Sri Lanka Institute of Information Technology

Introduction to Web Audit

Individual Assignment

IE2062 – Web Security

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Date of submission

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ACKNOWLEDGEMENT

Web security module helped students gain a deeper understanding of web security tactics. However, it is not enough to simply learn about these techniques, we also need to learn how to use them in the real world. This assignment will provide us with a good understanding of how to use tools and rules also better understanding of cyber security and web security strategies.

I would like to express my gratitude to Dr. Lakmal Roopasinghe, Ms. Chethana Liyanapathirana, Ms. Menaka Moonamaldeniya and Ms. Chathu Udagedara for their hard work and dedication in helping me complete this project.

INTRODUCTION

Cyber security is a set of methods and processes that are used to protect against unauthorized access and use of networks and computers. It contributes to the maintenance of confidentiality, integrity, and availability.

Due to the rise of technology, cyber-attacks are becoming more common. Most of these attacks utilize tools and techniques that can cause damage to various networks and servers, such as databases. Hackers can also take advantage of these vulnerabilities by visiting websites and software that are vulnerable to exploitation.

Penetration testing and vulnerability scanning are commonly used to identify and secure vulnerabilities in online assets. Bug bounty programs are also beneficial for organizations that are looking to exploit these bugs. These programs allow individuals to earn money by identifying and exploiting bugs.

OBJECTIVES OF THE BUG BOUNTY

For the bug bounty assignment given for web security module in second year second semester, I selected https://etoro.com to do bug bounty. The main aim of this bug bounty assignment is, to identify vulnerabilities of the selected website and report them according to the instructions given by HackerOne.

RISK SEVERITY RATINGS

High	The highest risk associated with a specific vulnerability is represented by the high-risk level. The target application can be successfully exploited, and the application data can be comprised partially or totally by the attacker. The data of the web application may be modified or delete by the attacker.
Medium	Considerable risks associated with specific vulnerabilities are represented by the medium-risk level. Low level information about the web application can be gained by an attacker when exploiting medium risk vulnerabilities. Medium-risk vulnerabilities should be addressed after mitigating high-risk vulnerabilities.
Low	The lowest risk associated with a specific vulnerability is represented by the low-risk level. This may allow an attacker to obtain some information which are not much critical, but not intended to have knowledge otherwise.

OWASP Top 10 Security Risks and Vulnerabilities

The OWASP top 10 is a list of the 10 most common web application security risks. This is a standard document that helps developers and security professionals identify the most critical issues in web applications.

- Injection
- Broken Authentication
- Sensitive Data Exposure
- XML External Entities (XXE)
- Broken Access Control
- Security Misconfiguration
- Cross-Site Scripting (XSS)
- Insecure Deserialization
- Using Components with Known Vulnerabilities
- Insufficient Logging & Monitoring

Risk	Information
Injection	Injection happens when an attacker exploit malicious code to inject (or insert) their own code into a program. Examples of injection:- ▪ SQL injection ▪ command injections ▪ CRLF injections ▪ LDAP injections

Broken Authentication	Getting the correct implementation of session management calls and authentication is very important to prevent unauthorized access to your data. This is why it is important to implement multifactor authentication. This can help prevent attackers from gaining access to your accounts.
Sensitive Data Exposure	Developers can easily connect their applications to third-party services such as Google Maps using an API. However, some of these APIs can be vulnerable to exploitation due to their use of insecure data transmission methods. To minimize the risk of getting access to sensitive data, implementing various security measures such as tokenization, data encryption, and key management.
XML External Entities (XXE)	This vulnerability can be exploited by attackers to upload or include hostile content in XML document. SCA scan can identify these risks in third-party components, and it can warn you about them. Disabling the processing of XML external entities can also reduce the likelihood of exploitation.

