



Strategies for Identifying and Mitigating Bot Threats

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Thank You to Our Sponsors and Hosts!



BASTION

SECURITY GROUP



DATACOM



84.



PentesterLab

plexure

VERACODE

Without them, this Conference couldn't happen.

What is a bot



Your website

Good Bots! 🙌



SEO



Archiver



Monitoring

Bad Bots! 🤪



Scraping



Scalping



Fraud

Why Not Both 🙄



Business Impact?

Bot Behaviour?

Evasion & Mitigation Strategies



Simple



Sophisticated



Mitigation Architecture



Strategy 0: Easily Identifiable Bots

User Agent



**Automated
Browsers**

IP Address



SEO Bots

robots.txt

Strategy 1: Stop known bad IPs 🐙



IP Reputation
Lists



Anonymous IP
List

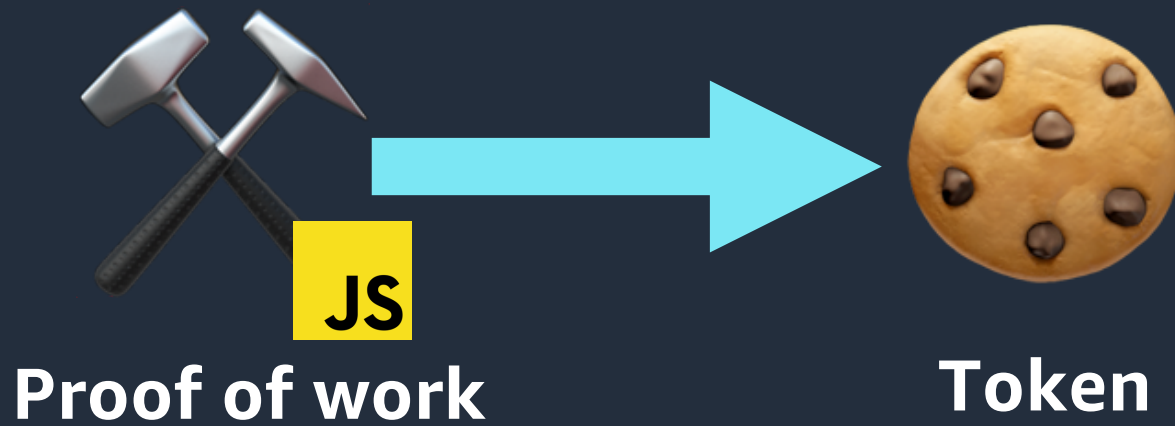
Strategy 2: Slow them down! 🐢



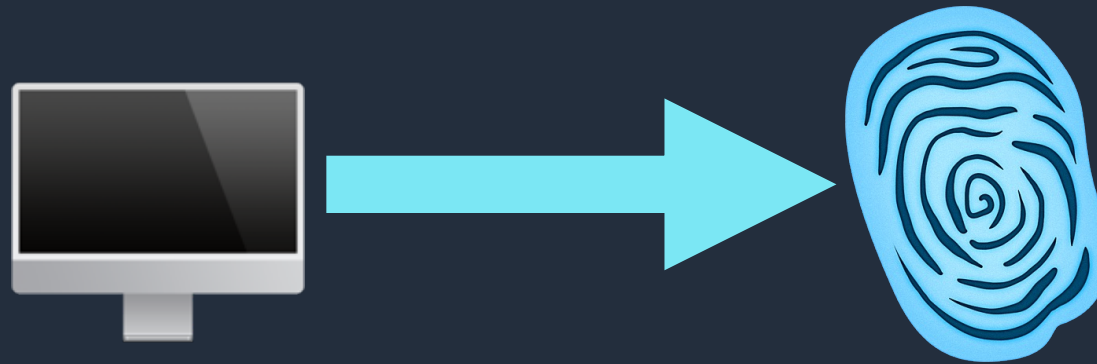
10 Requests/1 Minute

1 GB Bandwidth	10 GB Bandwidth	POPULAR 25 GB Bandwidth	100 GB Bandwidth	3,000 GB Bandwidth
\$7.00/Mo	\$60.00/Mo	\$137.50/Mo	\$550.00/Mo	\$13,500.02/Mo
PROXIES 30 millions+ IPs	PROXIES 30 millions+ IPs	PROXIES 30 millions+ IPs	PROXIES 30 millions+ IPs	PROXIES 30 millions+ IPs
SUBNETS 130K+	SUBNETS 130K+	SUBNETS 130K+	SUBNETS 130K+	SUBNETS 130K+
<input checked="" type="checkbox"/> SOCKS5/HTTP	<input checked="" type="checkbox"/> SOCKS5/HTTP	<input checked="" type="checkbox"/> SOCKS5/HTTP	<input checked="" type="checkbox"/> SOCKS5/HTTP	<input checked="" type="checkbox"/> SOCKS5/HTTP
<input checked="" type="checkbox"/> IP Authorization	<input checked="" type="checkbox"/> IP Authorization	<input checked="" type="checkbox"/> IP Authorization	<input checked="" type="checkbox"/> IP Authorization	<input checked="" type="checkbox"/> IP Authorization
Buy Now →	Buy Now →	Buy Now →	Buy Now →	Buy Now →

