

UNLEASHING THE DIGITAL SPY: EXPLORING OFFENSIVE OSINT STRATEGIES





About CyberWarFare Labs

CyberWarFare Labs is an Ed-Tech Cyber Security Focused Platform which is totally engrossed in solving the problem of Cybersecurity by providing them real-time hands-on manner solutions to problems of B2C & B2B Audience.

We provide Practical Labs [Simulation of critical infrastructure] like Healthcare, Nuclear Facility etc.





About Speaker

Abhijeet Kumar (Security Researcher)

Abhijeet Kumar works at CyberWarFare Labs as a Red Team Intern. His areas of interests includes Red Team Operations, Network Security, Cloud Infrastructure, and Linux Systems. Apart from this, he enjoys researching Adversarial TTPs and experimenting in his homelab.



<u>Disclaimer</u>

Be mindful of your local laws

Make sure to do your due diligence beforehand

Use the tools and techniques mentioned as your own risk

 We (Speaker and CyberWarFare Labs) are not liable for any damage caused by the presented material(s)



Before we begin

This is my very first webinar, kindly provide feedback if possible

 I have tried my hands on PowerPoint after a long time, do pardon my rusty skills

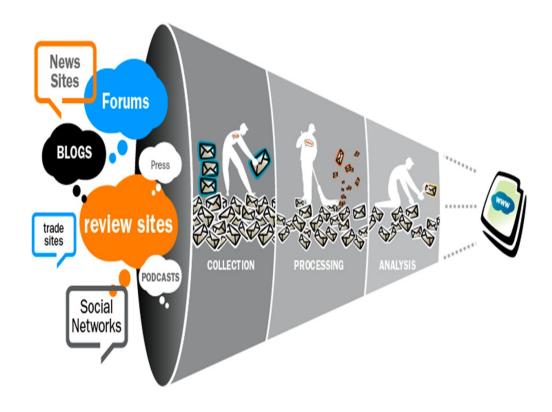
Also not a native English speaker, please bear with me



What is OSINT?

Stands for Open Source Intelligence

Extracting actionable intel from publicly available sources





Why OSINT?

People love to share details online, sometimes too much

Governments and other institutions make data available online

Helps connect dots between data points

It would be a shame not to use Internet properly



What to watch out for?

Misinformation is a real thing, verify before trust

Always double (or triple) check facts

Use multiple sources to verify something, don't rely on just one

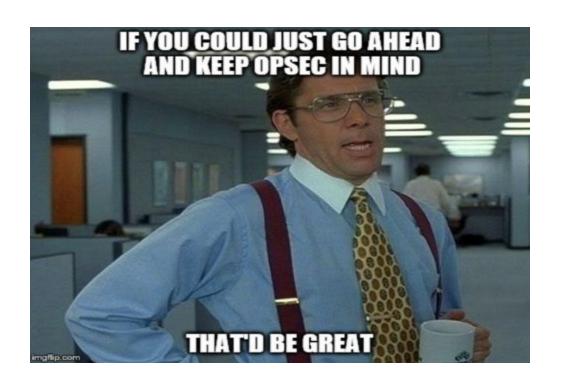


OPSEC

Stands for Operational security

Protecting internal operations and critical information

Preventing disclosure of unnecessary information





Device

 Don't use personal device for OSINT, use a seperate one

Encrypt the drives and harden the OS

Implement anti-tampering measures



One for the wenches and one for the dough



<u>VPN</u>

Stands for Virtual Private Network

 Creates an encrypted tunnel between user and VPN server

Masks user's domestic IP address



Client → ISP → VPN Server → Internet → Different Servers

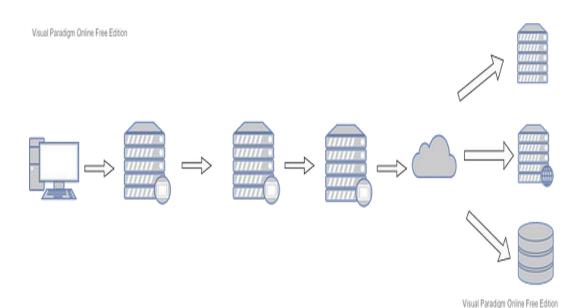


TOR

Stands for The Onion Router

 Routes user traffic between different tor nodes

Can help user evade tracking to some extent



Client \to TOR entry node \to TOR middle node \to TOR exit node \to Internet \to Different servers



<u>VPN + TOR</u>

Best of both worlds

Combining both technologies can be more effective

. Start VPN \rightarrow Connect TOR \rightarrow Browse Internet





Browser(s)

Customizing browser(s) for investigation purposes

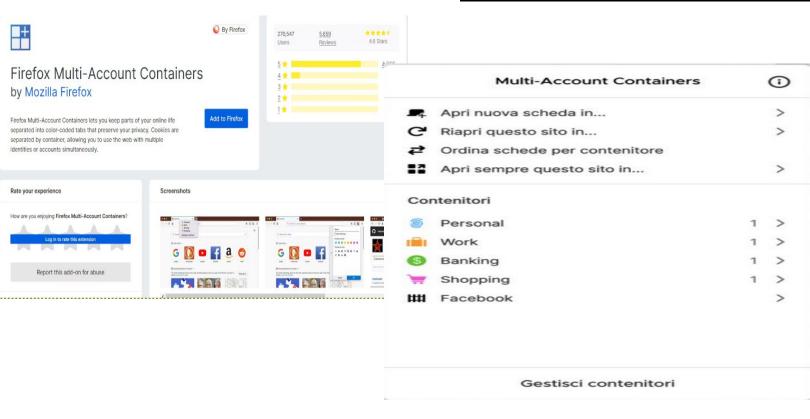
Disabling telemetry, stopping trackers, isolating cookies