Broken Access Control	Unauthenticated users can easily take advantage of access restrictions and privileges that are not being properly enforced. This can allow them to access sensitive files and systems. Although automated processes can test for certain types of errors, such as missing or unauthorized access controls, they are not always able to detect them. This is why it is important to use other methods to check for these issues. Aside from regular testing, implementing secure coding practices and managing your credentials are also important to prevent issues from happening.
Security Misconfiguration	A lot of security configuration errors are similar to those that happen when implementing a poorly designed access control. They can allow attackers to access sensitive data and sites easily. Dynamic testing can help identify these issues.

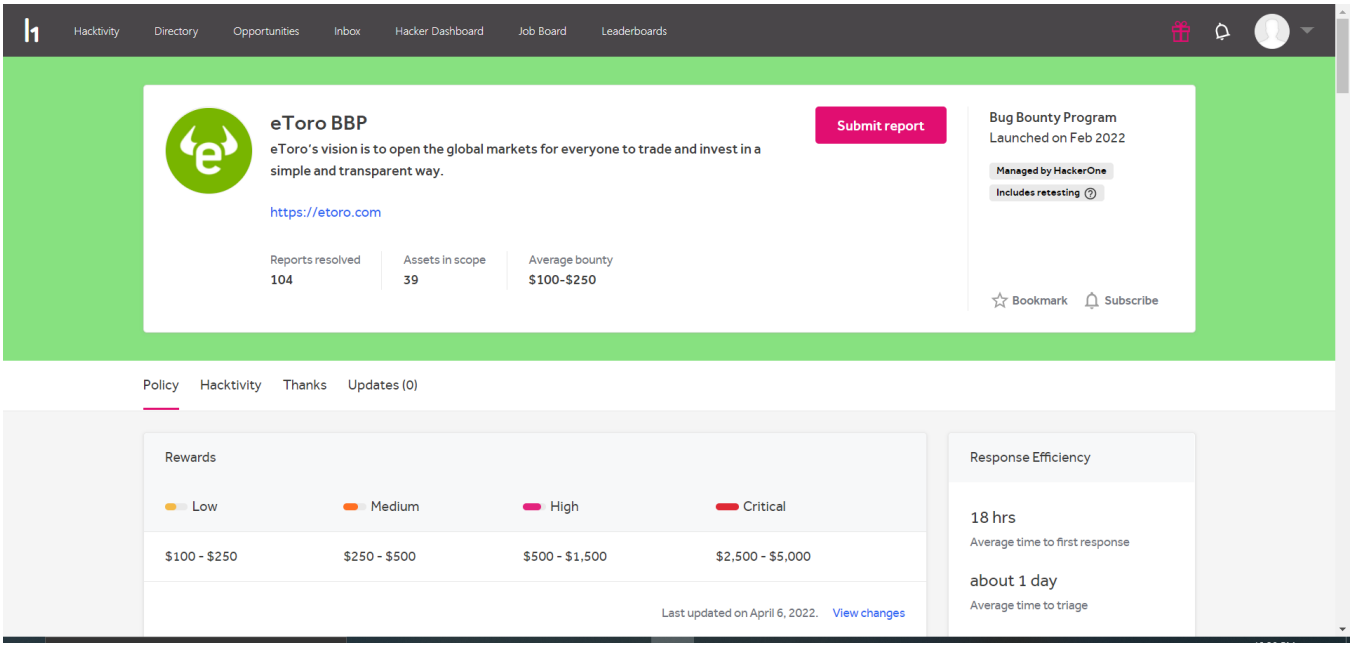
Cross-Site Scripting (XSS)	Another common vulnerability that can be exploited by attackers is the ability to access a vulnerable web application's interaction with its users. Examples for XSS: - ▪ Reflected XSS ▪ Stored XSS ▪ DOM-based XSS
Insecure Deserialization	This vulnerability can be used to execute script remotely. It can also allow attackers to perform various attacks, such as privilege escalation and replay attacks.
Using Components with Known Vulnerabilities	Even if your own code is secure, attackers can still access third-party components without your knowledge. A static analysis can help identify these components in your application. It can also help prevent them from being exploited by analyzing the software composition and APIs of your application.
Insufficient Logging & Monitoring	Poor monitoring and log errors can introduce a human element to a security risk. Threat actors rely on a lack of monitoring and remediation time to carry out attacks before they can react to prevent you from noticing or reacting.

