Hacking and hacking Mitigation

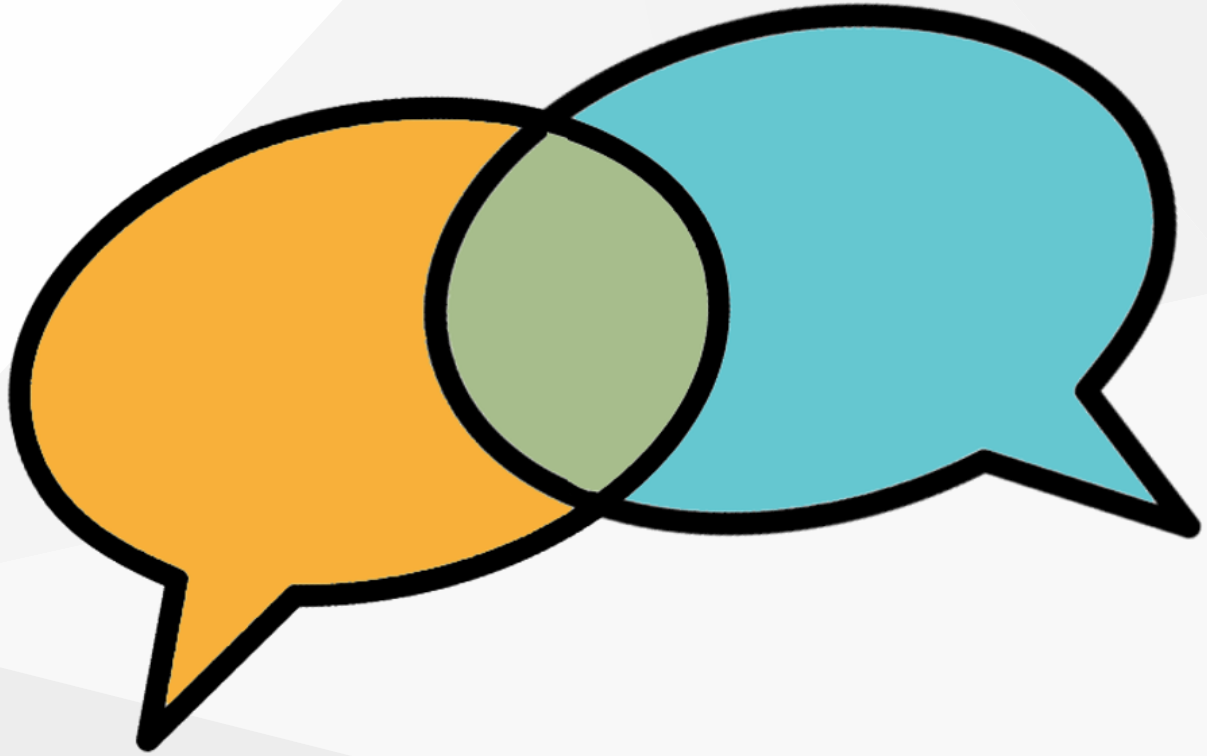
For SQL Server

… the next 60 minutes

- 🔓 Why is this important?
- 🔓 How hackers gain access?
- 🔓 How do hackers think?
- 🔓 Demos
- 🔓 Q&A

Presentation Rules

- Always ask questions
- Please interrupt me if you have a question
- This is a two-way conversation, let’s learn from each other’s experiences



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Why is this so important?

How does a hacker gain access?

- Phishing
- USB Key Malware
- Scanning Networks for Vulnerabilities
- Guessing or Social Engineering Passwords
- Wifi Compromises
- Credentials From Third-Party Sites
- Compromising Web-Based Databases
- Insiders

How do hackers think?

Motivation

According to a recent study by Thycotic, the main motivation for hackers is:

- 🔓 51% thrill
- 🔓 29% moral compass
- 🔓 19% money
- 🔓 1% notoriety

What does it mean to be a hacker?

