Cyber Security Concepts and Various Attacks

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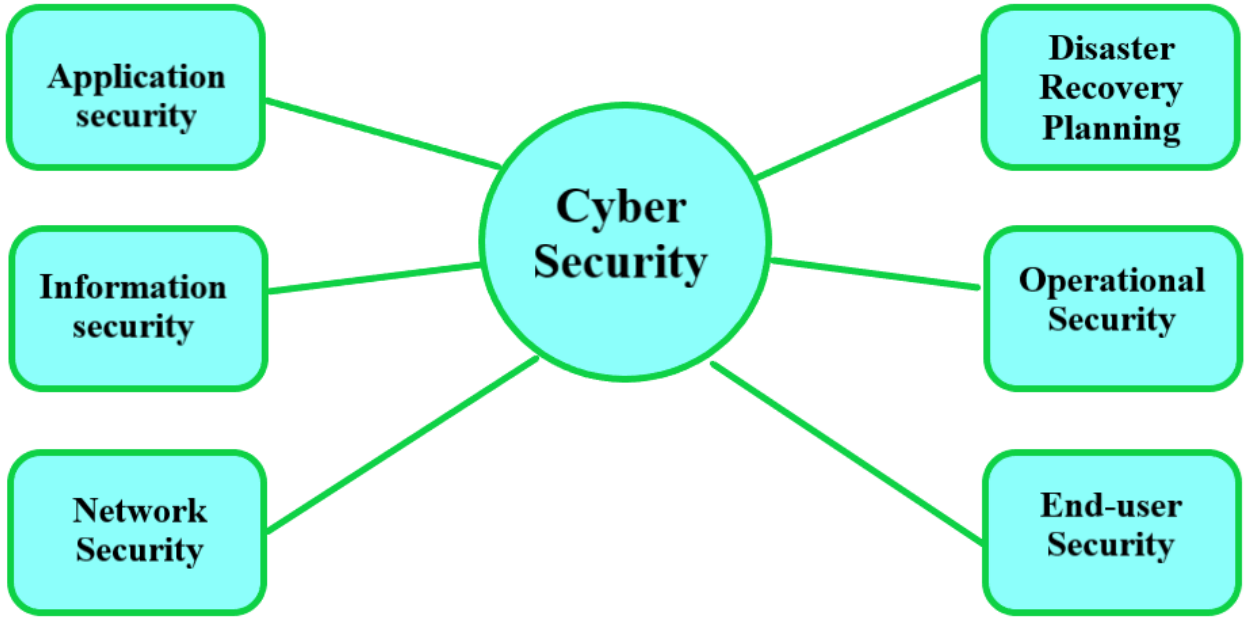
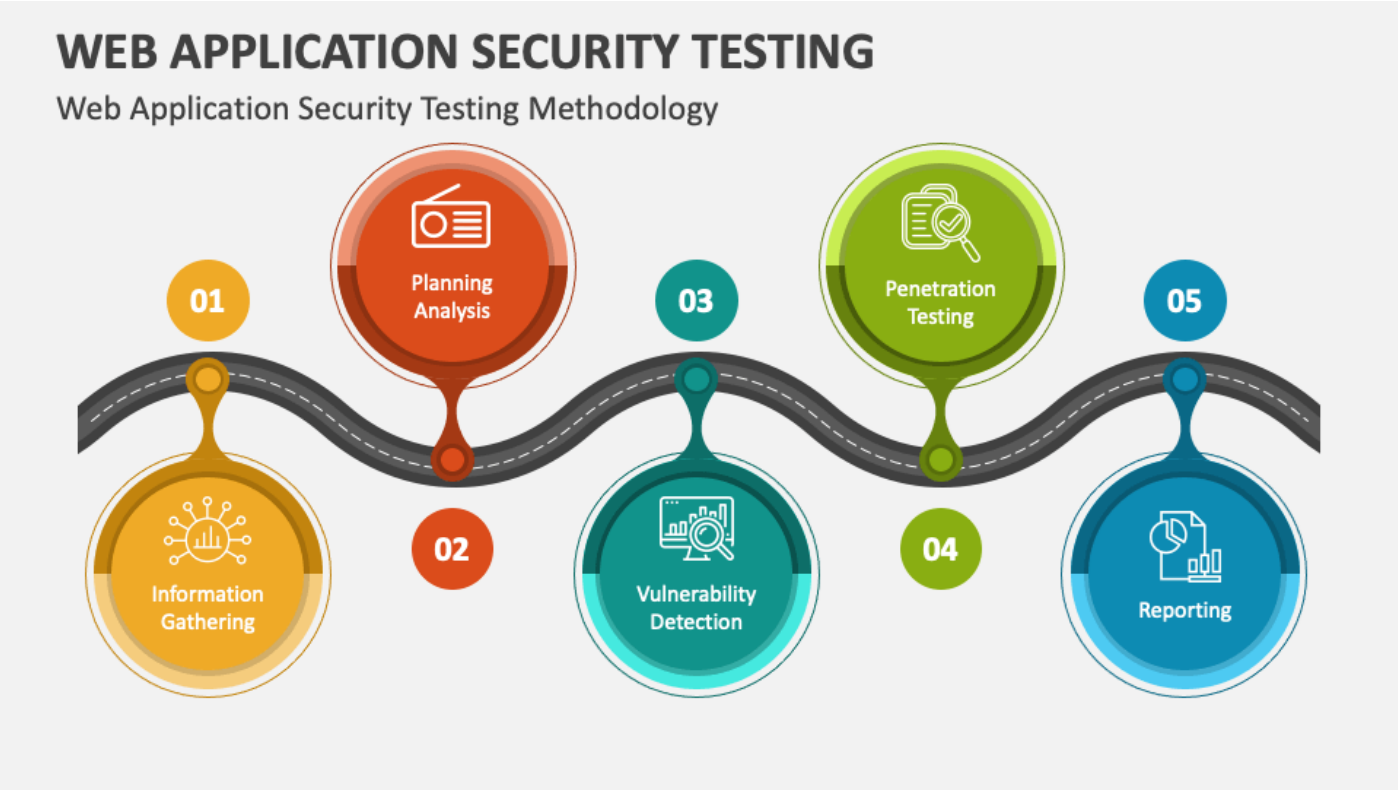
Cyber Security



