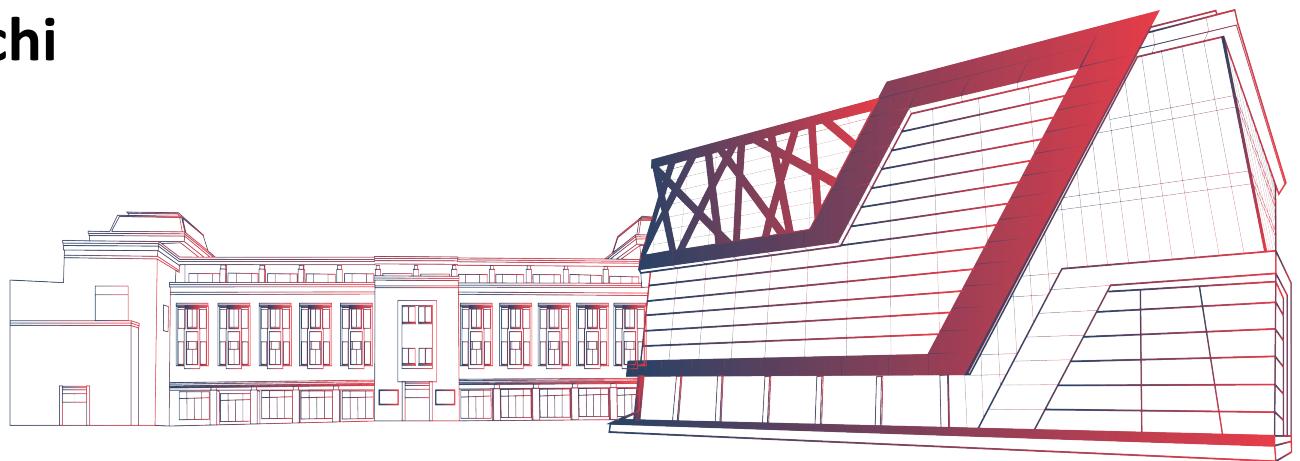


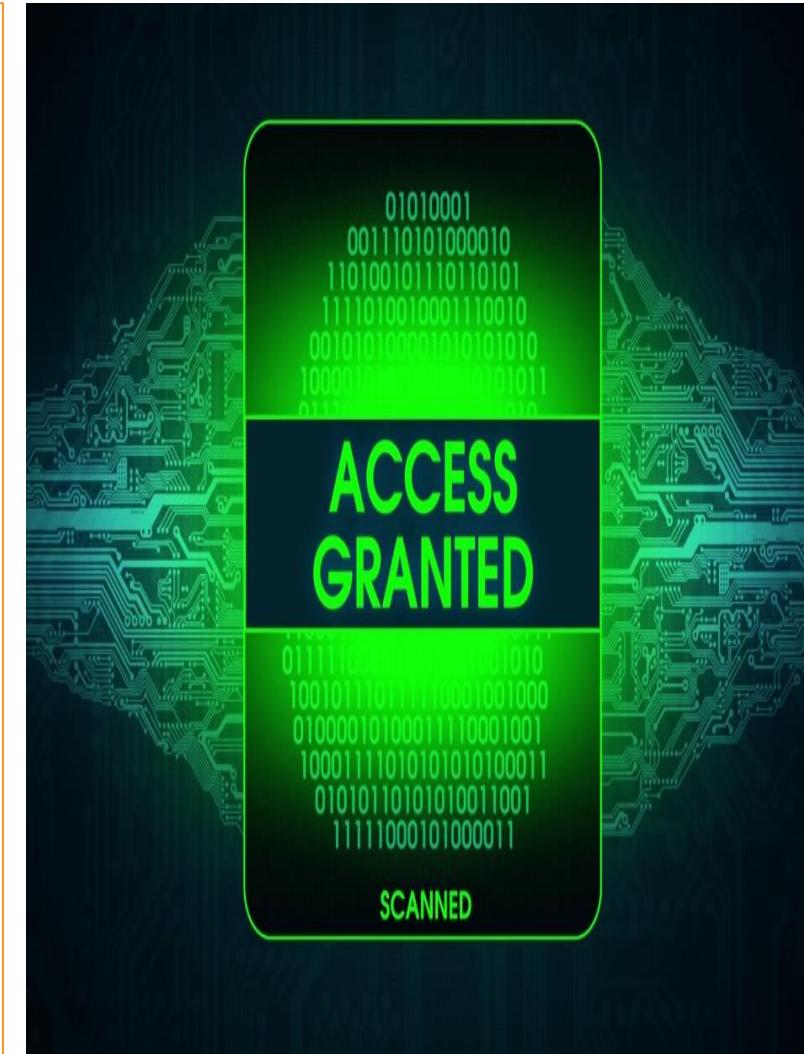
Gaining Access

Dr. Prachi



Gaining Access

- Exploit a vulnerability to gain access to the target.
- Takes control of device to extract data from the target.





How does a hacker gain access?



Password Cracking/Attacking

- Methods like **Brute force, dictionary attack, rule-based attack, rainbow table** are used
