Haaukins

A Highly Accessible and Automated Virtualization Platform for Security Education

Presentation for BlackHat Europe 2019

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How to get 50 **high school students** to start hacking in 5 minutes?

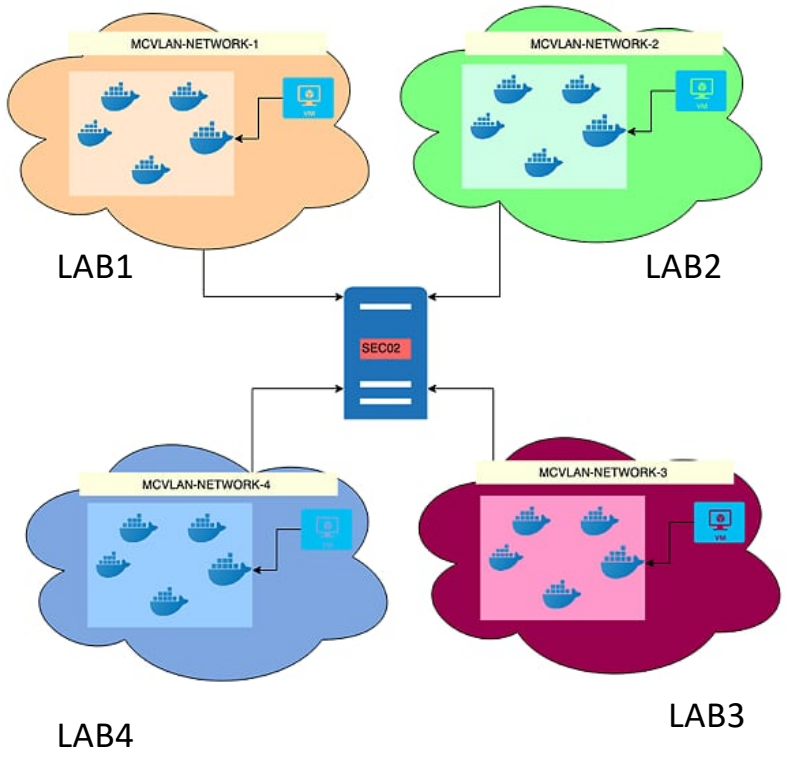
How to get 50 **university students** to start hacking in 5 minutes?

How to get 50 **software developers** to start hacking in 5 minutes?

How to get 50 **software developers** to start hacking in 5 minutes? (for free)

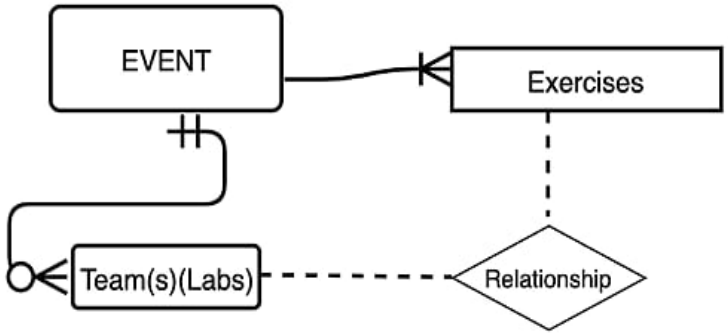
Haaukins - Virtualized environment

- Kali Linux and virtual labs from a browser
- One lab per team
- Fully automated setup
- User registration: New lab is setup
- Open source for the benefit of everyone

