

# Sri Lanka Institute of Information Technology

# Final Assignment- Web Audit Report IE2062 – Web Security

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### **Bug Bounty Hunting**

Trojan horse bounty looking is a reputed field in cyber security area. It wishes a whole lot of experience And sharp competencies to carry out such activities related with bug bounty looking. More regularly, bug Bounties are completed by means of people. And for those worm looking's they'll be rewarded with Cash. Worm bounty systems will offer the desired internet programs for enumerate.

#### What is Bug Bounty?

It's far a continual safety exam that permits firms to protect in opposition to cyber assaults, Information theft, and misuse. Security trying out is accomplished with the aid of ethical hackers who're compensated for Identifying flows and vulnerabilities in services and alertness with a coin's prize.

In malicious program bounty schemes, the ethical hacker is rewarded simplest if he or she discovers a Meaningful vulnerability within the machine. By way of comparison, the company must pay for the Penetration check although no security vulnerability is discovered.

In preference to pen-testing, that is restricted to a single moral hacker or a small organization of Testers, trojan horse bounty trying out isn't constrained to a single moral hacker or a small group of testers. Your Product is examined within the worm bounty program by means of tens of loads of moral hackers who compete Against each other to find the fault first and earn a fee. However, the disadvantage of bug bounty schemes is, in maximum situations, their public nature.

It establishes that moral hackers can check most effective publicly to be had quantities of websites, Programs, or user interfaces inside many situations. Normally, applications with No outside get right of entry to cannot be tested. Then again, the option to permit hackers to test the Manufacturing or trying out surroundings is absolutely as much as the enterprise.

Likewise, there are cos and professionals in malicious program bounty programs.

Cos & execs in worm Bounty

Advantages	Disadvantages	
Output is varied over a longer period of time	Only software/hardware which is available online can be tested by hunters	
Will detect rare vulnerabilities. And weird scenarios.	Less complexity in compare with penetration tests.	
Hunters will be varied, from education skill, continent this will help to cover vast area of the application.	Hunters may report false vulnerabilities in order to gain amends.	
Continuous testing will available as new hunters will attempt everyday.	If the reward is low, bounty hunters will not interact much.	
Possibility of testing in production and/or test environment.	Cannot be guaranteed the reports and attacks.	
Low prices owners have the authority to make the values for sorted vulnerabilities.	The area specified by the company may not be enough for security strengthen.	

Penetration trying out of high high-quality are high-priced and time-ingesting. They're completed by using Security professionals whose time is treasured and constrained. Moreover, they require Widespread guidance – each formal and technical – for the established order of test instances as they're typically tested in a look at surroundings in place of a production surroundings.

They do but offer a thorough image of the present-day degree of safety for online Undertaking and the infrastructure that supports it. Typically, a protection company takes 1-2 weeks to carry out A pen-check, and its result is a manually checked document containing vulnerabilities, their locations, And the potential effect of misuse. The gain is that it allows testing of formerly Unpublished web sites, apps, and goods.

Trojan horse praise programs, however, are more cost powerful. They are expected to Take an extended quantity of time (at least numerous months), to spread the cost of paying White hat hackers across time. It is as much as the company or agency to determine what will be examined and How an awful lot money may be paid for security faults.

But a time without determined vulnerabilities is feasible - whilst rewards Are located in an unattractive way for ethical hackers. On the other side, reasonably exceptional

Vulnerability output, that's frequently the end result of sizeable guide testing, is beneficial to a Agency. That is a critical difference from much less luxurious automatic scanning — the computer virus Bounty program enlists a large group of ethical hackers from across the world with varying Levels of expertise and training. Additionally, they are able to find unusual security flaws that Even the most pricey penetration examinations may also miss.

#### Web Audit & Vulnerability Assessment

Security audits and vulnerability exams each precaution are taken to make sure the Vigilance of the internet software. To make certain the vulnerability unfastened surroundings might be kept in the packages these approaches should be followed and necessary steps ought to be taken Periodically. Both tests ought to be executed time and again, it is not sufficient if it runs one Time, and results have been best, no longer to observe up once more. Because as cyber space is changing hastily and on the identical time more vulnerabilities will evolve and arise.



#### **Security Audit**

A safety audit is the first phase in securing IT infrastructure and may be characterized as a rigorous exam of the safety of business's IT infrastructure. Protection professionals Will grade the diploma to which, security methods adhere to a list of targeted criteria in Order to validate its protection aspect.

IT infrastructure safety audits should be complete and systematic with a view to Protect corporations or firms' statistics and IT assets. In case your quarter is noticeably regulated, partaking in This pastime may also assist enterprise by making sure compliance with guidelines together with GDPR, HIPPA, SOX, and PCI-DSS.

Standardized evaluation of a Web Audit:

- Email
- Information handling processes
- Hardware configurations
- Data and access-related details
- User practices
- Networks

Any of the subsequent need to be evaluated in light of previous and potential destiny problems. Which means that your safety body of workers need to be informed at the modern-day protection trends and the Responses made via different firms.

#### **Vulnerability Assessment**

Vulnerability evaluation is a manner that makes use of computerized testing gear to identify risks and threats. Due to the reality that safety flaws would possibly permit cyber attackers to breach an employer's

Records generation systems, it's far important to discover and restore vulnerabilities before their Being infiltrated and exploited. Vulnerability evaluation is critical because it informs a business enterprise Approximately its vulnerabilities and gives solutions for assessing them.