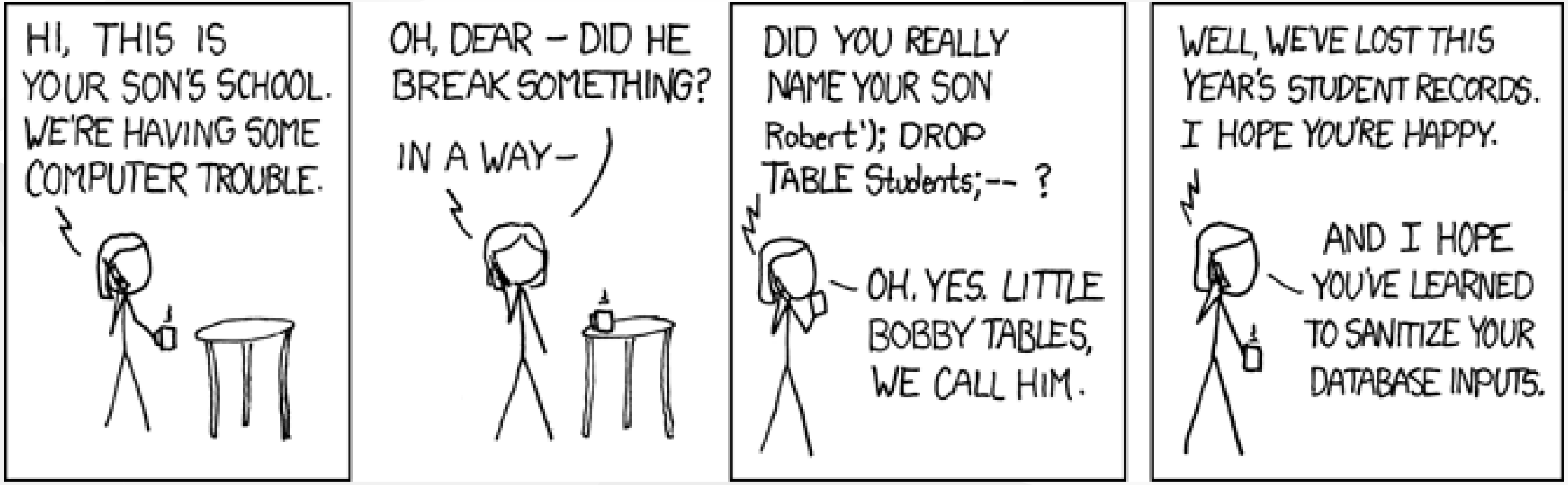
- 🔓 You either choose to be a hacker or you are a hacker
- 🔓 It's someone who experiments with the limitations of a system
- 🔓 Compulsion to experiment with the limits of a system

The way they think

- They understand a fundamental part of technology; Code
- Compulsive desire to command and control systems
- Learn very fast and adapt to systems to their advantage

