Gaining Access: Escalating Privileges

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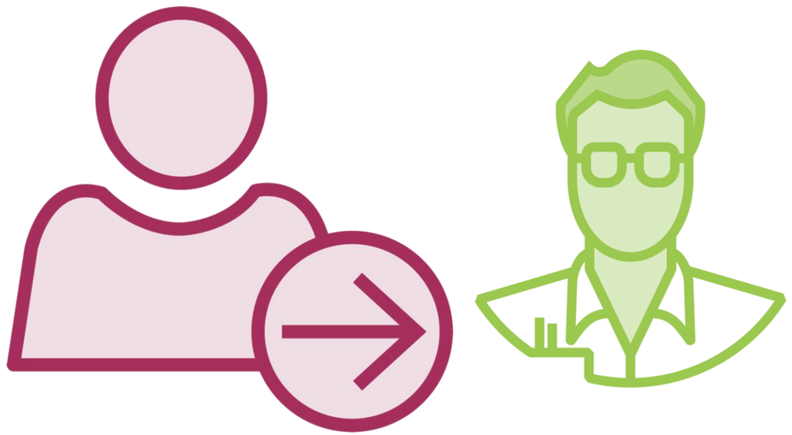
It's true, I had hacked into a lot of companies, and took copies of the source code to analyze it for security bugs. If I could locate security bugs, I could become better at hacking into their systems. It was all towards becoming a better hacker.

Kevin Mitnick

Now What?

So We've Made It In...Now What?



Remember how we came in?

Never make assumptions

Next step? Look around

- Configuration mistakes
- Design errors
- Layouts
- Programming flaws

Four Methods for Escalation

Pwn the admin/root account

Take advantage of vulnerabilities

- Remember our overall goal is “data”

Fire up a “tool”

Have a user do it for you!