Vulnerability assessment responsibilities consist of figuring out, quantifying, and classifying regarded Security flaws in packages, hardware and software program systems, and network infrastructure. Moreover, it illustrates the ramifications of a hypothetical situation the usage of the discovered security Weak spot.

Additionally, vulnerability evaluation generates and refines an approach and sensible Technique for responding to threats. Eventually, it's miles responsible for making recommendations to Improve an agency's safety procedures.

Vulnerability assessment has four predominant additives, the ones are,

- 1.Initial assessment
- 2.Defining system baseline
- 3. Vulnerability scanning
- 4. Vulnerability Assessment report

#### Experiences

This become the very first time I tried to do this kind of pastime which turned into honestly a laugh and Exciting, a long way greater higher it become very useful to benefit new abilities. On the other hand, it changed into a superb Assist to run through numerous articles and reports, because it became no longer the most favored manner of Operating as youngers. We use generation for every type of things and have become lazy to examine. But because of this I needed to undergo wide variety of articles the ones have been written by nicely reputed ethical Hackers. Because of this I had the threat to get stimulated by using the best humans running in the Domain.

Nevertheless, in case of locating insects I needed to move slowly via lot of web sites. As active scans Are greater alarming and it's going to block the Ip cope within case we get stuck, I generally tend to observe passive

Scanning lots extra. As for passive scanning there are ardent equipment, there are wonderful number of Complete gears have evolved for every specialized task, consequently passive scanning is lot Simpler and more fruitful than walking lively scans on websites. And I've discovered lot of tools and Command with the intention to be high-quality asset for my destiny endeavors.

There are lot of systems based totally on how the internet utility has been evolved, I am getting the Risk to have a slighter concept approximately this massive region by way of interacting this mission.

I decided on Tinder.com corporation's subdomains as the subjected website. Before that I tried Western Union websites, grasp Card, and lot more. Amongst those site credit card required a unique manner to Run audits and scans on its subdomains. I needed to create a bug crowd email and log in to the MasterCard page on bug crowd. I attempted to this but lamentably, I failed to log in to this web site Efficaciously.

So, after numerous failed tries i was compelled to pick out some other domain that's OLX.Com Company's domains. The main hassle I came throughout with website online is it changed into surely already near to Ideal, as i used to be a new one too, it turned into very difficult to find insects. But being thankful to "Netsparker" which runs complete automated web scanner I used to be capable of find some Insects, and as for my marvel a essential computer virus as well.

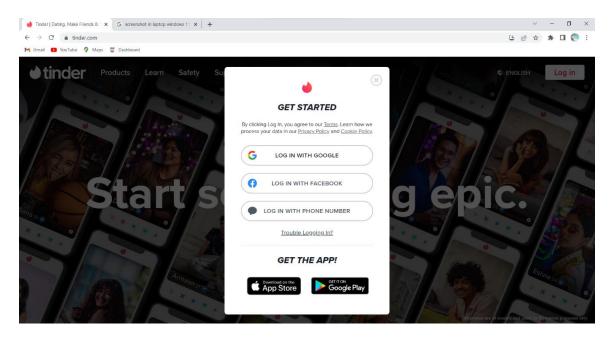
After appearing that I grew to become to find those insects manually before that I should acquire all Sort of data. More technical smart reconnaissance segment. I did this part as I've noted Above, the usage of massive range of tools and direct scans. The vital fact is that huge wide variety of tools are doing passive scans they move slowly through google and experiment the consequences which can be related to the use of that knowledge they acquire data. It's miles more secure than guide scanning as it's far immediately Handling the unique sites. And single mistake could damage to the gadget as well.

#### **Introduction of web site**

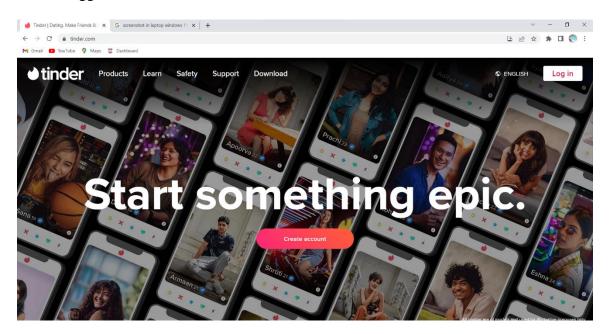
Web link - https://tinder.com/

It is a social media platform and online dating application.

