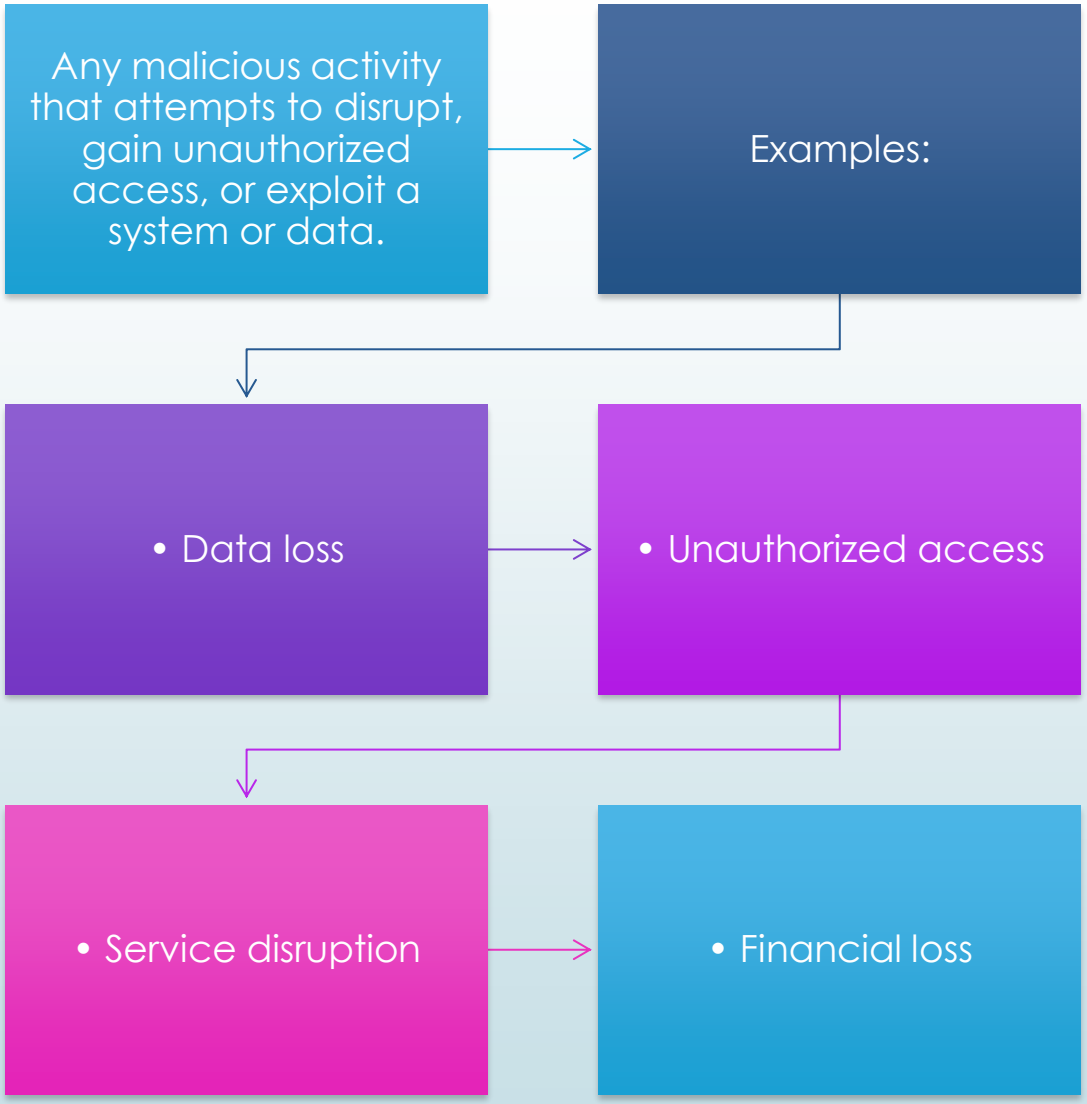
Types of Security Attacks

- Reconnaissance Attack
- Access Attack
- DoS / DDoS
- Malicious Code Attack

What is a Security Attack?



Reconnaissance Attack

- Definition: Gathering information about the target.

- Techniques:
- • Port scanning (Nmap)
- • Banner grabbing
- • SNMP walk
- • Social engineering

Reconnaissance Scenario & Prevention

- Example: Hacker uses Nmap to scan open ports on a company web server.

- Prevention:
- • Firewall rules
- • IDS/IPS detection
- • Disable unused services

Access Attack

- Definition: Attempt to gain unauthorized access.

- Examples:
- • Brute-force / password guessing
- • Privilege escalation
- • Exploiting unpatched systems
- • SQL injection

Access Attack Scenario & Defense

- Scenario: Attacker uses leaked credentials to log in and escalate privileges.

- Prevention:
- • MFA & strong password policy
- • Account lockout policy
- • Patching & validation

DoS / DDoS Attack

- Definition: Flooding systems with traffic to make them unavailable.

- Types:
- • DoS – single source
- • DDoS – multiple sources (botnet)

- Examples:
- • SYN flood
- • HTTP flood

DDoS Scenario & Mitigation

- Scenario: Gaming website attacked by botnet during new launch.

- Mitigation:
- • Rate limiting
- • CDN protection (Cloudflare)
- • Traffic filtering & blackholing

Malicious Code Attack

- Definition: Malware designed to harm, steal or control systems.

- Types:
- • Virus, Worm, Trojan
- • Ransomware
- • Spyware, Keylogger
- • Botnet agents

Malicious Code Scenario & Prevention

- Scenario: Employee opens infected email attachment → ransomware encrypts files.

- Prevention:
- • Antivirus / EDR
- • Patch OS & apps
- • Backup & awareness training

Summary & Best Practices

- • Reconnaissance = Info gathering
- • Access = Unauthorized entry
- • DoS/DDoS = Service disruption
- • Malicious code = Harmful software

- Best Practices:
- • Defense-in-depth
- • MFA
- • Logging & monitoring
- • Backups

- 1. List 2 reconnaissance techniques and tools.
- 2. Difference between brute-force & credential stuffing.
- 3. Name 3 ransomware mitigations.

Group Activity

Real-World Example: WannaCry Ransomware (2017)

- • Exploited Windows SMB vulnerability
- • Encrypted files, demanded Bitcoin ransom
- • Affected hospitals, banks, telecoms

- Lesson: Always patch & backup.