Types of Escalation

Vertical Escalation

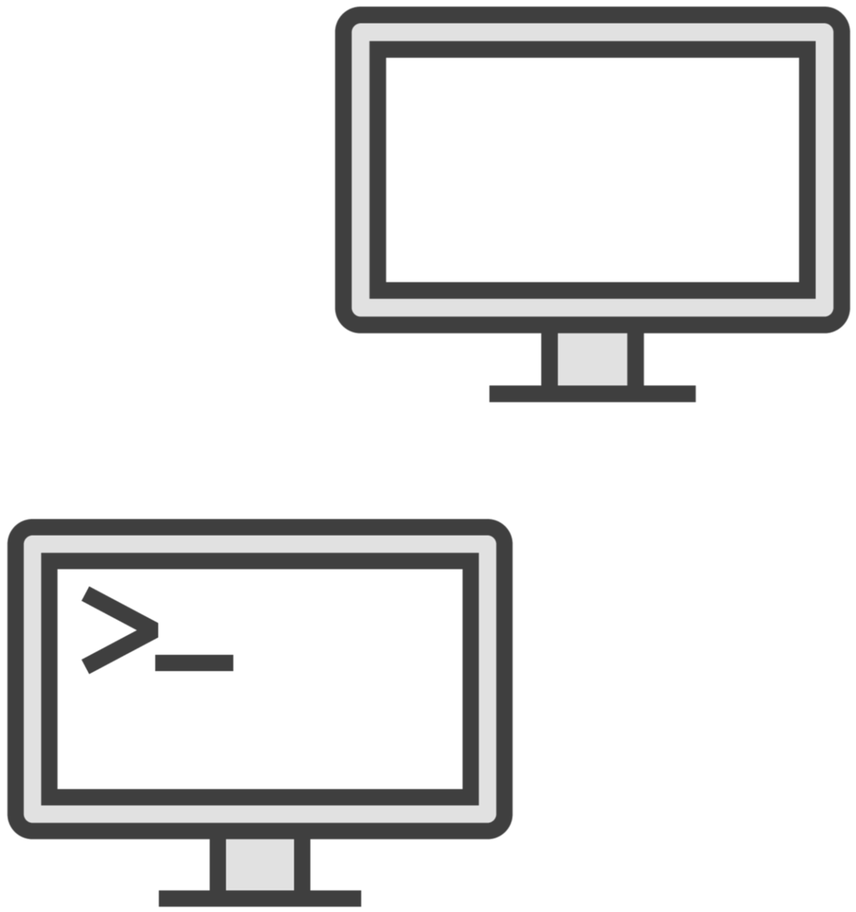
The user gets admin-level access

Create users

Configure system settings

Extract data

Offline Access Will Kill You!



All the time in the world

Simple exploits are gapping holes

Demo

HiveNightmare: Escalating privileges

Horizontal Escalation

Horizontal Escalation

Same access, but with a different user account

Lay blame else where

DLL Hijacking

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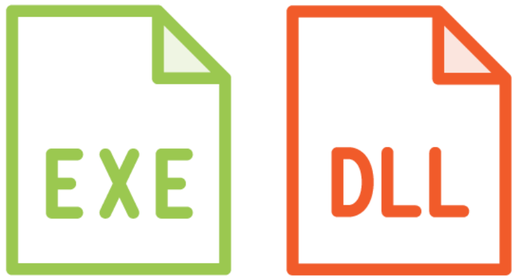