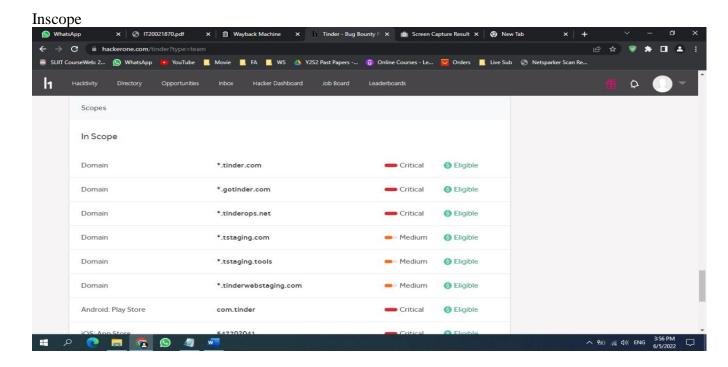
#### 1.Logging page



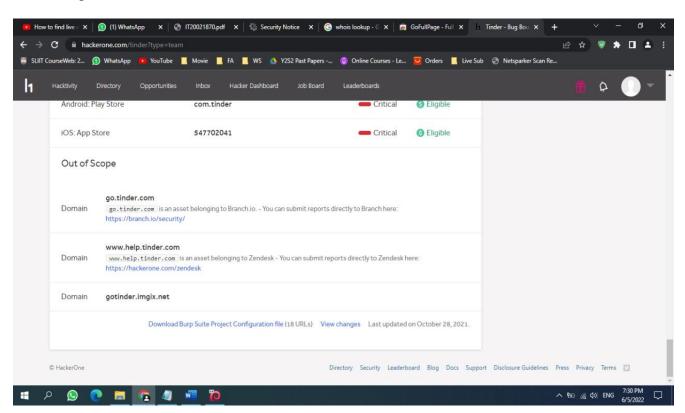
#### 2.After logged



#### **Scopes**



#### Out of scope



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#### **FIND SUBDOMAINS**

There are several tools for using finding subdomains.

- 1. Sublist3r
- 2. Recon-ng
- 3. Amass
- 4. SubBrute
- 5. Knock
- 6. DNSRecon
- 7. AltDNS
- 8. Axiom
- 9. Haktrails

#### Sublist3r tool

Download link- - https://github.com/aboul3la/Sublist3r.git

Download sublist3r tool from git clone

## Secondly downloaded folder

## Check sublist3r folder using this command

```
File Actions Edit View Help

(kali@ kali)-[~]

(kali@ kali)-[~/Sublist3r]

(kali@ kali)-[~/Sublist3r]

(kali@ kali)-[~/Sublist3r]

(kali@ kali)-[~/Sublist3r]

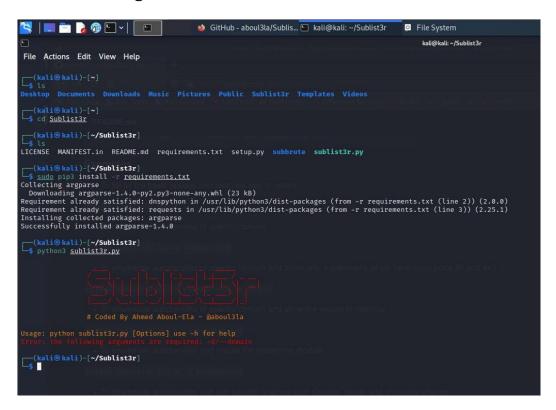
(kali@ kali)-[~/Sublist3r]

(kali@ kali)-[~/Sublist3r]

(kali@ kali)-[~/Sublist3r]
```

#### Install requirements.txt file

#### It is working



Our tool is ready. Then, Use the following command to find subdomains.

"Python3 sublist3r.py tinder.com"

Now, you can see how the

subdomains are scanning.

My domain name is

http://www.tinder.com.

It has 9 sub domains

## Domain name is tinderops.net

#### It has 6 domains

```
| Table | Tabl
```

#### Recon-ng Tool

#### Link - https://github.com/lanmaster53/recon-ng

1.Download tool from this link

```
Solution | Solution |
```

2. Check files

#### Install requirements

```
(kali@ kali)-[~/recon-ng]

$ sudo pip3 install -r REQUIREMENTS
[sudo] password for kali:

Sorry, try again.

[sudo] password for kali:

Requirement already satisfied: pyyaml in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 2)) (5.3.1)

Requirement already satisfied: dnspython in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 3)) (2.0.0)

Requirement already satisfied: mechanize in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 4)) (4.6.3)

Requirement already satisfied: mechanize in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 5)) (0.4.5)

Requirement already satisfied: flask in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 6)) (2.25.1)

Requirement already satisfied: flask in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 8)) (1.1.2)

Requirement already satisfied: flasgger in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 10)) (0.9.5)

Requirement already satisfied: dicttoxml in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 11)) (1.7.4)

Requirement already satisfied: unicodecsv in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 11)) (1.7.4)

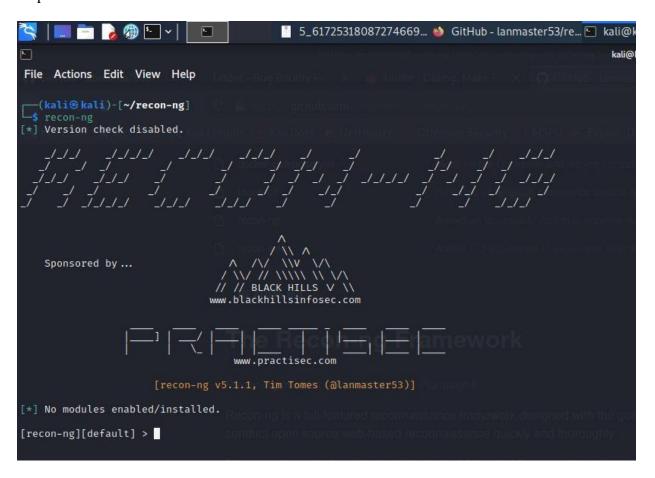
Requirement already satisfied: unicodecsv in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 11)) (1.7.4)

Requirement already satisfied: unicodecsv in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 11)) (1.7.4)

Requirement already satisfied: rq in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 13)) (0.14.1)

Requirement already satisfied: rq in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 14)) (1.9.0)
```