- **Dictionary attack** is trying a list of meaningful words until the password matches.
- **Rainbow table** takes the hash value of the password and compares with pre-computed hash values until a match is discovered.



Malware

- Malware helps in:
 - stealing or deleting sensitive data,
 - modifying system's core functionalities, and
 - secretly tracking the victim's activities.

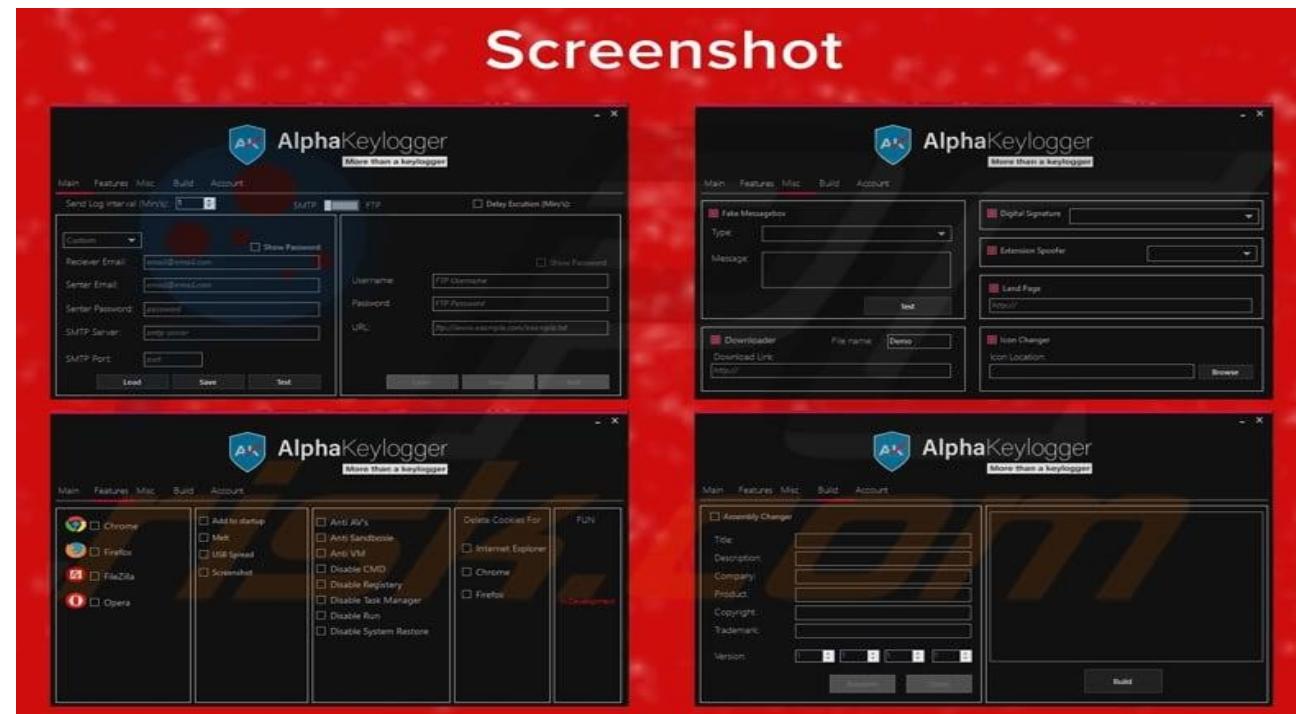
Various factors that can lead to the installation of malware