ABOUT THE TARGET AND SELECTED DOMAINS

EToro is a multinational financial and social trading company based in Israel. It provides various services such as financial and copy trading. Its headquarters are located in Central Israel. It has also registered offices in the US, UK, Australia, and Cyprus.

I completed the bug bounty on www.etoro.com for the assignment. I selected HackerOne (www.hackerone.com) to finish my project. The audit was done for the following URLs.

- https://www.etoro.com/
- https://etoropartners.com/
- https://charts.etoro.com/
- https://etorox.com/
- https://partners.etoro.com/



INSCOPE

Scopes			
In Scope			
Domain	www.etoro.com	Critical	Eligible
Domain	etoropartners.com	Critical	Eligible
Domain	partners.etoro.com	Critical	Eligible
Domain	aggregator.etoro.com	Critical	Eligible
Domain	api.etoro.com	Critical	Eligible
Domain	billing.etoro.com	Critical	Eligible
Domain	billing-pci.etoro.com	Critical	Eligible
Domain	candle.etoro.com	Critical	Eligible
Domain	candle-src.etoro.com	Critical	Eligible
Domain	cashier.etoro.com	Critical	Eligible
Domain	cashier-src.etoro.com	Critical	Eligible
Domain	charts.etoro.com	Critical	Eligible
Domain	push-d-gw.cloud.etoro.com	Critical	Eligible
Domain	push-d-hap.cloud.etoro.com	Critical	Eligible
Domain	push-demo-hk-lightstreamer.cloud.etoro.com	Critical	Eligible
Domain	push-demo-lightstreamer.cloud.etoro.com	Critical	Eligible
Domain	push-dn-hap.cloud.etoro.com	Critical	Eligible
Domain	push-hap.cloud.etoro.com	Critical	Eligible

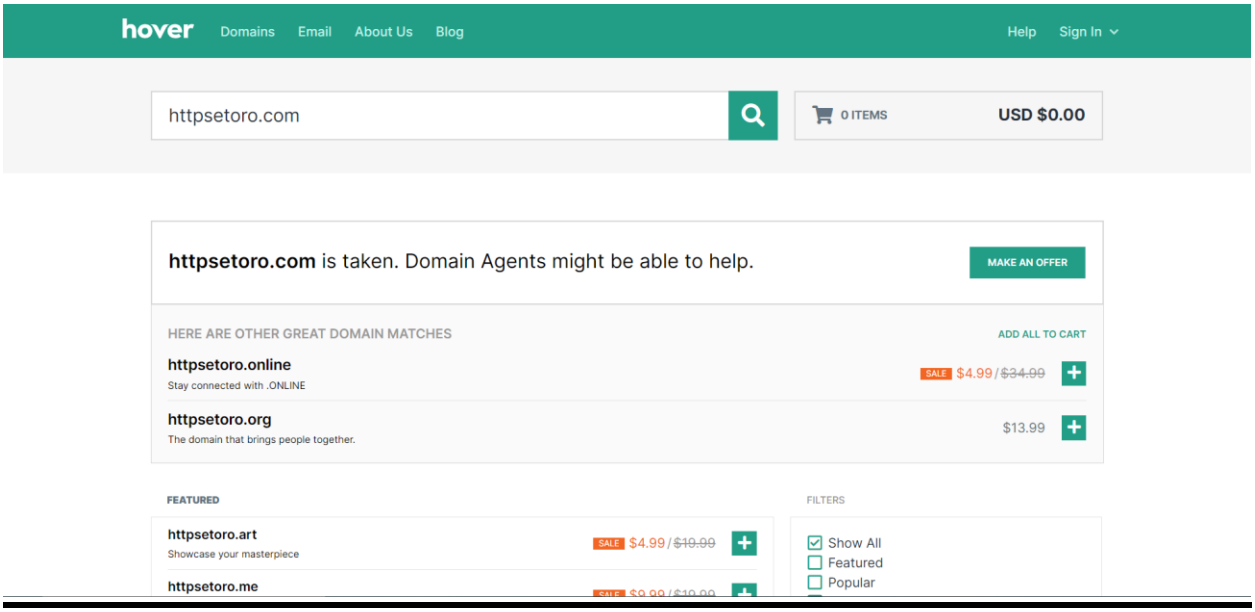
Domain	push-lightstreamer.cloud.etoro.com	Critical	Eligible
Domain	push-n-hap.cloud.etoro.com	Critical	Eligible
Domain	push-real-hk-lightstreamer.cloud.etoro.com	Critical	Eligible
Domain	etorologsapi.etoro.com	Critical	Eligible
Domain	kyc.etoro.com	Critical	Eligible
Domain	kyc-src.etoro.com	Critical	Eligible
Domain	r.etoro.com	Critical	Eligible
Domain	streams.etoro.com	Critical	Eligible
Domain	sts.etoro.com	Critical	Eligible
Domain	tapi-demo.etoro.com	Critical	Eligible
Domain	tapi-real.etoro.com	Critical	Eligible
Domain	uapi-front.etoro.com	Critical	Eligible
Domain	wallet.etoro.com	Critical	Eligible
Domain	watchlistapi.etoro.com	Critical	Eligible
Domain	etorox.com	Critical	Eligible
Domain	rankings.etoro.com	Critical	Eligible
Domain	delta.app	Critical	Eligible
Android: Play Store	com.etoro.openbook	Critical	Eligible
Android: Play Store	com.etoro.wallet	Critical	Eligible
iOS: App Store	com.etoro.openbook	Critical	Eligible
iOS: App Store	com.etoro.wallet	Critical	Eligible