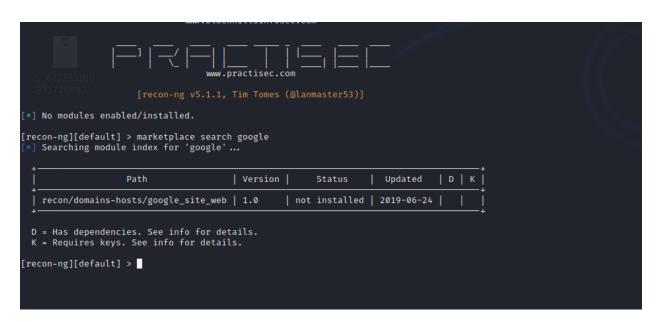
4.open tool



#### 5.Use help command

```
[recon-ng][default] > help
Commands (type [help|?] <topic>):
back
                Exits the current context
dashboard
                Displays a summary of activity
                Interfaces with the workspace's database
db
                Exits the framework
exit
help
                Displays this menu
index
                Creates a module index (dev only)
keys
                Manages third party resource credentials
marketplace
                Interfaces with the module marketplace
modules
                Interfaces with installed modules
options
                Manages the current context options
                Starts a Python Debugger session (dev only)
pdb
script
                Records and executes command scripts
shell
                Executes shell commands
show
                Shows various framework items
snapshots
                Manages workspace snapshots
spool
                Spools output to a file
workspaces
                Manages workspaces
[recon-ng][default] >
```

#### 6. Google module



#### 7.Then install module

```
Sponsored by ...

/// \/\
/// BLACK HILLS \/\
www.blackhillsinfosec.com

[recon-ng v5.1.1, Tim Tomes (@lanmaster53)]

[*] No modules enabled/installed.

[recon-ng][default] > marketplace install recon/domains-hosts/google_site_web

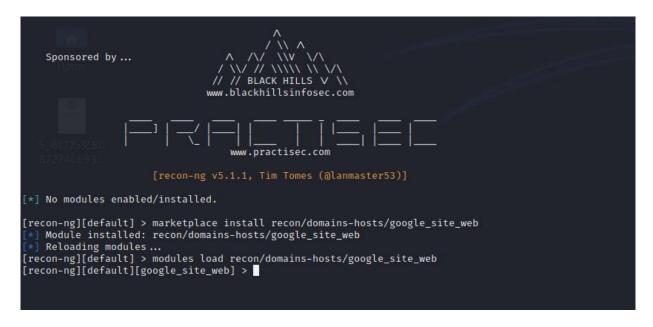
[*] Module installed: recon/domains-hosts/google_site_web

[*] Reloading modules ...

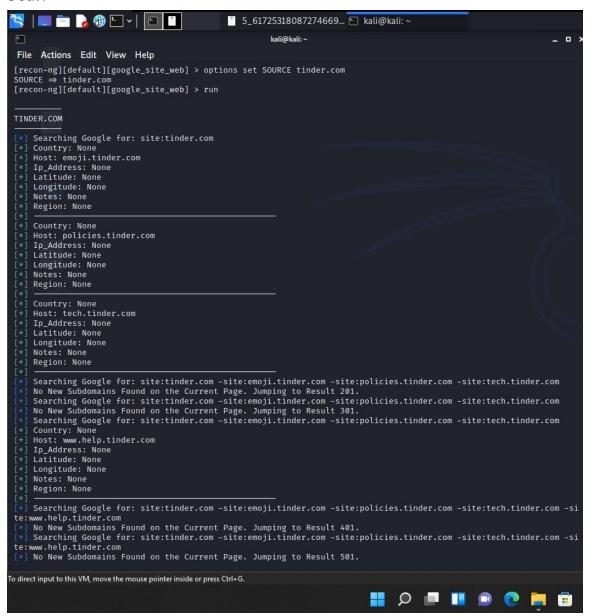
[recon-ng][default] > 

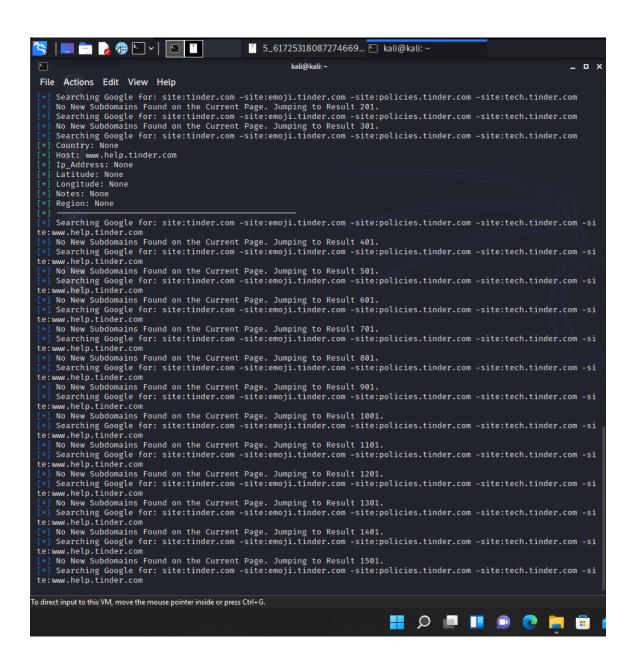
[recon-ng][default] >
```