- **Older or pirated version** of an operating system
- **Clicking on unknown links** or **installing fake/pirated software**



Log keystrokes

- Once installed on a victim's computer, the programs record each keystroke.



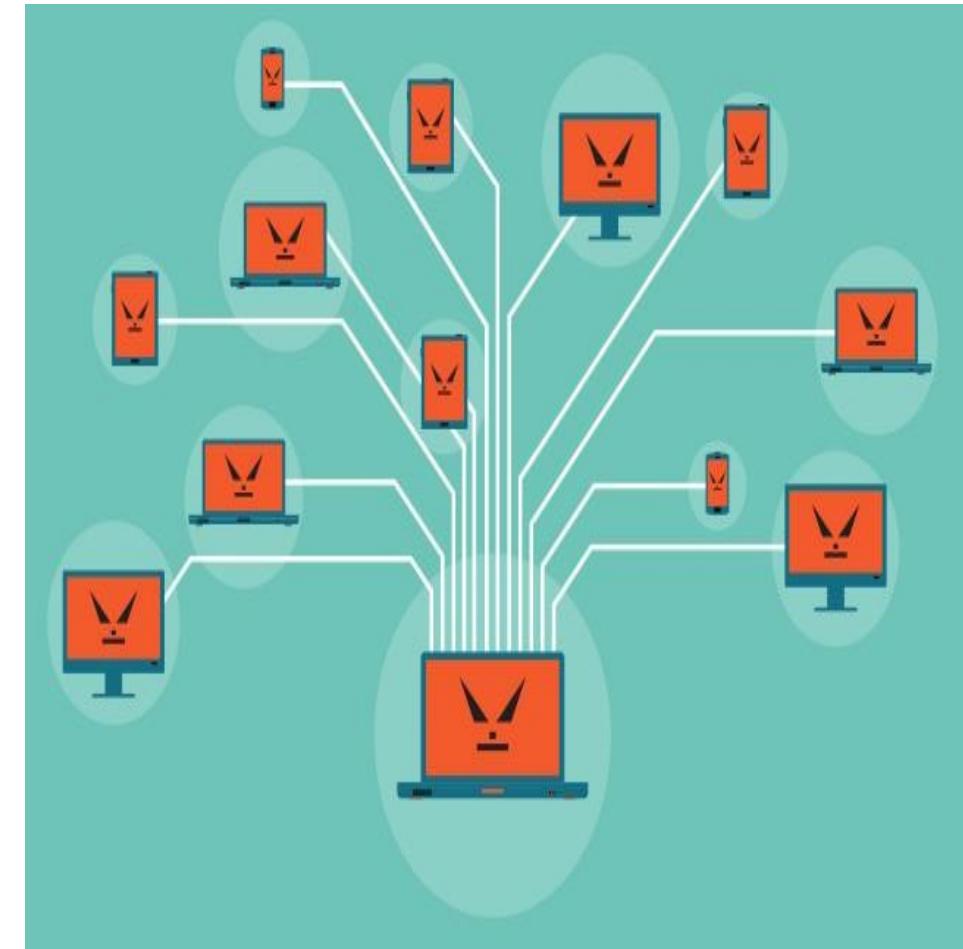
Gain backdoor access

- Search for **unprotected paths** into network systems and computers.
- To infect a computer or system with a **Trojan horse**.