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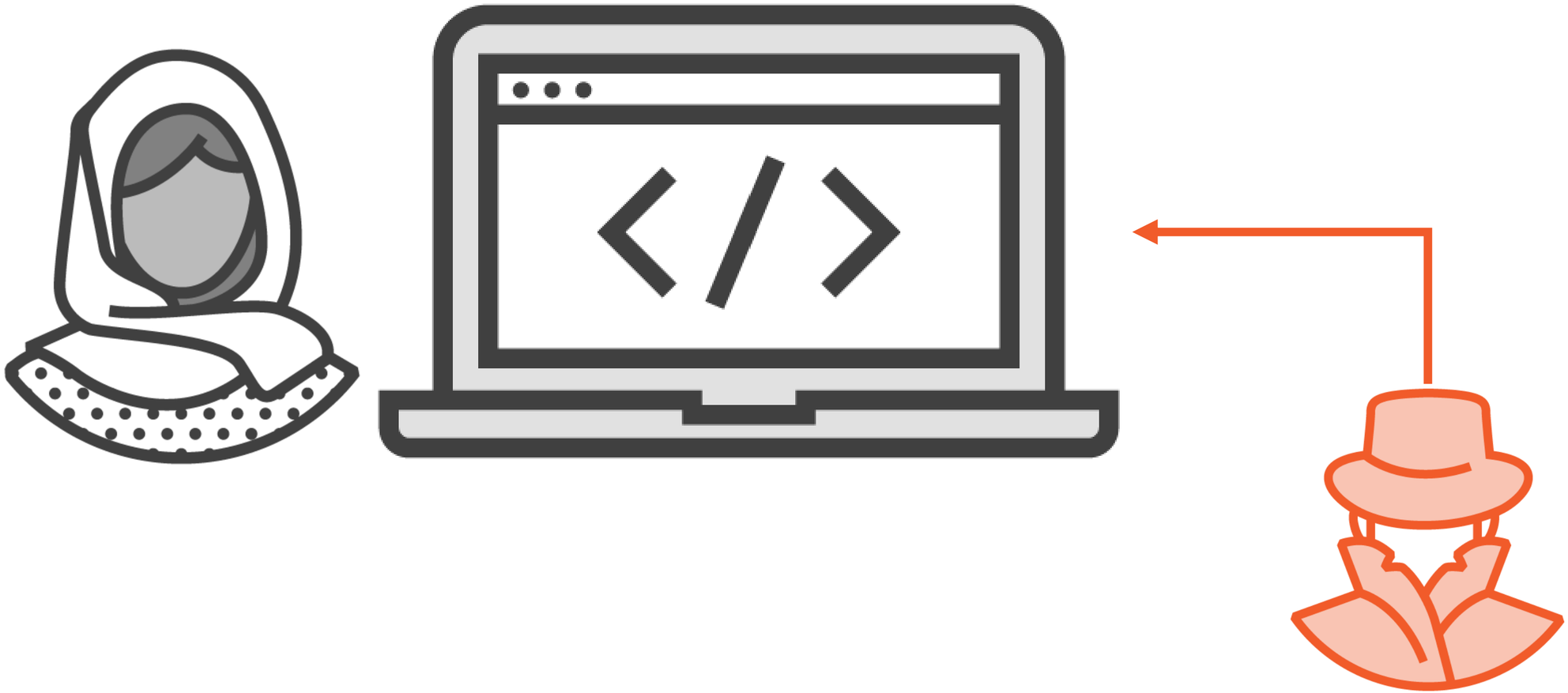
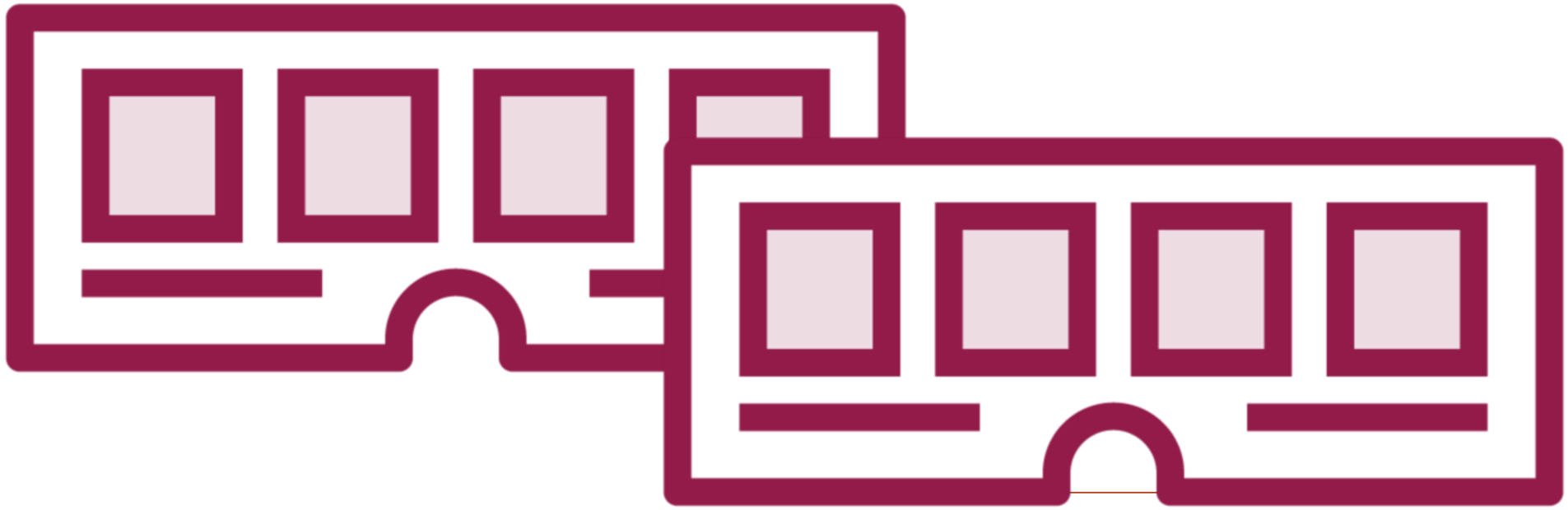