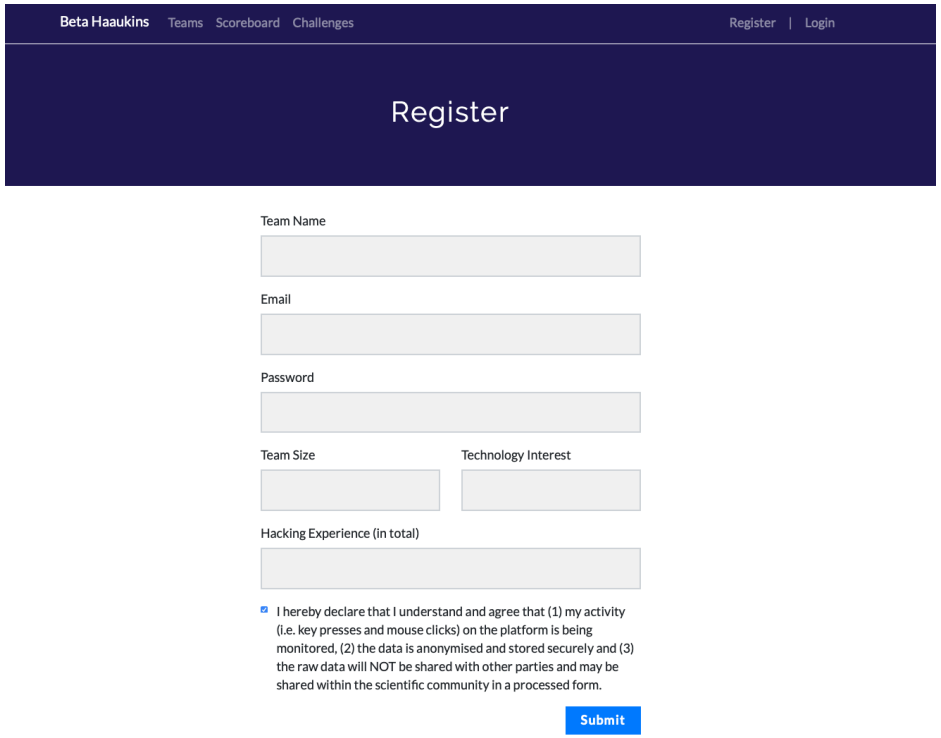


Step 1: Define an event

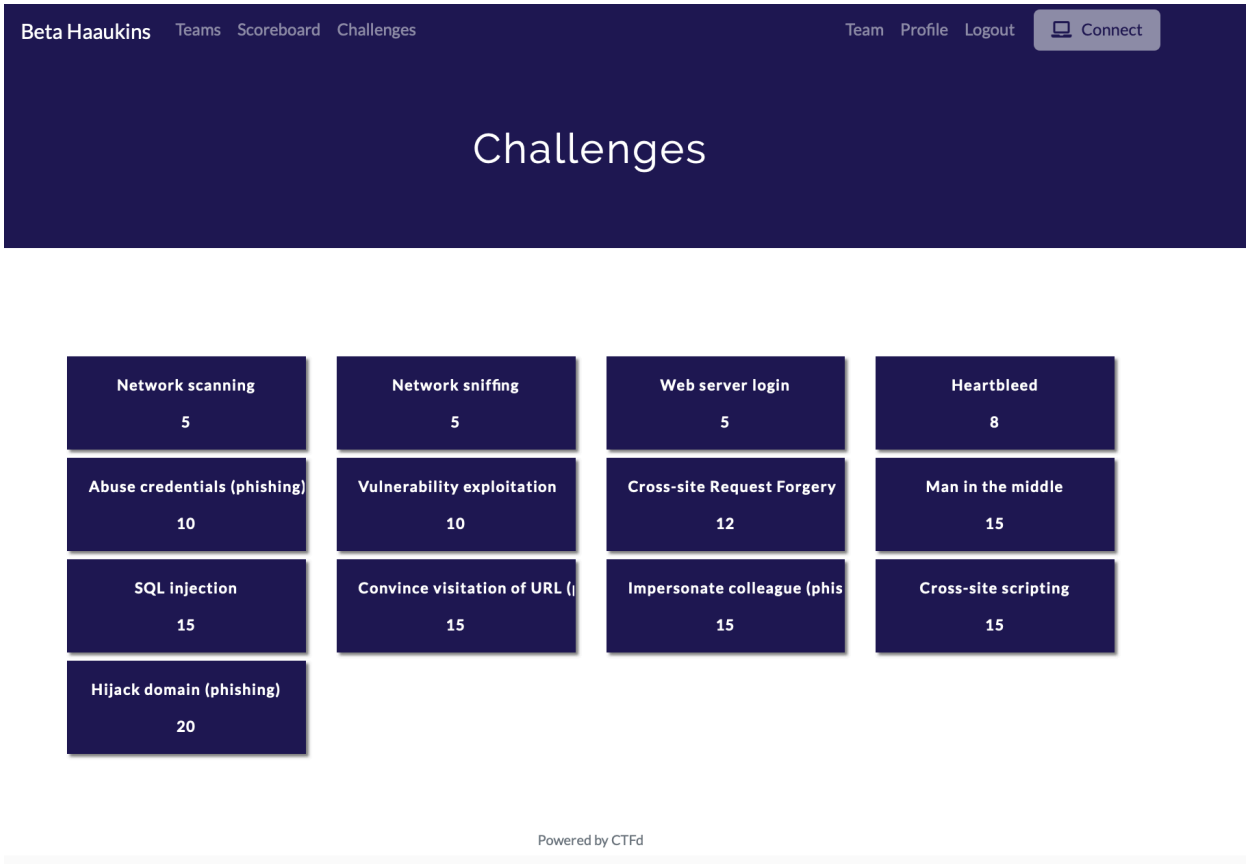
- A simple command line!
- Name of event
- Number of teams (max)
- Which challenges
- We are up running