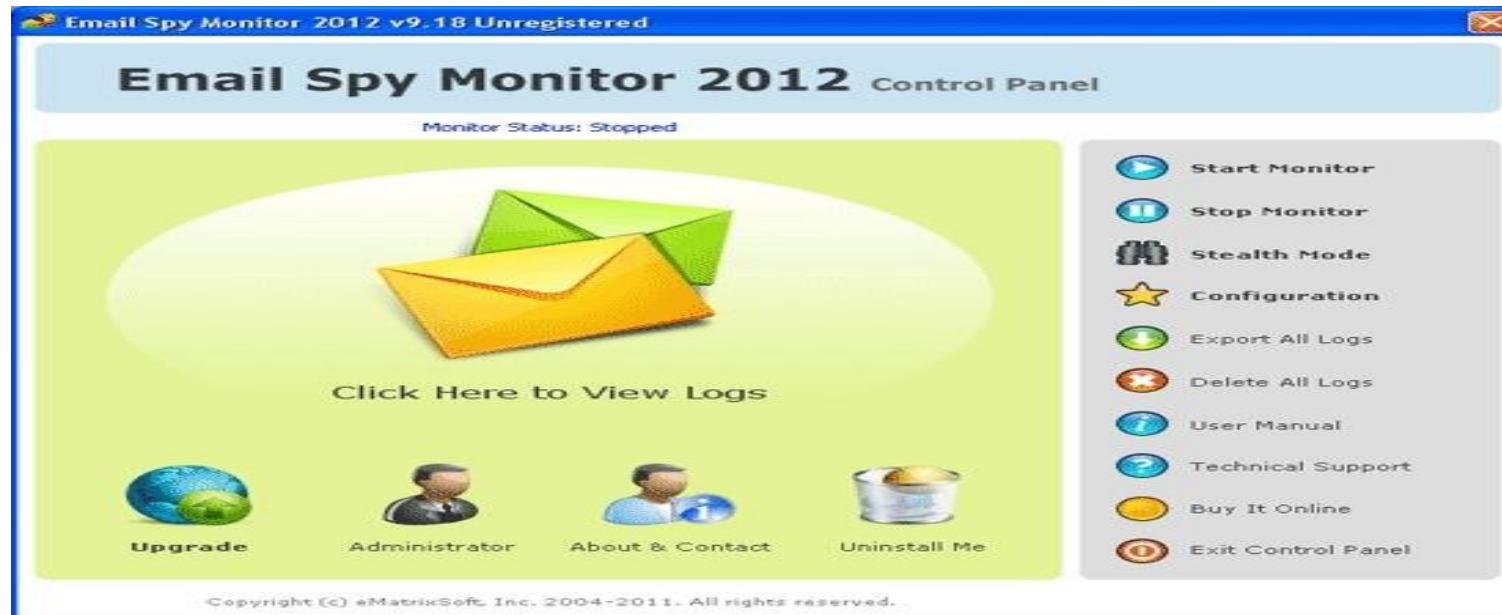
Create zombie computers/Botnet

- A zombie computer, or bot, is a computer that a hacker can use to send spam or commit **Distributed Denial of Service (DDoS)** attacks.
- After a victim executes seemingly innocent code, a connection opens between him and hacker.
- The hacker can secretly control the victim's computer it to commit crimes or spread spam.



Spy on e-mail/Email spoofing

- Hackers create code to **intercept and read e-mail messages**



Phishing

- Try to create an urgency to trick users into giving out personal details.
- Other ways
 - Popups,
 - Interactive links,
 - Forms,
 - Fake login boxes



Insecure networks

- Connecting to a “**free**” **airport/coffee shop WiFi** is dangerous especially during
 - banking,
 - private conversation or
 - even browsing your email.
- Networks are often left unprotected which allows a malicious hacker in the same shop/region to snoop on you easily.



Malicious apps

- The malicious apps may contain a **code snippet that can install malware** on your device.
- Besides this, the app may ask for **unnecessary permissions** that hackers may
 - **Accounts access:** It helps collect crucial data including contact lists and e-mail addresses.
 - **SMS permission:** It can be used to send SMSs to premium-rate numbers and drain out your balance.
 - **Microphone access:** It can record phone conversations.
 - **Device admin permission:** It can help a hacker