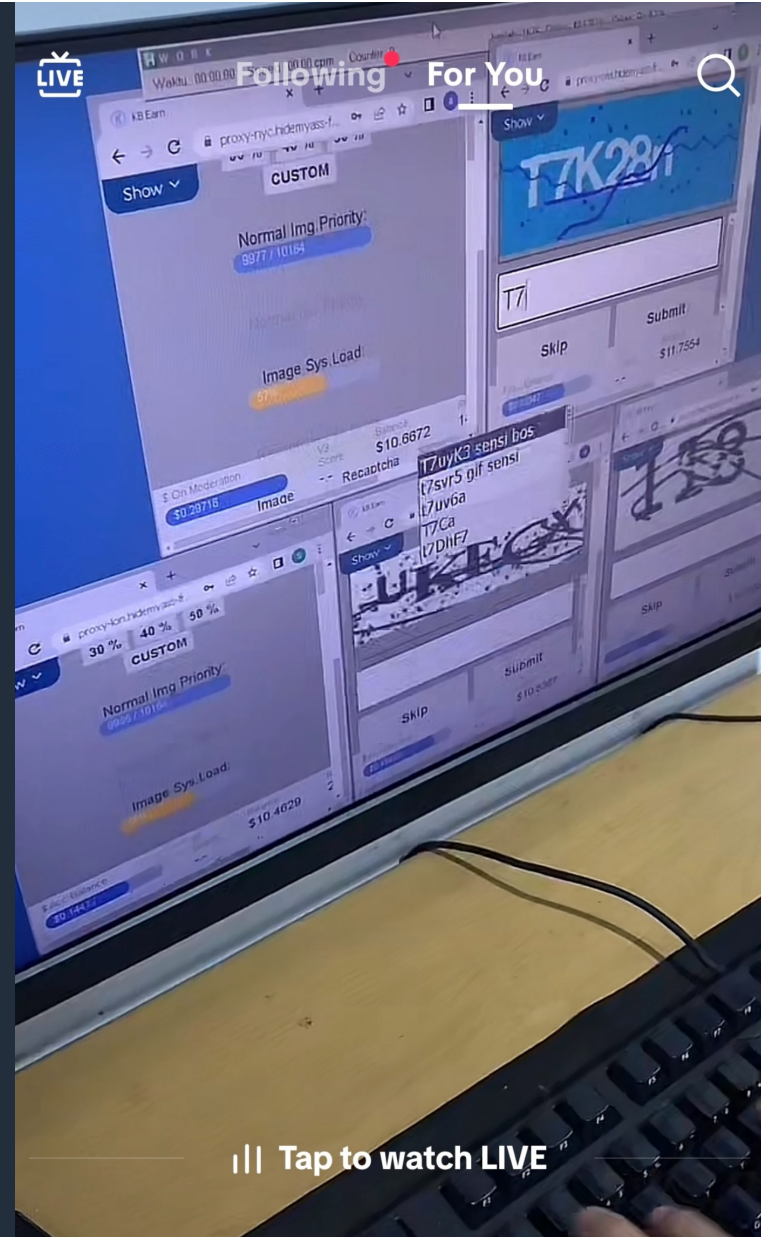
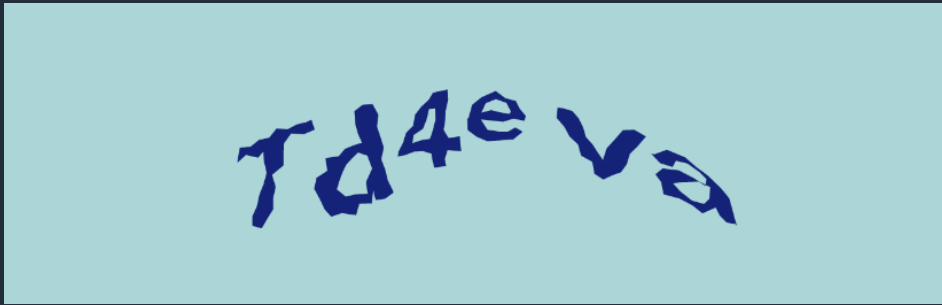
Strategy 3: Make them work for it