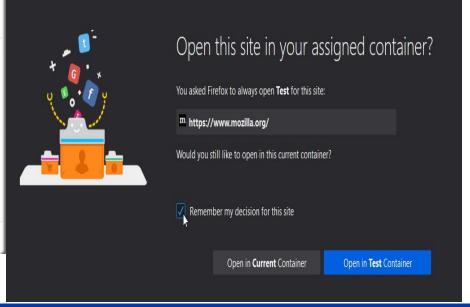
Hardening security configurations and normalize fingerprint

Firefox, TOR, and Brave are well suited for research purposes



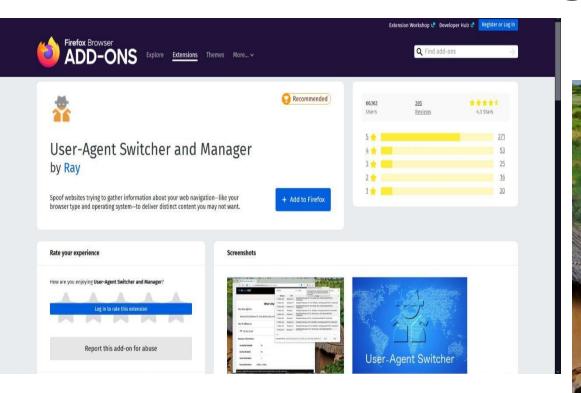
Tab Containers

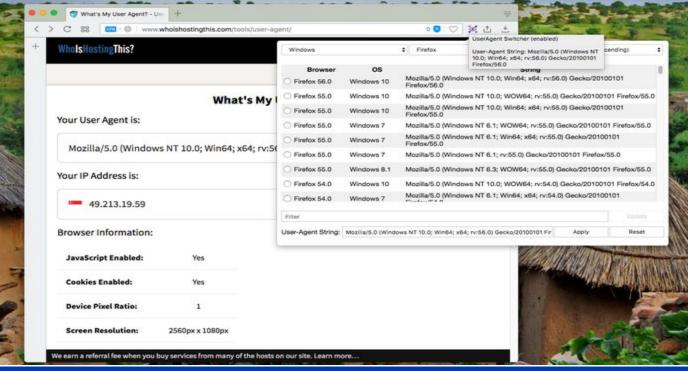






User Agent Changer







Sock Puppet

Identities made solely for investigation

Comprised of fake details

Help protect real individual

Reduces attack surface





Using Sock Puppet

Aim is to blend with regular traffic/users

Disposable email addresses and phone numbers

Different devices, browsers, and ISPs



"All human actions have one or more of these seven causes: chance, nature, compulsion, habit, reason, passion, and desire."

— Aristotle



Intro to Offensive OSINT

Using OSINT to identify relevant information for pentesting and red team activities

 Analyzing client's online presence thoroughly, in order to identify weakness (human or otherwise)

Thinking like an adversary while determining relevance of information



Data Breaches

Scenario when sensitive data is exfiltrated from an organization by threat actors

 Lots and lots of sensitive information related to users and organization

 Dark web marketplaces are where distribution and sale happens





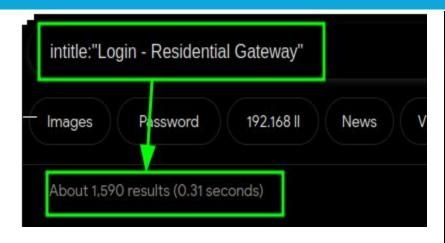
Google Dorking

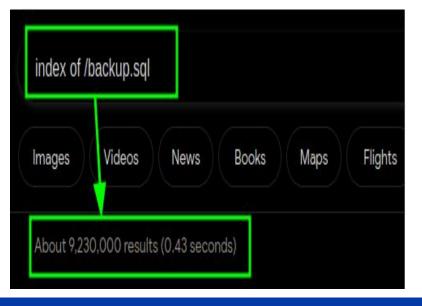
Extracting information using Google's powerful search operators

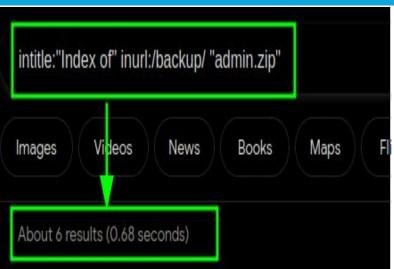
From simple few word queries to complex piped (|) queries

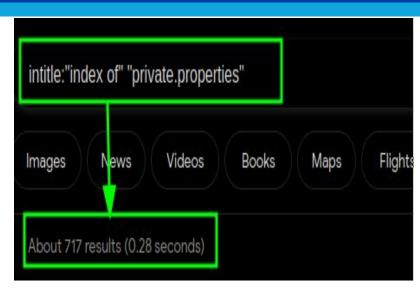
 Google Hacking Database (GHDB) is one of the largest collection of publicly available queries