- Cyber security is the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks.

- **Cyber security can be divided into a few common categories.**

Application security

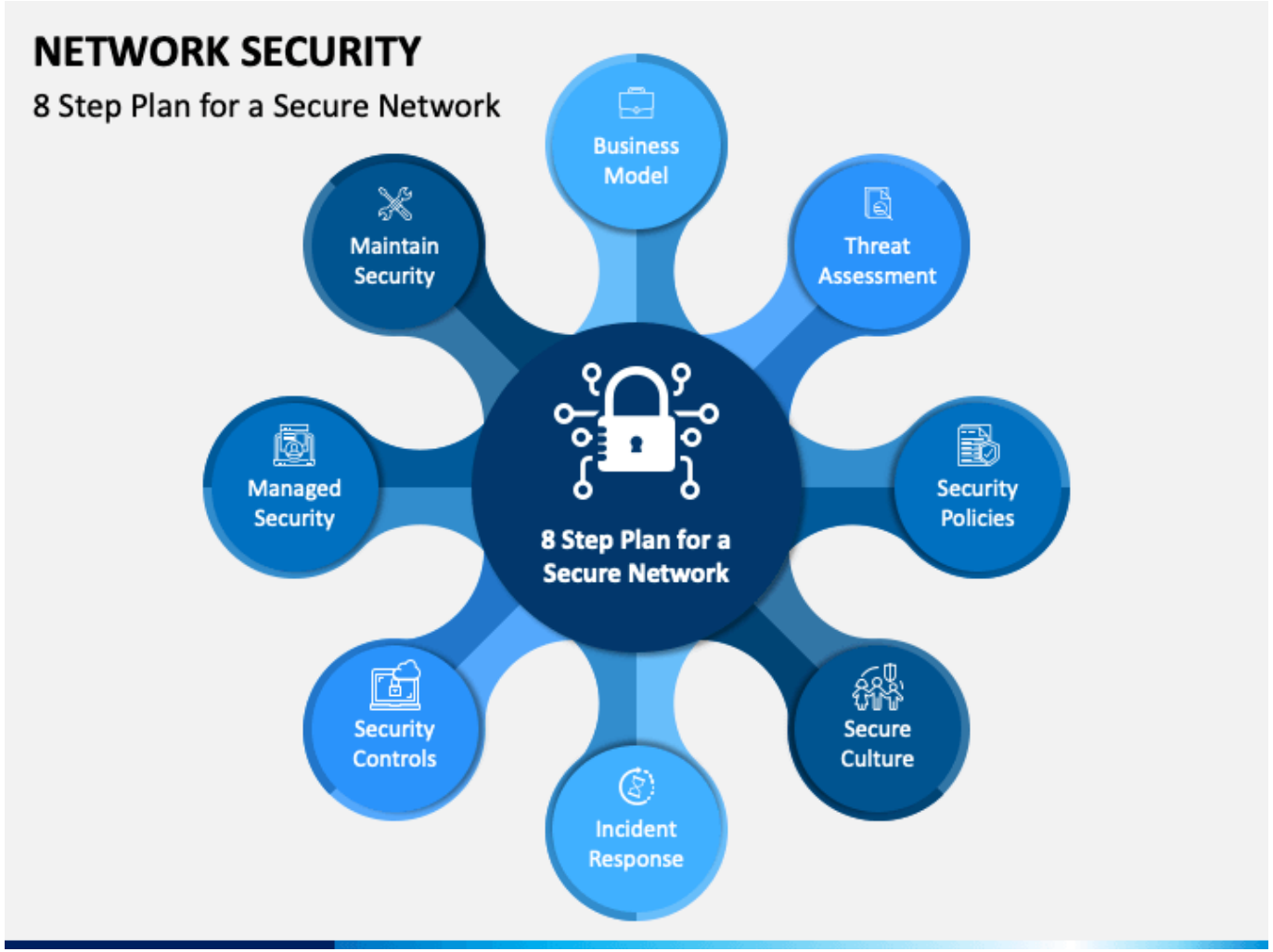


- Focuses on keeping software free of threats.
- A compromised application could provide access to the data its designed to protect.
- Successful security begins in the design stage, well before a program is deployed.

Information security

- Protects the integrity, confidentiality and availability of data, both in storage and in transit.

Network security



- The practice of securing a computer network from attackers or malware

Disaster recovery and business continuity

- Define how an organization responds to a cyber-security incident or any other event that causes the loss of operations or data.
- Disaster recovery policies dictate how the organization restores its operations and information to return to the same operating capacity as before the event.
- Business continuity is the plan the organization falls back on while trying to operate without certain resources.