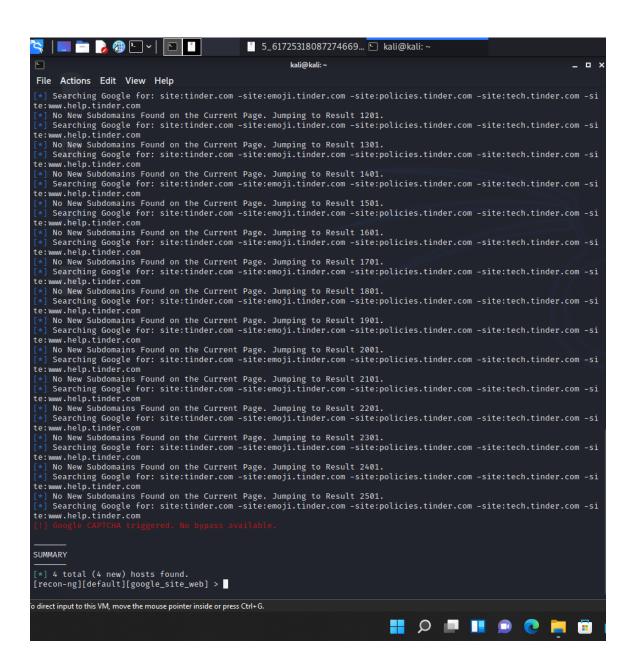
#### 8.Load module



#### Scan







#### **VULNERABILITY SCANNING**

I choose these subdomains for my assignment

https://www.tinder.com

https://lite.tinder.com

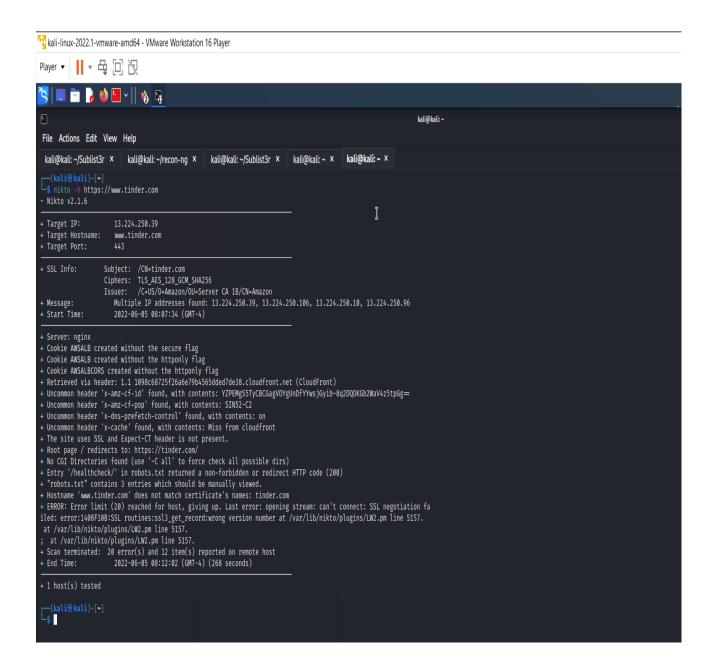
https://open.tinder.com

https://tech.tinder.com

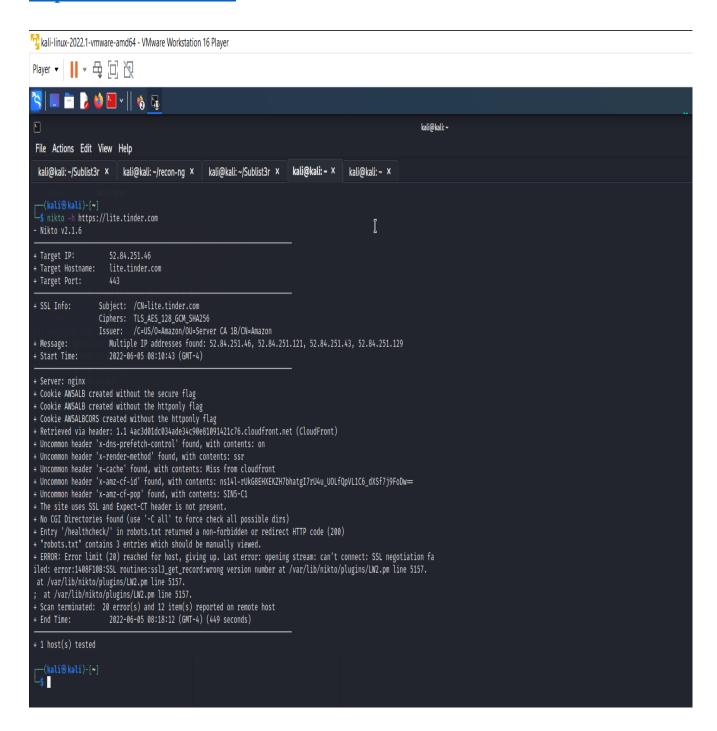
https://polls.tinder.com