OUT OF SCOPE

Out of Scope

Domain	templates.etoro.com
Domain	api-portal.etoro.com
Other	Web and Mobile Assets

VALIDATE THE TARGET



Here I used hover.com to validate the target. When I searched the doiman in search bar, the result said that the target is taken. According to the result, we can comfirmed that targeted domain is valid.

ASSESSMENT METHODOLOGY

Before carrying out a vulnerability assessment, it is important that the team members follow proper steps. This process is carried out in accordance with a standard penetration testing procedure.

INFORMATION GATHERING

When it comes to launching an attack or preventing one from happening, information gathering is the first step. This process is carried out with or without the client's consent. We collect as much information as we can about our clients or victims in order to improve our services and prevent them from getting victimized. In case of a bug bounty, our client gives us the limited information about the methodology used for them.

Unfortunately, when it comes to launching illegal attacks, the information gathering process is carried out covertly using illegal methods. However, this information gathering section is very important to ensure that you can achieve the expected success.

SUBDOMAIN ENUMERATION

The process of finding subdomain for one or more domain is known as subdomain enumeration. It helps to find hidden applications and forgotten subdomains in the attack surface.

1.Subdomain enumeration with Sublist3r

Sublist3r is a python tool designed to identify subdomains of websites. This tool helps bug hunters and penetration testers find and collect various domains that they're targeting. It can be used by search engines like Google, Yahoo, Bing, and Baidu.

By default, it is not installed in Kali linux. To install Sublist3r for kali linux we can simply enter the **apt install sublist3r** command on linux terminal and it will install automatically. Or we can download sublist3r through GitHub.