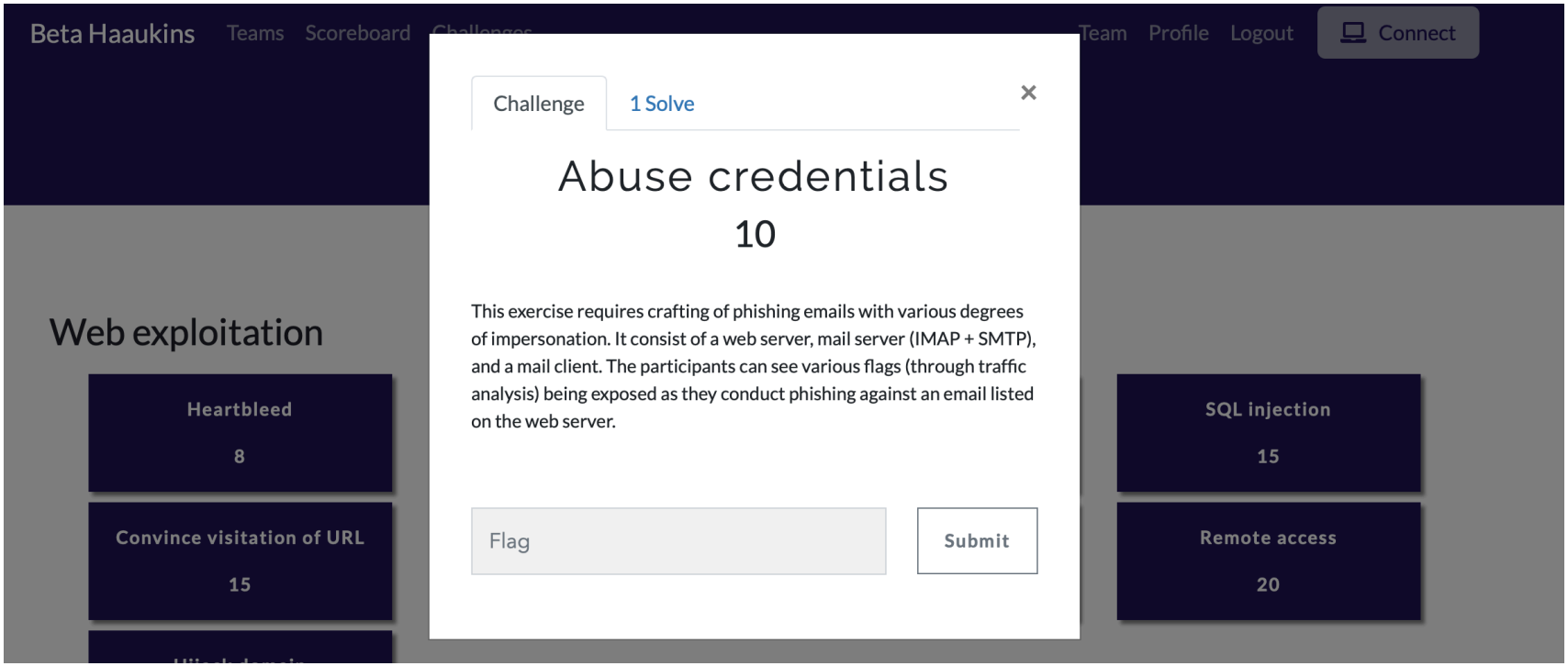
Step 2: Teams can register