#### Scan with Nikto Tool

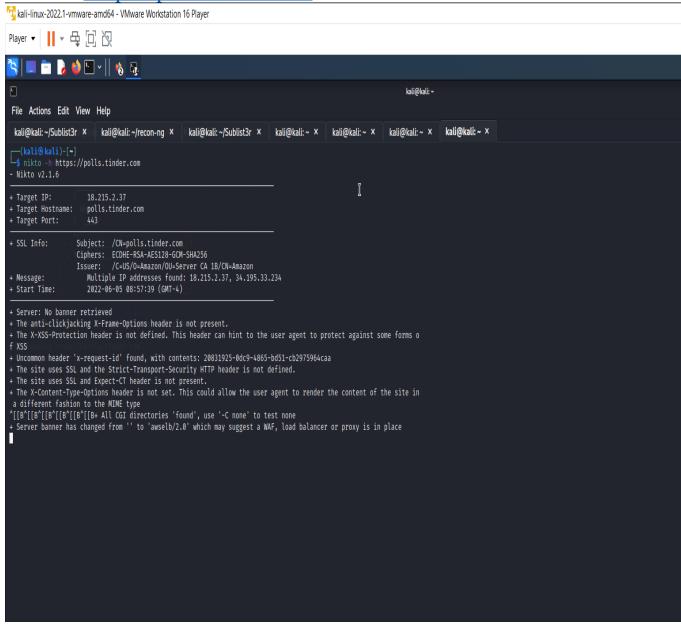
## https://www.tinder.com



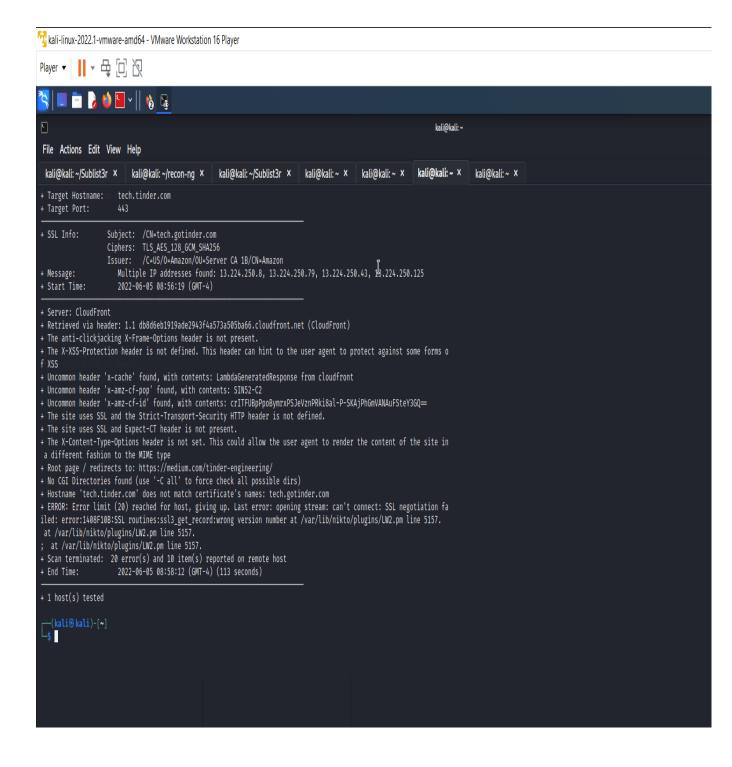
## https://lite.tinder.com



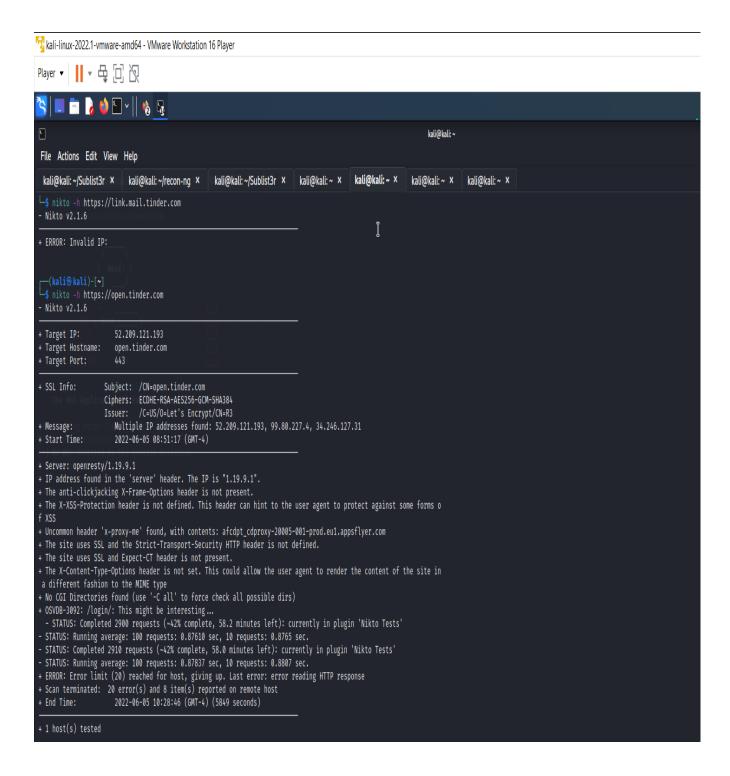
## https://polls.tinder.com



#### https://tech.tinder.com



## https://open.tinder.com



## **Fingerprinting**

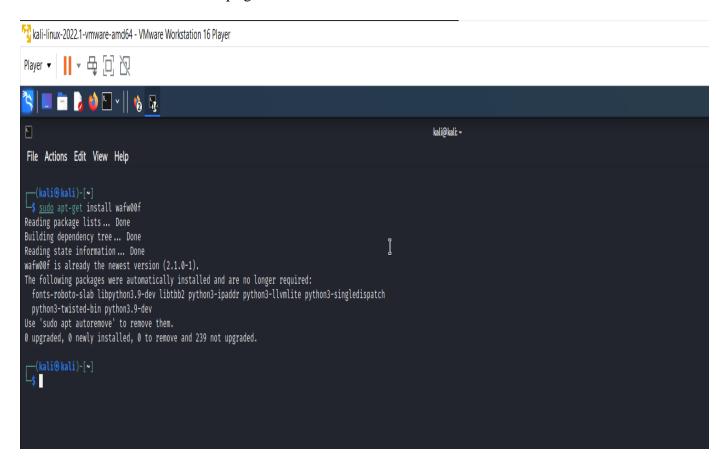