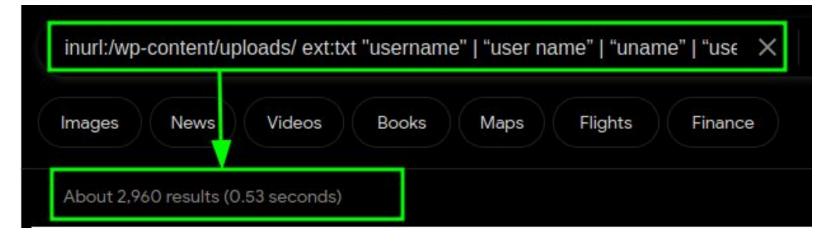














LinkedIn

Professional version of FaceBook

 High chances of target(s) having a regular presence here

Has suffered data breaches in past

Excellent platform for mining data





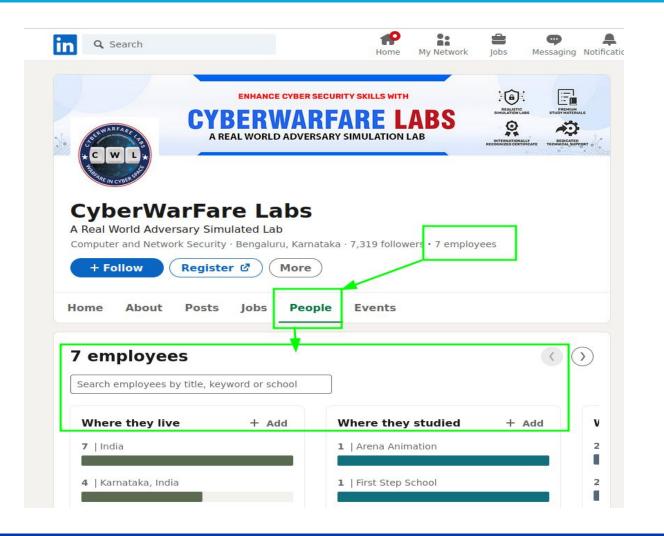
Employee list can be extracted from company page

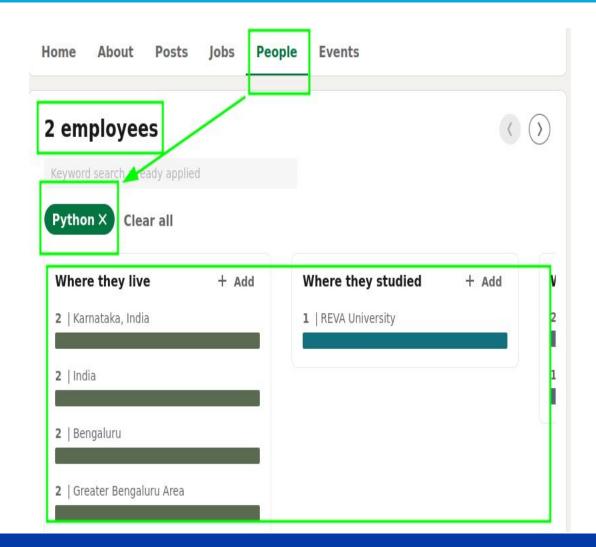
- Employees sometimes reveal sensitive information on LinkedIn
 - E.g:- Office images, tech stack(s), welcome kits, certificates, etc

Employees often comment on each other's posts.