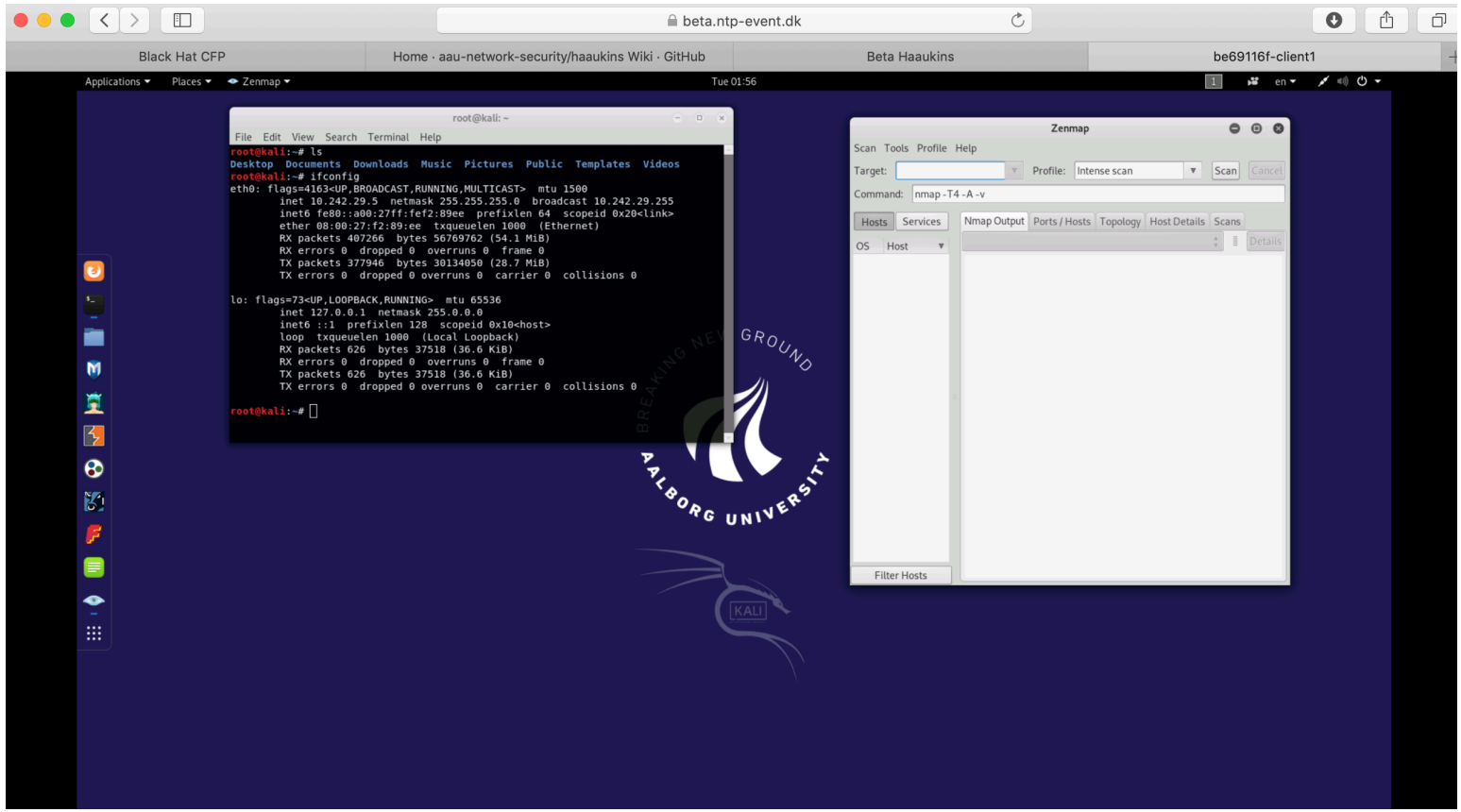
Step 3: See challenges (CTFd) – and connect