In data gathering system, we need to find open ports, firewalls, iptcpdum[ addresses, active ports, open ports, filtered ports, active devices, operating system etc.

#### Fingerprinting tools

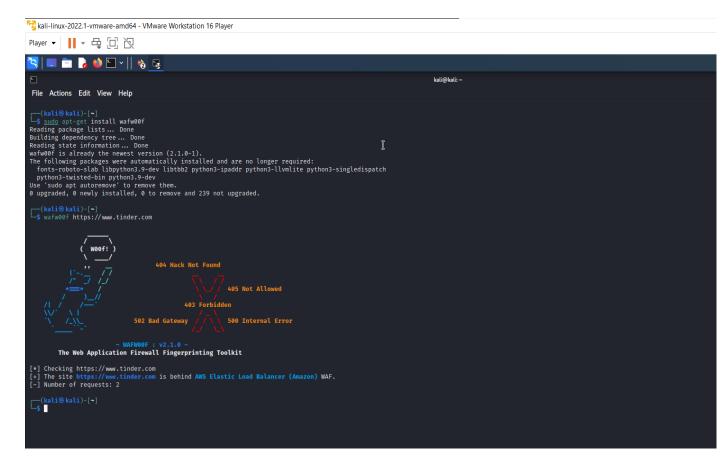
- Wafw00f
- Nmap
- PacketFence
- Netcat
- P0f
- Uniscan
- Tcpdump
- Wireshark
- Amap
- Cessation

#### Wafwoof tool

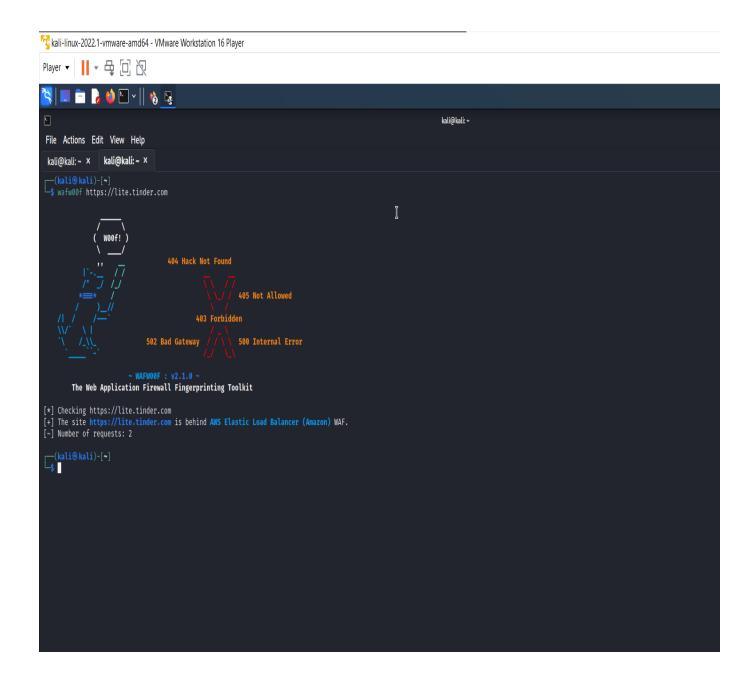
Use to install command - sudo apt-get install wafw00f