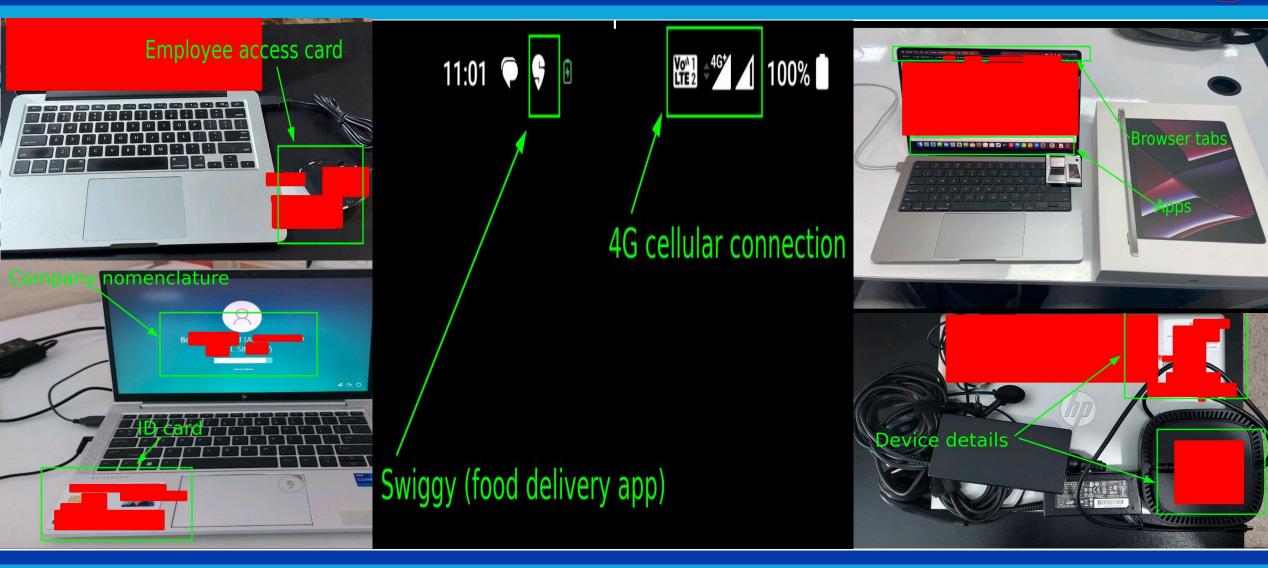
And #hashtags are a thing













Discord

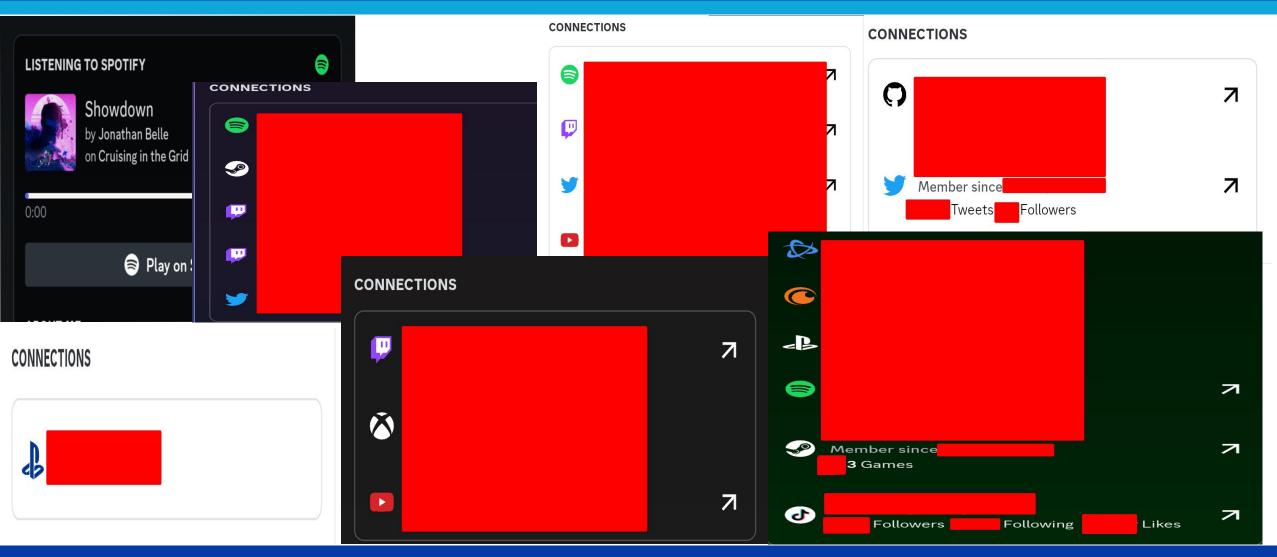
Popular communication application

Used by lots of tech communities and individuals alike

People also connect their other accounts here

And, they write status too







WHOIS

Query-Response protocol

Can lookup domain names and IP addresses, and ASNs

Provides ownership and other registration data



cyberwarfare.live

whois information

Whois

DNS Records

Diagnostics

cache expires in 23 hours, 59 minutes and 59 seconds

Laai	OTROR	Into
$D \in U$	SHAL	11110
Regi		

Name GoDaddy.com, LLC

Whois Server whois.godaddy.com/

Referral URL http://www.godaddy.com/domains/search.aspx?ci=8990

Status clientDeleteProhibited https://icann.org/epp#clientDeleteP

clientRenewProhibited https://icann.org/epp#clientRenewF

clientTransferProhibited https://icann.org/epp#clientTransfclientUpdateProhibited https://icann.org/epp#clientUpdate

Important Dates

Expires On 2024-04-26

Registered On 2020-04-26

Updated On 2022-04-05

Name Servers

jermaine.ns.cloudflare.com 172.64.35.157

joyce.ns.cloudflare.com 162.159.38.14

Registrant Contact Information:

Name REDACTED FOR PRIVACY
Organization Domains By Proxy, LLC

Address REDACTED FOR PRIVACY

City REDACTED FOR PRIVACY

State / Province Arizona

Postal Code REDACTED FOR PRIVACY

Country

Phone REDACTED FOR PRIVACY
Fax REDACTED FOR PRIVACY

Fax REDACTED FOR PRIVACY
Email Please query the RDDS s

Please query the RDDS service of the Registrar of Record identified in this output for information on how to contact the Reg.

Administrative Contact Information:

Name REDACTED FOR PRIVACY

Organization Domains By Proxy, LLC

Address REDACTED FOR PRIVACY
City REDACTED FOR PRIVACY

State / Province Arizona

Postal Code REDACTED FOR PRIVACY

Country US

Phone REDACTED FOR PRIVACY

Fax REDACTED FOR PRIVACY

Email Please query the RDDS service of the Registrar of Record identified in this output for information on how to contact the Reg.

Technical Contact Information:

Name REDACTED FOR PRIVACY

Organization Domains By Proxy, LLC
Address REDACTED FOR PRIVACY

City REDACTED FOR PRIVACY

State / Province Arizona

Postal Code REDACTED FOR PRIVACY

Country US

Phone REDACTED FOR PRIVACY

Fax REDACTED FOR PRIVACY

Email Please query the RDDS service of the Registrar of Record identified in this output for information on how to contact the Reg.