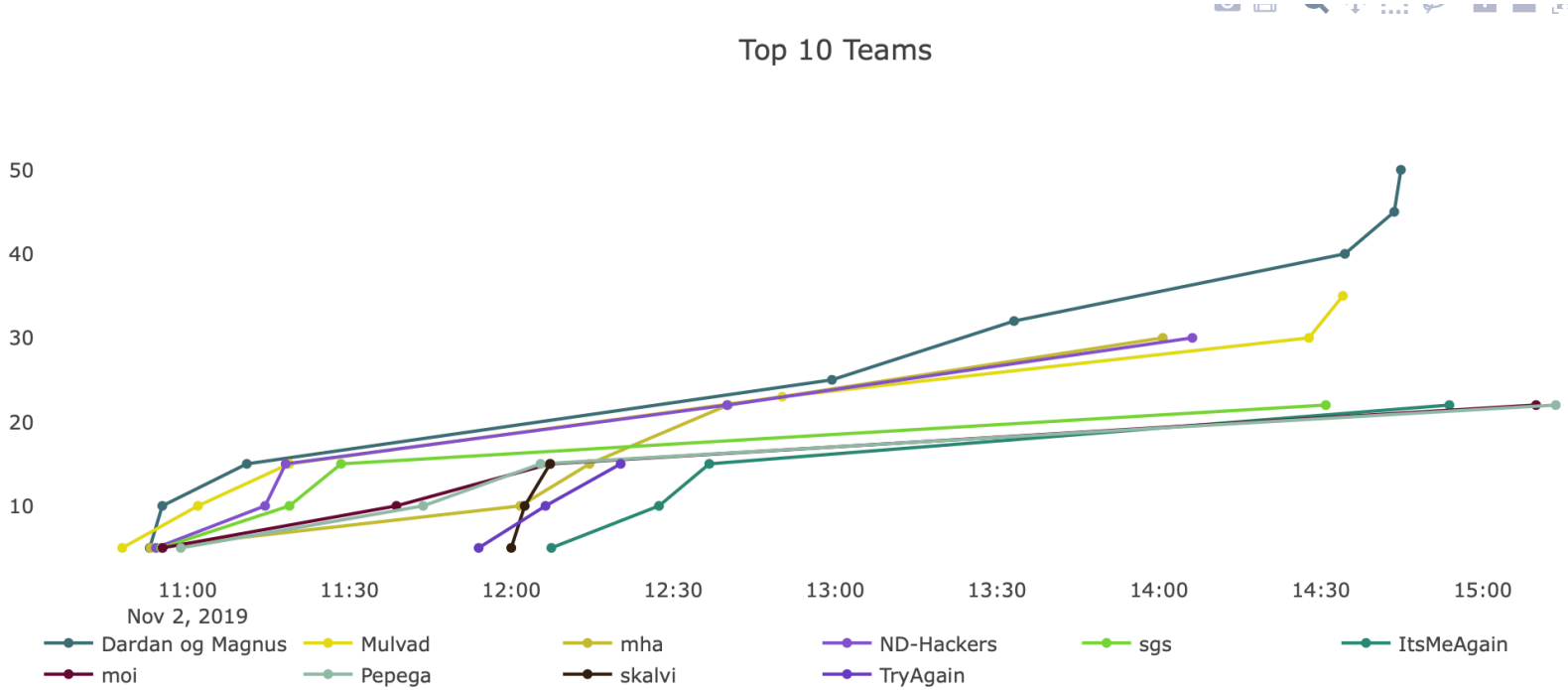
Read about what to do…



Step 5: Start finding flags…



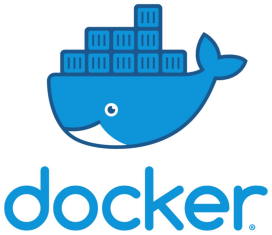
Step 5: Follow the teams… (CTFd)



Composed of :

- Kali
- Parrot
– Customized VMs

- Manages Docker and VM
- Creates Virtualized environment
- All actions in Haaukins managed by Go