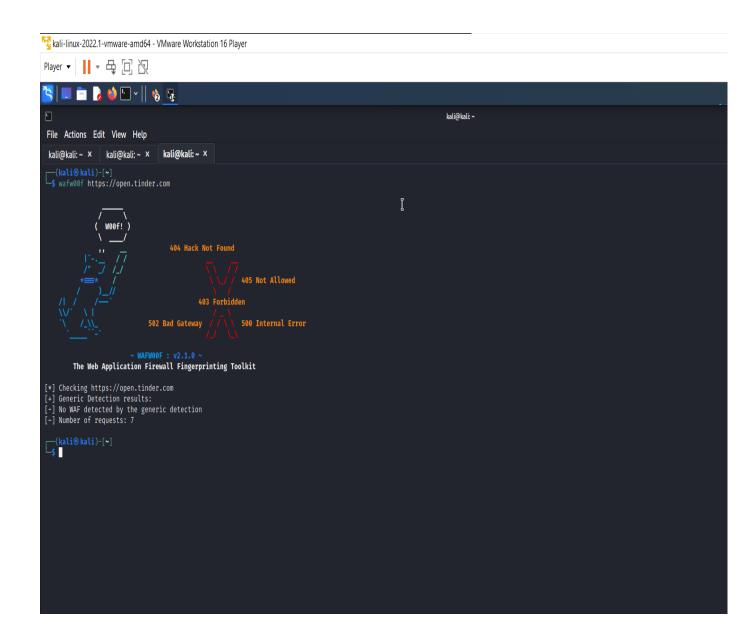
# https://www.tinder.com



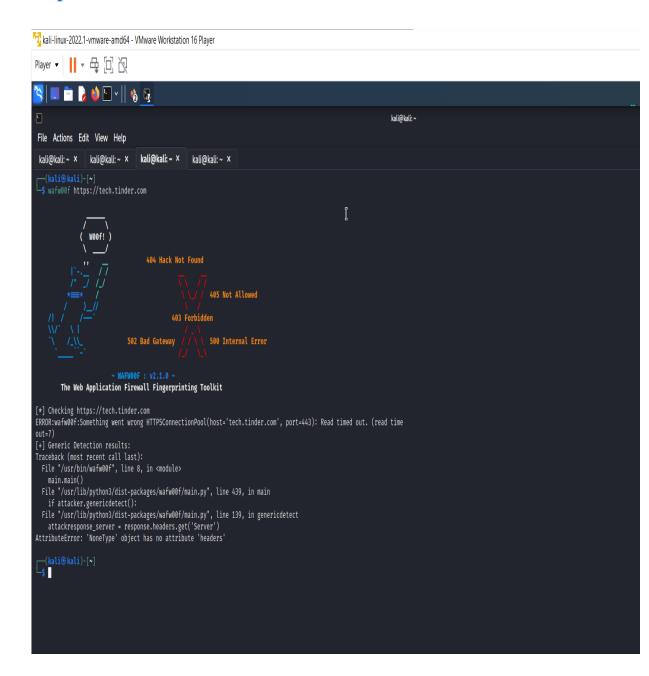
# https://lite.tinder.com



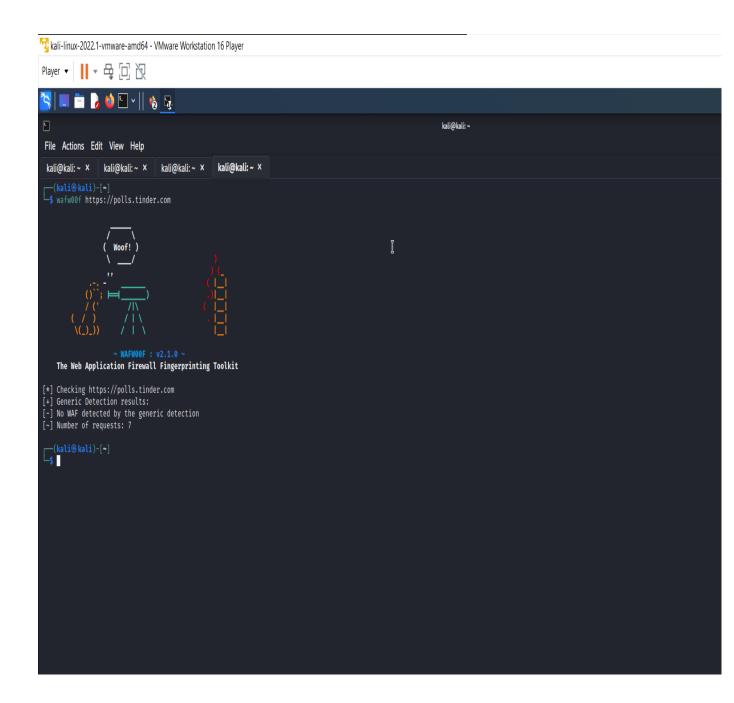
# https://open.tinder.com



## https://tech.tinder.com



# https://polls.tinder.com



#### **VULNERABILITY ANALYZING**

#### Vulnerability

Vulnerability is troubles/troubles or weaknesses within the web sites, net programs, software. Hackers can exploit that matters the usage of those vulnerabilities.

4 principal kinds of vulnerabilities. There are

- 1. Faulty defenses
- 2. Insecure connections
- 3. Resource management not adequate
- 4. End user errors and misuse

We can use these tools to scan vulnerabilities.

- 1. Uniscan
- 2. Nessus
- 3. Owasap
- 4. Nikto

Then I founded these vulnerabilities of selected my subdomains.

- 1. The website makes use of SSL and the stern-shipping-security HTTP header isn't defined.
- 2. The web site uses SSL and expect-CT header isn't always present.
- 3. The X-content-kind-option header isn't always set/
- 4. The anti-clickjacking X-frame-options header isn't present.
- 5. The X-XSS-safety header isn't described.

#### **Conclusion**

This internet audit has proven the vulnerabilities and essential suggestions for <a href="http://www.tinder.com">http://www.tinder.com</a> domain. I've commenced via listing subdomains. After I've seemed thru every subdomain for weaknesses/vulnerabilities. I've Big descriptions of what i use the tools I used all through each phase of my protection assessment's vulnerability evaluation. In the end, I pointed out a way to deal with such risks.