Subdomains

Provide additional targets

Often act as an initial entry point

Could be used for integrating third party services



crt.sh Identity Search



Criteria	Type: Identity	Match: ILIKE	Search: 'cyberwarfare.live'

crt.sh ID	Logged At 1			Common Name	Matching Identities	<u>Issuer Name</u>
9638350347	2023-06-12	2023-06-12	2023-09-10	cyberwarfare.live	*.cyberwarfare.live	C=US, O=Google Trust Services LLC, CN=GTS CA 1P5
					cyberwarfare.live	A STATE OF THE STA
9591730791				air.cyberwarfare.live		C=US, O=Let's Encrypt, CN=R3
9576289007	2023-06-05	2023-06-05	2023-09-03	air.cyberwarfare.live	air.cyberwarfare.live	C=US, O=Let's Encrypt, CN=R3
9345352712	2023-05-08	2023-05-08	2023-08-06	email.kjbm.cyberwarfare.liv	email.kjbm.cyberwarfare.live	C=US, O=Let's Encrypt, CN=R3
9338676756	2023-05-08	2023-05-08	2023-08-06	email.kjbm.cyberwarfare.liv	e email.kjbm.cyberwarfare.live	C=US, O=Let's Encrypt, CN=R3
9171165033	2023-04-17	2023-04-17	2023-07-16	test.cyberwarfare.live	test.cyberwarfare.live	G=US, O=Let's Encrypt, CN=R3
9171154830	2023-04-17	2023-04-17	2023-07-16	test.cyberwarfare.live	test.cyberwarfare.live	G=US, O=Let's Encrypt, CN=R3
9145962490	2023-04-14	2023-04-14	2023-07-13	cyberwarfare.live	*.cyberwarfare.live	GUS, O=Google Trust Services LLC, CN=GTS CA 1P5
					cyberwarfare.live	The state of the s
9086245743	2023-04-05	2023-04-05	2023-07-04	air.cyberwarfare.live	air.cyberwarfare.live	C=US, O=Let's Encrypt, CN=R3
9065665848	2023-04-05	2023-04-05	2023-07-04	air.cyberwarfare.live	air.cyberwarfare.live	G=US, O=Let's Encrypt, CN=R3
3880628135	2023-03-09	2023-03-09	2023-06-07	email.kjbm.cyberwarfare.liv	email.kjbm.cyberwarfare.live	G=US, O=Let's Encrypt, CN=R3
8845624871	2023-03-09	2023-03-09	2023-06-07	email.kjbm.cyberwarfare.liv	email.kjbm.cyberwarfare.live	US, O=Let's Encrypt, CN=R3
8865137851	2023-03-07	2023-03-07	2023-06-05	cwlab.cyberwarfare.live	cwlab.cyberwarfare.live	G=US, O=Let's Encrypt, CN=R3
8828802080	2023-03-07	2023-03-07	2023-06-05	cwlab.cyberwarfare.live	cwlab.cyberwarfare.live	G=US, O=Let's Encrypt, CN=R3
3860331554	2023-03-06	2023-03-06	2023-06-04	cwlab.cyberwarfare.live	cwlab.cyberwarfare.live	US, O=Let's Encrypt, CN=R3
3820640358	2023-03-06	2023-03-06	2023-06-04	cwlab.cyberwarfare.live	cwlab.cyberwarfare.live	C=US, O=Let's Encrypt, CN=R3
8817328924				rt.cyberwarfare.live	rt.cyberwarfare.live	=AT, O=ZeroSSL, CN=ZeroSSL RSA Domain Secure Site CA
8817328671	2023-03-06	2023-03-06	2023-06-04	rt.cyberwarfare.live	rt.cyberwarfare.live	AT. 0=ZeroSSL. CN=ZeroSSL RSA Domain Secure Site CA
3854476746	2023-03-05	2023-03-05	2023-06-03	rt.cyberwarfare.live	rt.cyberwarfare.live	C=US, O=Let's Encrypt, CN=R3
8811059115				rt.cyberwarfare.live		G=US, O=Let's Encrypt, CN=R3
				fluke.cyberwarfare.live		C=US, O=Let's Encrypt, CN=R3
				fluke.cyberwarfare.live		G=US, O=Let's Encrypt, CN=R3
3706348368				*.cvberwarfare.live	*.cyberwarfare.live	G=GB, ST=Greater Manchester, L=Salford, O=Sectigo Limited, CN=Sectigo ECC Domain Validation Secure Server CA
, , , , , , , , , , , , , , , , , , , ,	2020 02 21			,	cyberwarfare.live	
3706347102	2023-02-21	2023-02-21	2024-02-21	*.cyberwarfare.live	*.cyberwarfare.live	G=GB, ST=Greater Manchester, L=Salford, O=Sectigo Limited, CN=Sectigo ECC Domain Validation Secure Server CA
					cyberwarfare.live	
3655542156	2023-02-14	2023-02-14	2023-05-15	*.cyberwarfare.live	*.cyberwarfare.live	C=US, O=Google Trust Services LLC, CN=GTS CA 1P5
					cyberwarfare.live	
3465014181	2023-01-13	2023-01-13	2023-04-13	defense.cyberwarfare.live		C=US, O=Let's Encrypt, CN=R3
3428271593				defense.cyberwarfare.live		C=US, O=Let's Encrypt, CN=R3
				nuclear.cyberwarfare.live	nuclear.cvberwarfare.live	US, O=Let's Encrypt, CN=R3
				nuclear.cyberwarfare.live	nuclear.cyberwarfare.live	C=US, O=Let's Encrypt, CN=R3
				flopster.cyberwarfare.live	flopster.cyberwarfare.live	G=US, O=Let's Encrypt, CN=R3
				flopster.cyberwarfare.live		G=US, O=Let's Encrypt, CN=R3
				*.cyberwarfare.live		C=GB. ST=Greater Manchester. L=Salford. O=Section Limited. CN=Section ECC Domain Validation Secure Server C/

```
[*] Target: cyberwarfare.live
[*] Searching Brave.
[*] No IPs found.
[*] Emails found: 2
careers@cyberwarfare.live
info@cyberwarfare.live
[*] Hosts found: 1
cyberwarfare.live
 *] Virtual hosts:
```