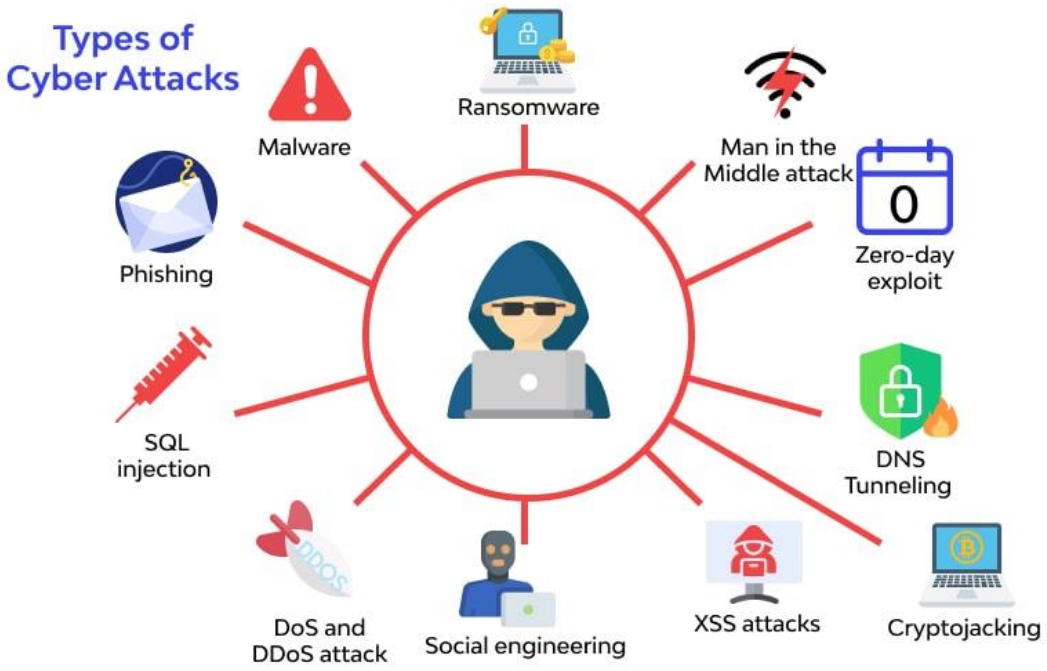
Operational security

- Includes the processes and decisions for handling and protecting data assets.
- The permissions users have when accessing a network and the procedures that determine how and where data may be stored or shared all fall under this umbrella.

End-user Security

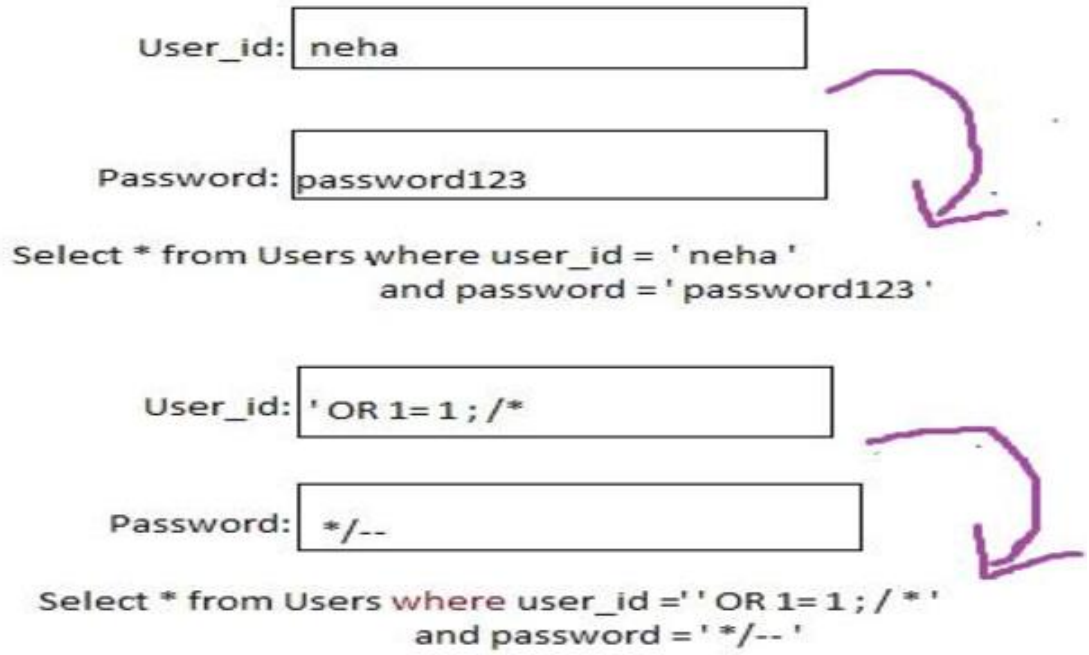
- Addresses the most unpredictable cyber-security factor: people.
- Anyone can accidentally introduce a virus to an otherwise secure system by failing to follow good security practices.
- Teaching users to delete suspicious email attachments, not plug in unidentified USB drives, and various other important lessons is vital for the security of any organization.