Strategy 4: Browser Fingerprinting



Strategy 5: CAPTCHA?



||| Tap to watch LIVE

Strategy 6: Payload Analysis

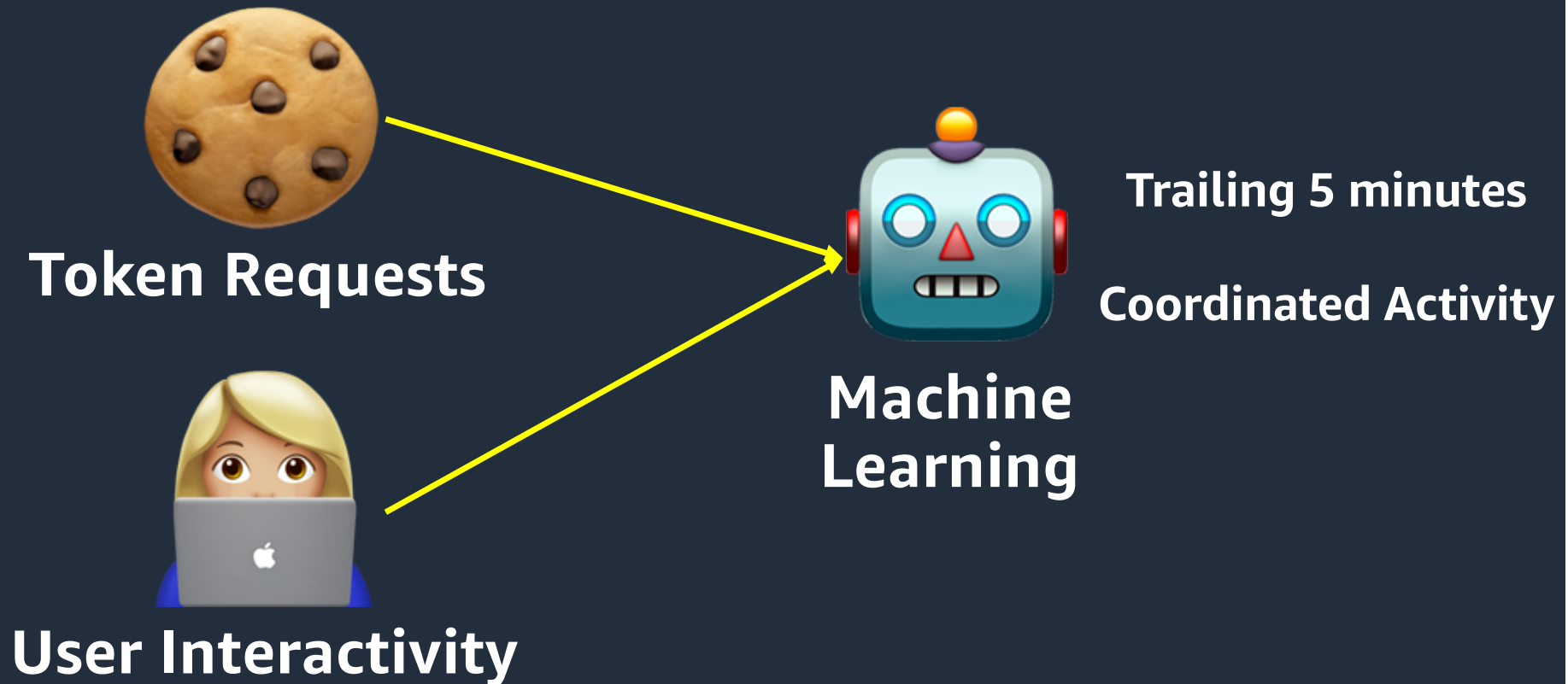
```
{  
  "username" : "admin",  
  "password" : "admin",  
  "address" : "127.0.0.1"  
}
```

Traversal

Compromised Credentials

Field re-use

Strategy 7: Behavioural Analysis



Strategy 8: Obfuscation



```
{  
  "product": "widget",  
  "price": "$9.99"  
}
```



```
{  
  "product": "widget",  
  "price": "$11.24"  
}
```

Strategy 0: Easily Identifiable Bots

Strategy 1: Stop known bad IPs 🤖

Strategy 2: Slow them down! 🐢

Strategy 3: Make them work for it

Strategy 4: Browser Fingerprinting

Strategy 5: CAPTCHA?

Strategy 6: Payload Analysis

Strategy 7: Behavioural Analysis

Strategy 8: Obfuscation