DNS Records

Naming system of Internet

Maps IP addresses to domains and vice versa

Provides critical insights into client's attack surface



Whois DNS Records Diagnostics

DNS Records for cyberwarfare.live

Hostname	Туре	TTL	Priority	Content
cyberwarfare.live	SOA	1800		jermaine.ns.cloudflare.com dns@cloudflare.com 2312053932 10000 2400 604800 1800
cyberwarfare.live	NS	21600		jermaine.ns.cloudflare.com
cyberwarfare.live	NS	21600		joyce.ns.cloudflare.com
cyberwarfare.live	Α	300		172.67.197.22
cyberwarfare.live	Α	300		104.21.92.181
cyberwarfare.live	AAAA	300		2606:4700:3030::6815:5cb5
cyberwarfare.live	AAAA	300		2606:4700:3030::ac43:c516
cyberwarfare.live	MX	300	1	aspmx.l.google.com
cyberwarfare.live	MX	300	10	alt3.aspmx.l.google.com
cyberwarfare.live	MX	300	10	alt4.aspmx.l.google.com
cyberwarfare.live	MX	300	5	alt1.aspmx.l.google.com
cyberwarfare.live	MX	300	5	alt2.aspmx.l.google.com
www.cyberwarfare.live	Α	282		172.64.80.1
www.cyberwarfare.live	AAAA	300		2606:4700:3030::6815:5cb5
www.cyberwarfare.live	AAAA	300		2606:4700:3030::ac43:c516

DNS Servers					
jermaine.ns.cloudflare.com. ② →⊃ ⊶ ❖ ❖	172.64.35.157 jermaine.ns.cloudflare.com	CLOUDFLARENET United States	A	U	≈
joyce.ns.cloudflare.com.	172.64.34.14 joyce.ns.cloudflare.com	CLOUDFLARENET United States			
MX Records ** This is where email for the (
1 aspmx.1.google.com.	74.125.205.26 le-in-f26.1e100.net	GOOGLE United States			
10 alt3.aspmx.l.google.com.	142.250.141.26 dd-in-f26.1e100.net	GOOGLE United States			
10 alt4.aspmx.l.google.com. Ⅲ 攻 ⊙ ♦	142.250.115.26 rq-in-f26.1e100.net	GOOGLE United States			_
5 alt1.aspmx.l.google.com.	142.250.157.26 ta-in-f26.1e100.net	GOOGLE United States			 -
5 alt2.aspmx.1.google.com. Ⅲ ☆ ◎ �	173.194.202.26 pf-in-f26.1e100.net	GOOGLE United States			_
TXT Records ** Find more hosts in Sender P					
"MS=ms41957772"					
"google-site-verification=f-7oucGuCtckXn0F	R4v6zNpFNxQQBBV4r1Ls0aHuoKdQ"				_
"v=spf1 include:_spf.google.com ~all"					_
Host Records (A) ** this data may not be					
www.cyberwarfare.live !!! Q ⊃4 ⊙ http: cloudflare	104.21.92.181	CLOUDFLARENET unknown			
cwlab.cyberwarfare.live Ⅲ ② ☆ ◆	4.193.141.23	MICROSOFT-CORP-MSN-AS-BLOCK Singapore			



Tech Stack

Technologies implemented in client's infrastructure

Provide deep insight while planning attack paths

Ranges from software products to hardware appliances



Analytics and Tracking

View Global Trends



Google Analytics Usage Statistics · Download List of All Websites using Google Analytics

Google Analytics offers a host of compelling features and benefits for everyone from senior executives and advertising and marketing professionals to site owners and content developers.

Application Performance · Audience Measurement · Visitor Count Tracking

Google Analytics 4

Google Analytics 4 Usage Statistics · Download List of All Websites using Google Analytics 4

Google Analytics 4 formerly known as App + Web is a new version of Google Analytics that was released in October 2020.

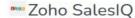
G Global Site Tag

Global Site Tag Usage Statistics · Download List of All Websites using Global Site Tag

Google's primary tag for Google Measurement/Conversion Tracking, Adwords and DoubleClick.