Different types of cyber-attacks



- There are many varieties of cyber attacks that happen in the world today.
- If we know the various types of cyber attacks, it becomes easier for us to protect our networks and systems against them.

SQL Injection Attack

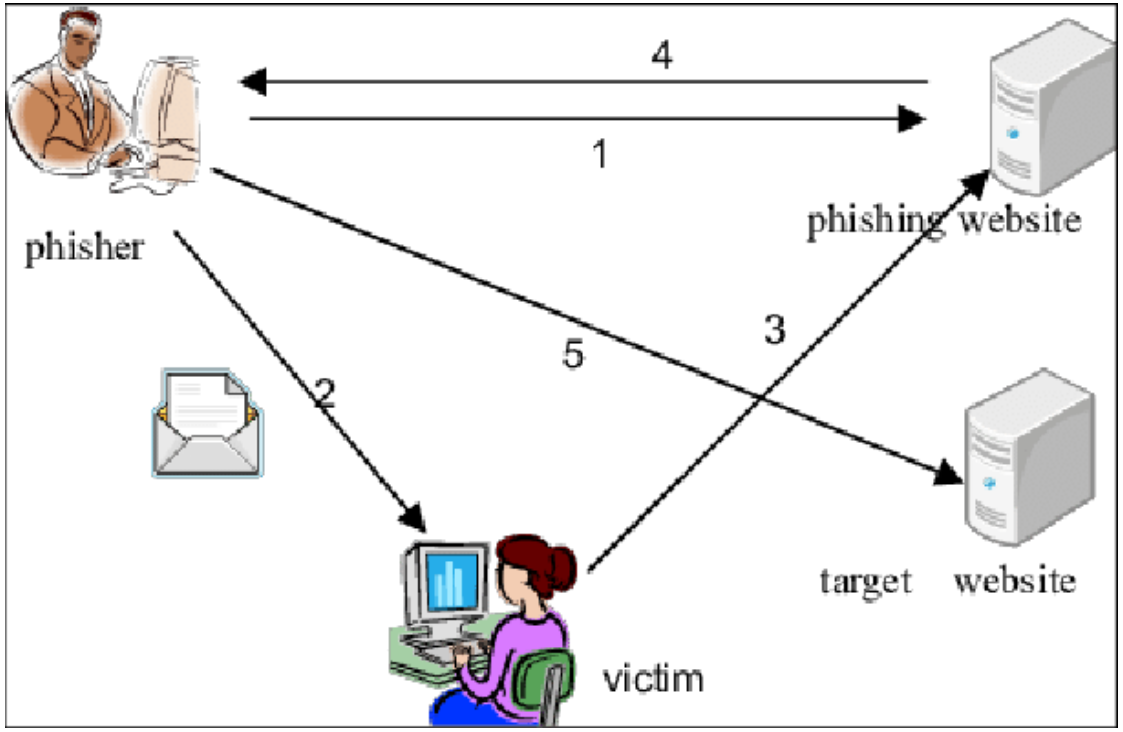


- SQL is the code used to communicate with a database.
- In an SQL injection attack, the hacker writes vindictive SQL code and inserts it into a victim's database, in order to access private information.

Cross-site scripting (XSS)