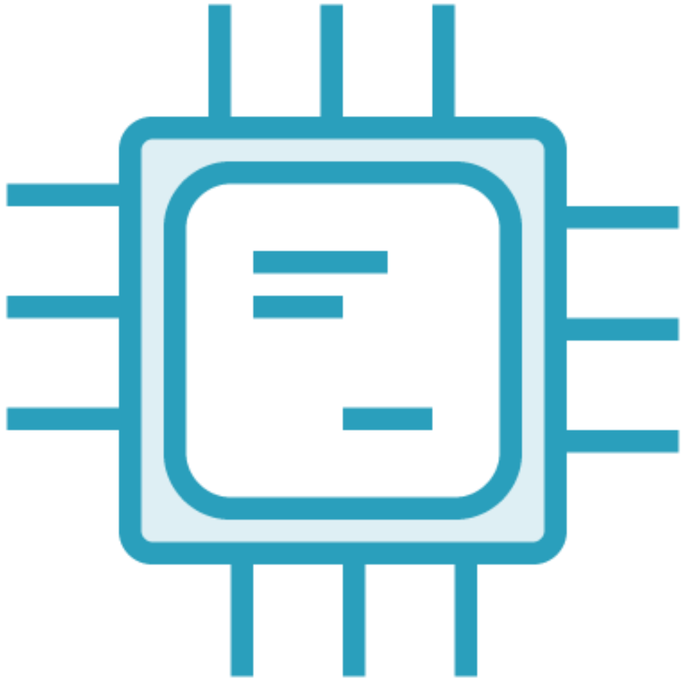
Windows Isn't The Only One

Spectre and Meltdown

Spectre and Meltdown

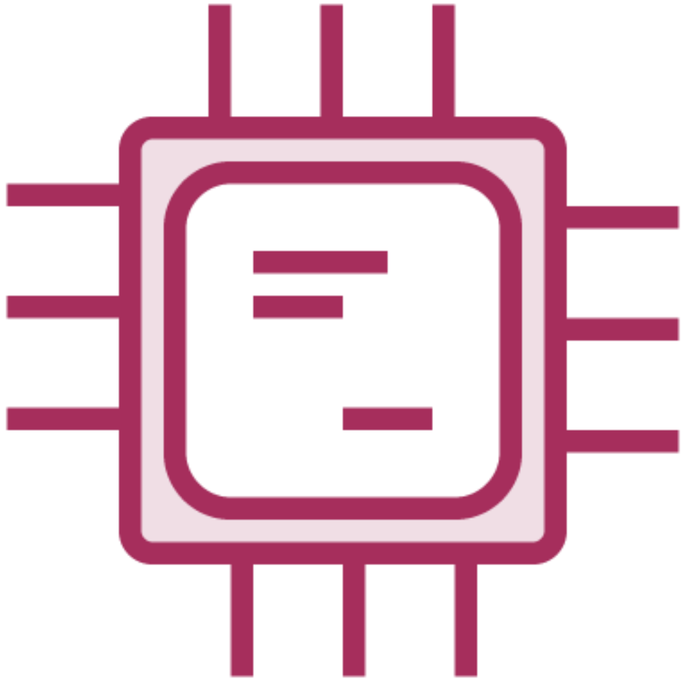


Spectre and Meltdown



- Apple
- AMD
- ARM
- Intel
- Samsung
- Qualcomm

Spectre and **Meltdown**



Apple

Intel

ARM

Other Issues

But Wait, There's More

- Application Shimming
- File System Permission Weakness
- Launch Daemon
- Path Interception
- Scheduled Tasks
- Access Token

But Wait, There's More

Setuid and Setgid

Web Shell

Buffer Overflows

Plist Modification

Countermeasures

How Do I Slow Them Down?

Encryption

Least privileges

Updates, updates, updates

Limit interactive logon

Service accounts don't need all rights

Limit the extent of code that runs "high"

How Do I Slow Them Down?

Privilege separation approach

Test OS and app coding meticulously

Multi-factor = good

Stress tests

Next Up:

Maintaining Access: Executing Applications