Widgets

View Global Trends



Zoho SalesIQ Usage Statistics · Download List of All Websites using Zoho SalesIQ

Website visitor tracking and live chat, integrates with Zoho's CRM and other apps Live Chat

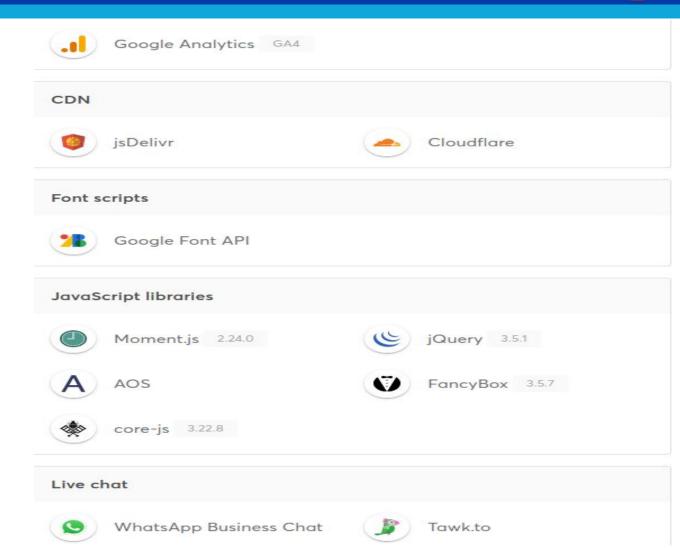
Kajabi

Kajabi Usage Statistics · Download List of All Websites using Kajabi

Sell Your Content Online

eCommerce

Font Awesome





WayBack Machine

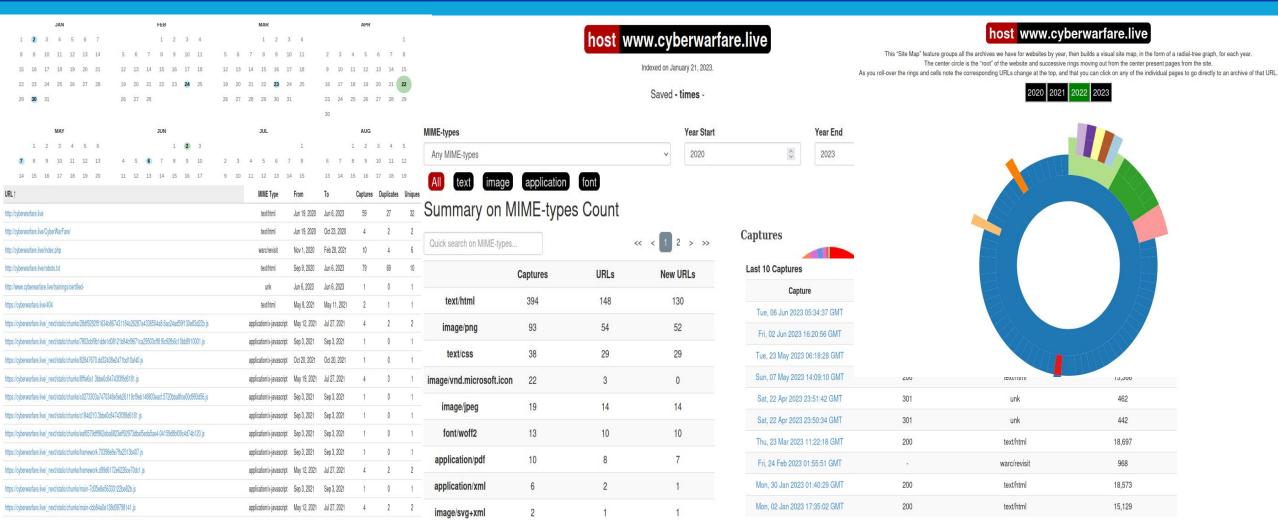
The actual, living, capturing, Time Machine of World Wide Web

Anyone can captures a site's snapshots

Can track a website's evolution

• And the statistics it gives, real awesome





https://cyberwarfare.live/_next/static/chunks/pages/_app-db89ed568a75be7efb16.js

application/x-javascript Sep 3, 2021 Sep 3, 2021



Shodan

Records of almost every device with an IP address

Publicly exposed devices with vulnerable components

• Can find IP cameras to Industrial systems, and everything in between

Queries are welcome here with an account





AS13335



Boa Web Server 1,477
D-Link/Airlink IP webcam http config 1,090
More...

TOP OPERATING SYSTEMS

 Windows Server 2012 R2
 246,093

 Windows (Build 10.0.14393)
 119,044

 Windows (Build 10.0.17763)
 116,024

 Windows (Build 10.0.19041)
 55,631

 Windows (Build 10.0.20348)
 53,961

 More...

ATTENTION!!! Read Before I

Your system has been hacked !!! Your system recover files on your own will result in their notify the management of your company at communication: helpforyou@gmx.com or have the recovery keys, before agreeing on companies, ask OUR price