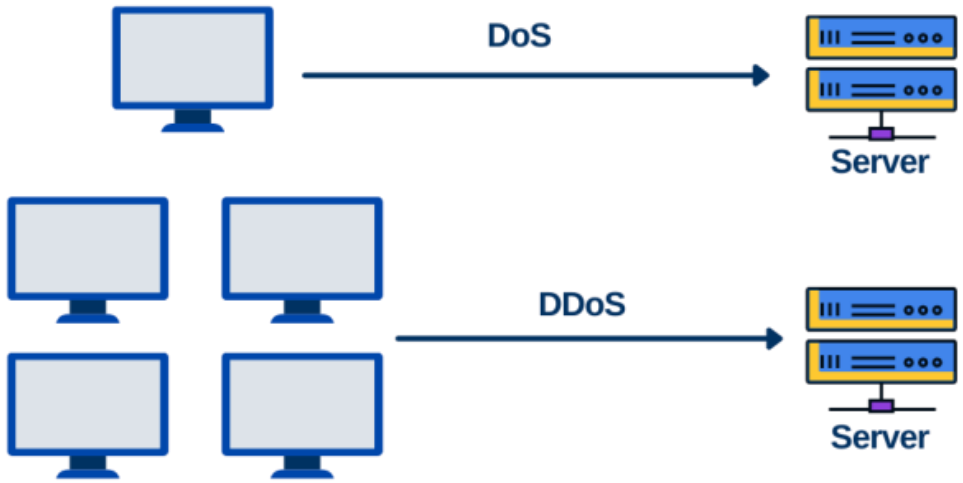
- This is another type of injection attack in which an attacker injects data, such as a malicious script, into content from otherwise trusted websites.
- This allows an attacker to execute malicious scripts written in various languages, like JavaScript, Java, Ajax, Flash and HTML, in another user's browser.
- XSS enables an attacker to steal session cookies, allowing the attacker to pretend to be the user, but it can also be used to spread malware

Phishing Attack



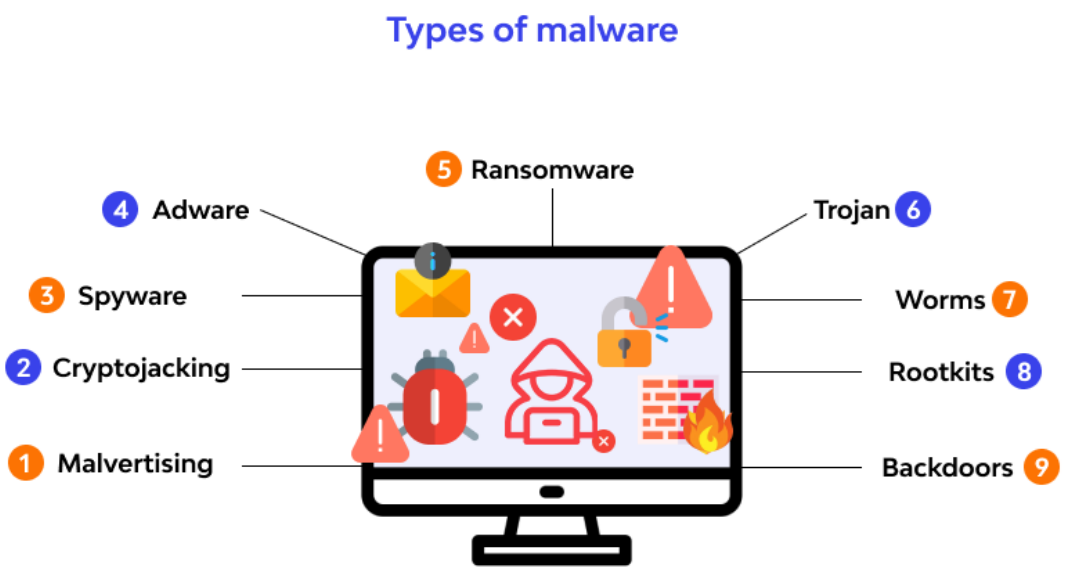
- When a cyber-criminal poses as a legitimate institution and emails a victim to gain personal details like login credentials, home address, credit card information.

Denial of Service Attack (DoS)



- This involves flooding a victim's system with traffic, to the point where their network is inaccessible.
- The hacker doesn't gain any valuable information from this style of attack.

Malware Attack



- A malware attack is a common cyber attack where malware (normally malicious software) executes unauthorized actions on the victim's system.
- Cyber attackers create, use and sell malware for many different reasons, but it is most frequently used to steal personal, financial or business information.

Ransomware Attack

- Ransomware is a malware designed to deny a user or organization access to files on their computer.
- By encrypting these files and demanding a ransom payment for the decryption key

Conclusion

- In an organization, to accomplish an effective Cyber Security approach, the peoples, processes, computers, networks and technology of an organization- either big or small should be equally responsible.

- If all component will complement each other then, it is very much possible to stand against the tough cyber threat and attack