Demos

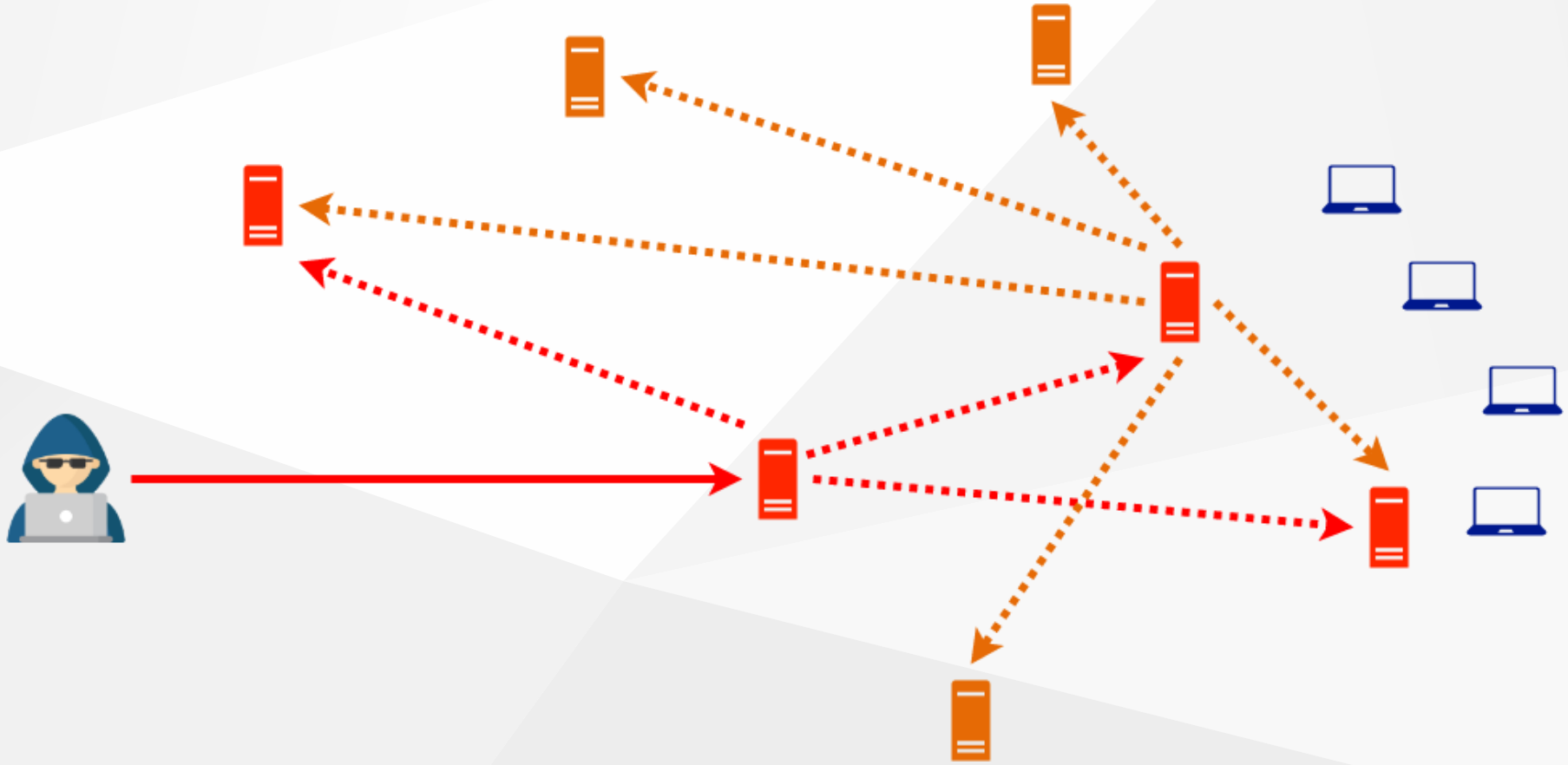
Demo 1: SQL Injection



How to prevent SQL Injection

- 🔒 Parametrized queries
- 🔒 Input validation
- 🔒 Supply the parameters for the SQL statement
- 🔒 Use stored procedures
- 🔒 Use character-escaping functions
- 🔒 Set the correct privileges
- 🔒 Implement a Web application firewall (WAF)

Lateral movement



Metasploit

Golden Ticket

How to prevent against Golden Ticket attack

- Change the KRBTGT password regularly
- Minimize the number of accounts that can access the KRBTGT password hash
- Minimize opportunities for hackers to steal privileged credentials
- Monitor your IT environment for suspicious activity

Pointers to remember

- Security is a mindset
- Hackers think differently
- People are the weakest link
- Think about your choices with security in mind

Resources

- Try Hack Me: https://tryhackme.com/
- Center for Internet Security: https://www.cisecurity.org/
- STIG: https://public.cyber.mil/stigs/
- OWASP: https://owasp.org/www-project-top-ten/