OK





Censys

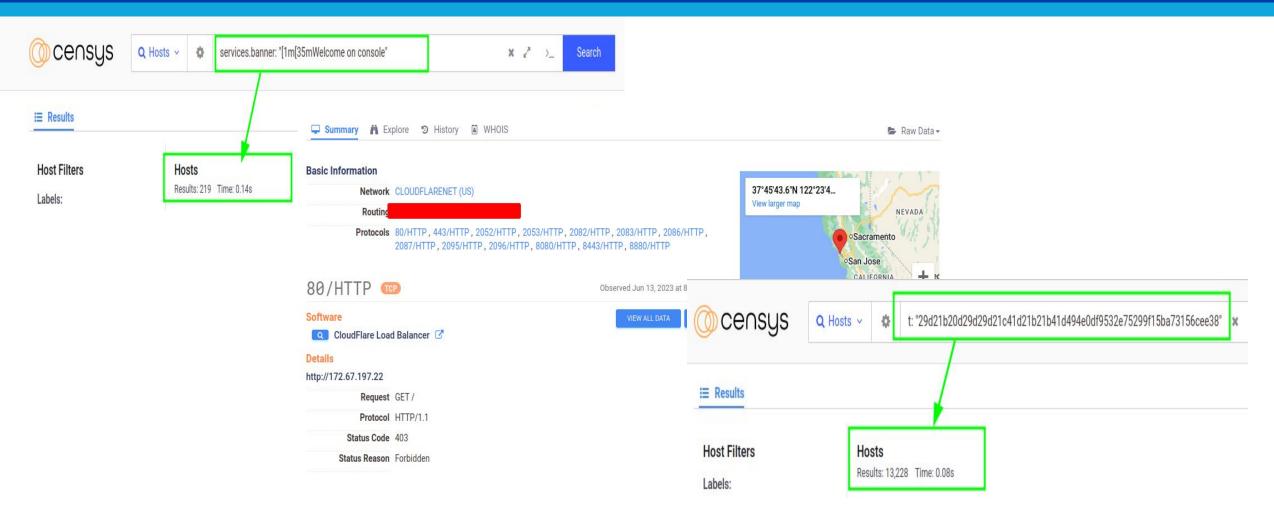
Attack Surface Monitoring

Large database of Internet connected devices

Provides high quality information

Supports queries without signing up







Automating OSINT

Efficient by reducing workload

More time analyzing data

• First learn manual, then move to automation



How To Automate OSINT

• Use software like Maltego, Recon-ng, etc

• Use websites like OSINT Framework, Intel Techniques, etc

Write custom tools as per use case



Bonus: Twitch

Find all NightBot commands of a Twitch streamer:-

https://nightbot.tv/t/<username>/commands

Nobody:

NightBot as soon as i chat something on live stream:





Channel Commands		
Show 100 v entries		
Command 👢	Message 11	Userlevel 1
lacademy	Get your hackin' knowledge on: https://academy.tcm-sec.com	everyone
!discord	Come hang out and chat: https://tcm-sec.com/discord	everyone
Idonate	If you want to support the channel, you can donate at: https://streamlabs.com/thecybermentor	everyone
!howtohack	https://tcm-sec.com/so-you-want-to-be-a-hacker-2022-edition/	everyone
linstagram	Follow me on Instagram: https://instagram.com/thecybermentor Follow TCM Security on Instagram: https://instagram.com/tcmsecurity	everyone
llinkedin	Follow me on Linkedin: https://linkedin.com/in/thecybermentor Follow TCM Security on Linkedin: https://linkedin.com/company/tcm-security-inc	everyone
!merch	Get awesome TCM merch at https://merch.tcm-sec.com	everyone
!patreon	If you'd like to support the channel, get exclusive access to content, and even some cool swag: https://www.patreon.com/thecybermentor	everyone
!pnpt	Get PNPT certified: https://certifications.tcm-sec.com/pnpt	everyone
!pnptlive	Join our free class: https://academy.tcm-sec.com/p/pnpt-live	everyone
Isocials	Add us on social media! https://pastebin.com/y9S5MbXt	everyone
Ispecs	https://pastebin.com/EQFYjLX5	everyone
Isub	Love the content? Please consider supporting with a sub on Twitch: https://subs.twitch.tv/thecybermentor	everyone
!twitter	Tweet tweet: https://www.twitter.com/tcmsecurity	everyone
luptime	Stream uptime: [twitch]	everyone
!youtube	Subscribe to my YouTube: https://www.youtube.com/c/thecybermentor	everyone
Showing 1 to 16 of 16 entries		

https://nightbot.tv/t/thecybermentor/commands



Resources

- OSINT Collections →
 - https://start.me/p/DPYPMz/the-ultimate-osint-collection
 - https://start.me/p/rx6Qi8/nixintel-s-osint-resource-list
 - https://cheatsheet.haax.fr/resources/osint/
 - https://osintframework.com/
 - https://map.malfrats.industries/
 - https://inteltechniques.com/tools/index.html
- . Google Dorking \rightarrow
 - https://www.googleguide.com/
 - https://www.exploit-db.com/google-hacking-database
 - https://pentest-tools.com/information-gathering/google-hacking
 - https://dorkgpt.com/



Resources

- . Other Dorks \rightarrow
 - https://techofide.com/blogs/uncovering-vulnerabilities-shodan-github-dorks-and-linkedin-osint-tools-for-bug-hunting/
 - https://github.com/cipher387/Dorks-collections-list
 - https://github.com/mathis2001/Dorking
- . Domain \rightarrow
 - https://who.is/
 - https://lookup.icann.org/
- . IP \rightarrow
- https://www.shodan.io/
- https://search.censys.io/
- https://app.netlas.io/
- https://pulsedive.com/



Resources

- . DNS \rightarrow
 - https://www.osintme.com/index.php/2021/01/16/ultimate-osint-with-shodan-100-great-shodan-queries/
 - https://nasniconsultants.com/top-40-shodan-dorks-for-finding-sensitive-iot-data/cybersecurity/2021/05/27/diran/
 - https://github.com/mr-exo/shodan-dorks
- . Subdomain \rightarrow
 - https://dnsdumpster.com
 - https://crt.sh/



THANK YOU:)