- Training challenges
- CTFd
- Apache Guacamole

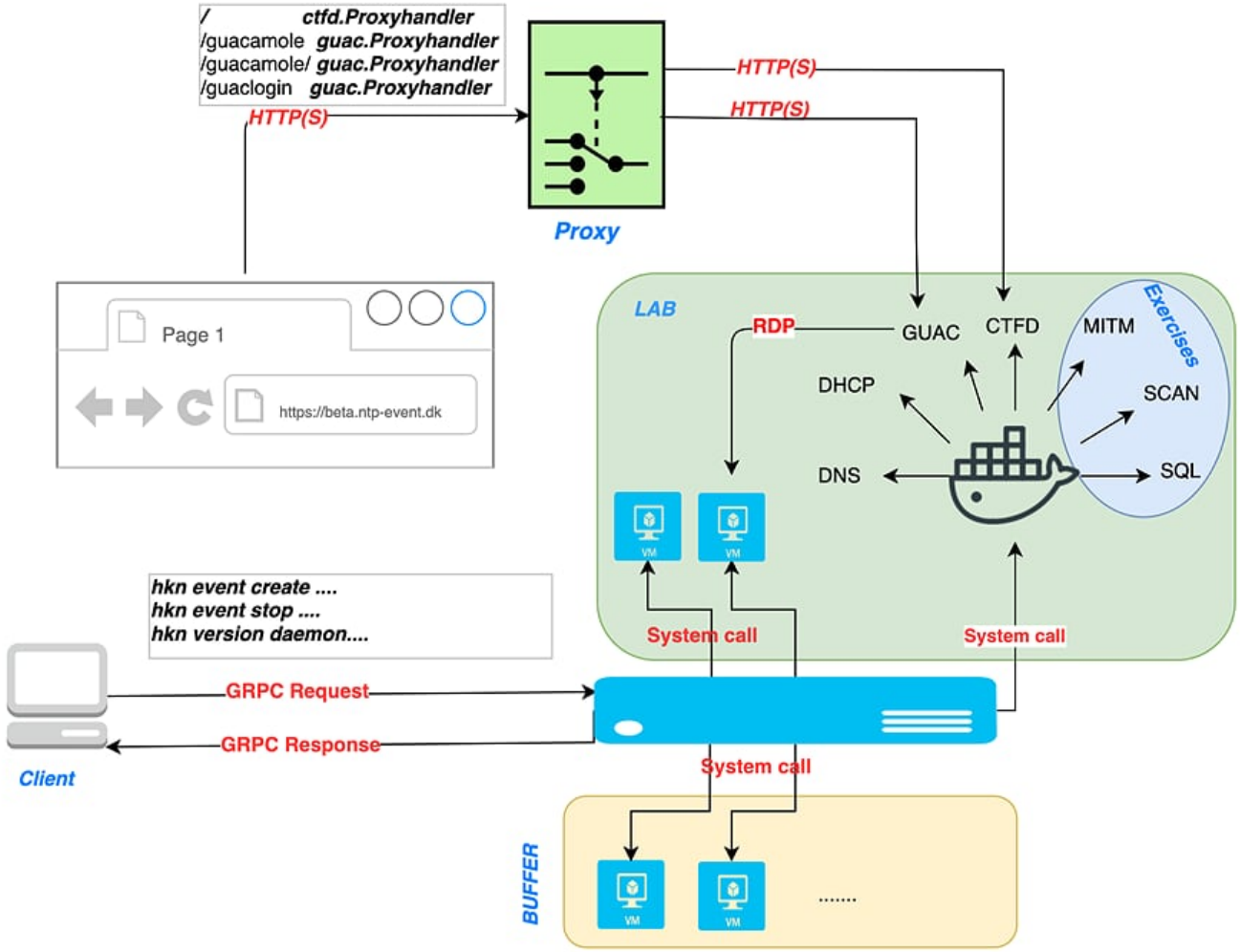
Training challenges

cat\diff	Very Easy	Easy	Medium	Difficult	Very Difficult
Binary		• Privilege Escalation	• *Buffer overflow		
Crytopgraphy		• Crypto JS Client			
Forensics	• Network Scanning • Network Sniffing	• Web Server Login • FTP Server Login 1/2 • Vulnerability Explotation			• Man in the middle
Reverse Engineering	• Weird Code	• * *Debugger*			
Web Explotation	• Micro CMS XSS • Micro CMS URL	• SQL Injection • Heart bleed • Abuse credentials	• CSRF • XSS • Convince visitation of URL • Impersonate colleague	• Joomla UARCE	• Web admin UARCE • Hijack Domain

Haaukins – what is so special?

- Highly automatised - setup labs and events with one command line!
- Easy to get started for users - preparing for more prof. tools.
- Challenges focused on learning step-by-step
- Dynamic flags
- Randomization of e.g. IP addresses
- Open-source and offered free of charge to universities
- Near future: Cloud-based version, more advanced network setups.

Internal Structure



Events: Hack with Central Bank of DK….

Haaukins – the team

- Founders: Kaspar, Thomas, Jens.
- Developers: Gian, Ahmet
- Student helpers: Johan (and more)

See you on

https://cybertraining.dk

https://github.com/aau-network-security/haaukins

THANK YOU FOR YOUR ATTENTION