Download URL : https://github.com/aboul3la/Sublist3r.git

In here I used **sublist3r -d etoro.com** to get all the subdomains in etoro.com.

```
asdf.etoro.com
asmodeo.etoro.com
azithromycin.etoro.com
bayanmaskara.etoro.com
beta.etoro.com
bf.etoro.com
billing-pci.etoro.com
blockdmask.etoro.com
blog.etoro.com
blogcatolicovirgenmaria.etoro.com
spektakli.bloger.etoro.com
bokepcorona.etoro.com
booking.etoro.com
brptportal.etoro.com
c-cignauniversity.etoro.com
candle.etoro.com
cashier.etoro.com
cca.etoro.com
cdn.etoro.com
cekvirus.etoro.com
centrocorona.etoro.com
charts.etoro.com
push-d-hap.cloud.etoro.com
push-demo-hk-lightstreamer.cloud.etoro.com
push-demo-lightstreamer.cloud.etoro.com
push-dn-hap.cloud.etoro.com
push-hap.cloud.etoro.com
push-lightstreamer.cloud.etoro.com
push-ls-n2.cloud.etoro.com
push-ls-w2.cloud.etoro.com
push-ls-wn1.cloud.etoro.com
push-ls-wn2.cloud.etoro.com
push-ls-wn3.cloud.etoro.com
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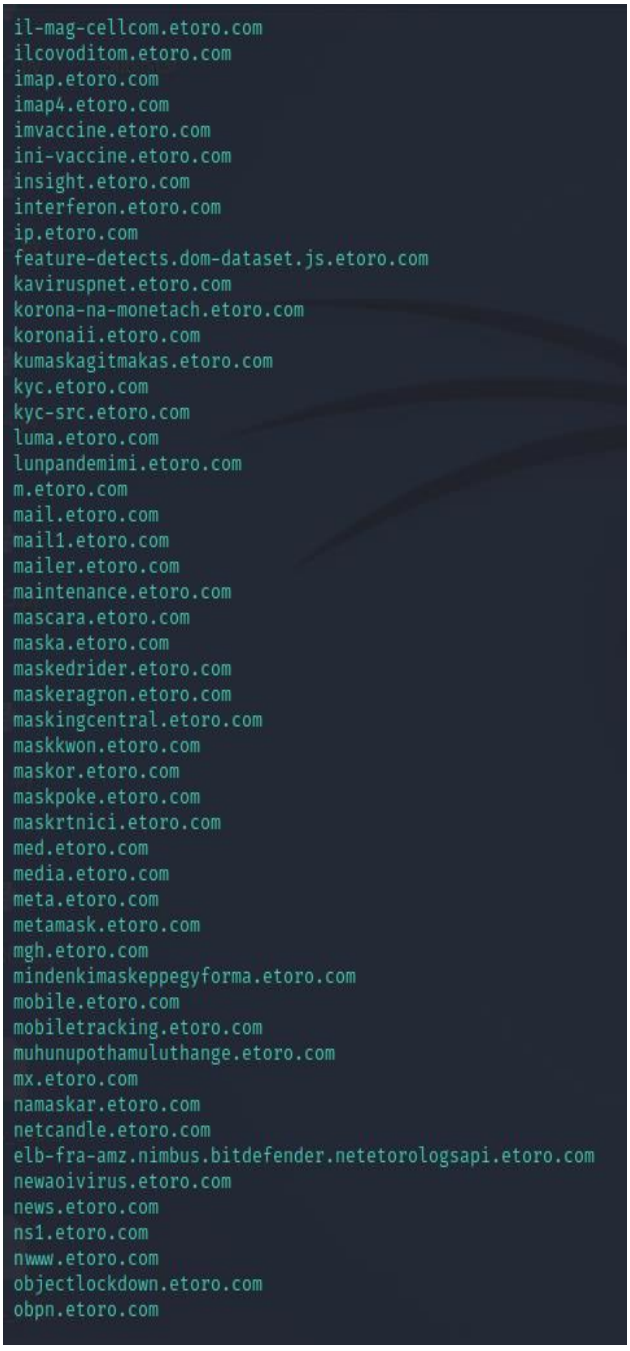
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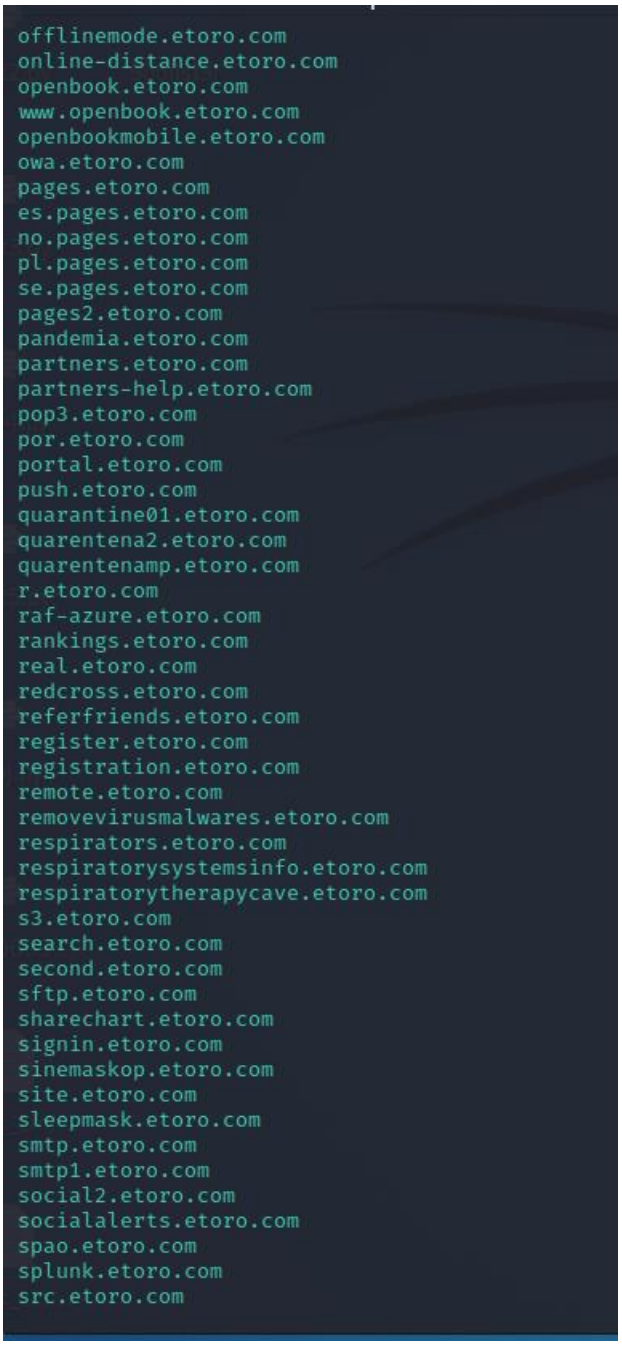
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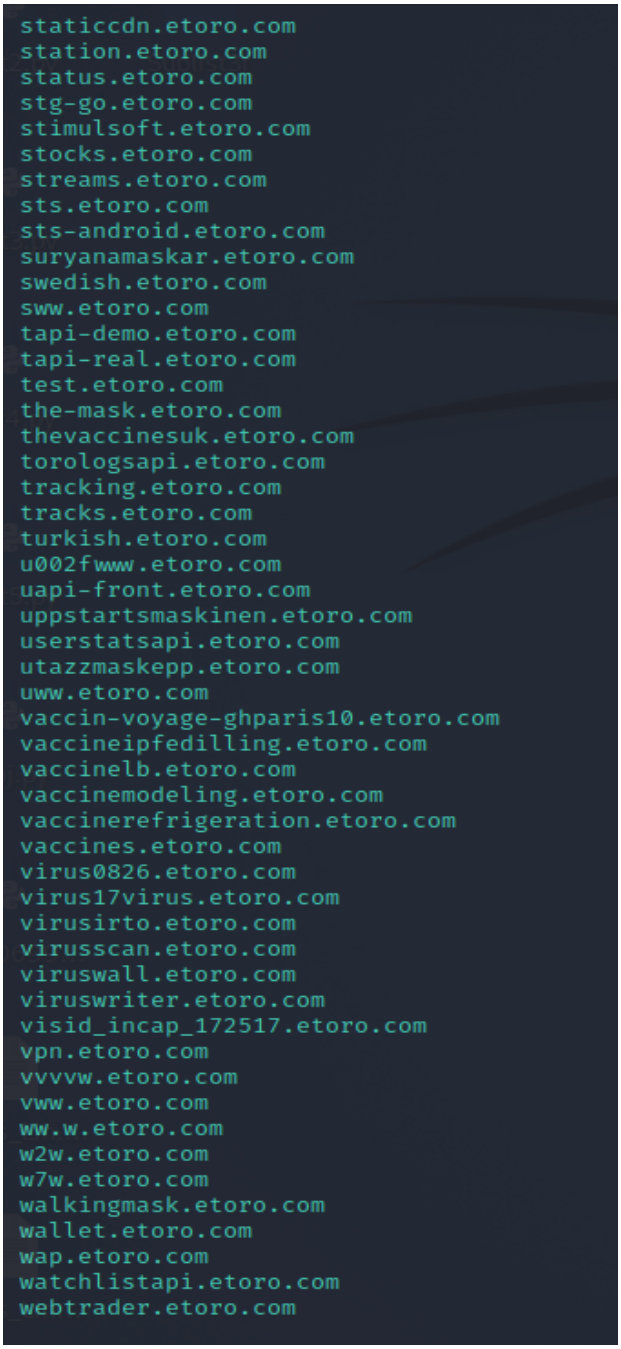
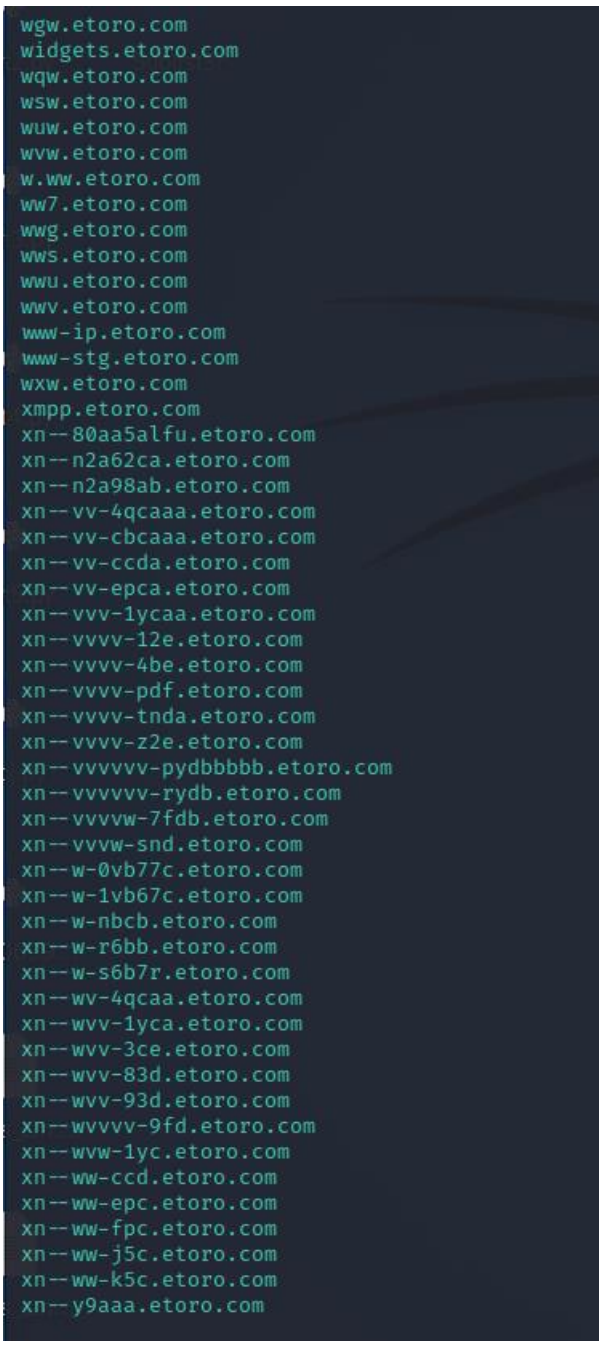
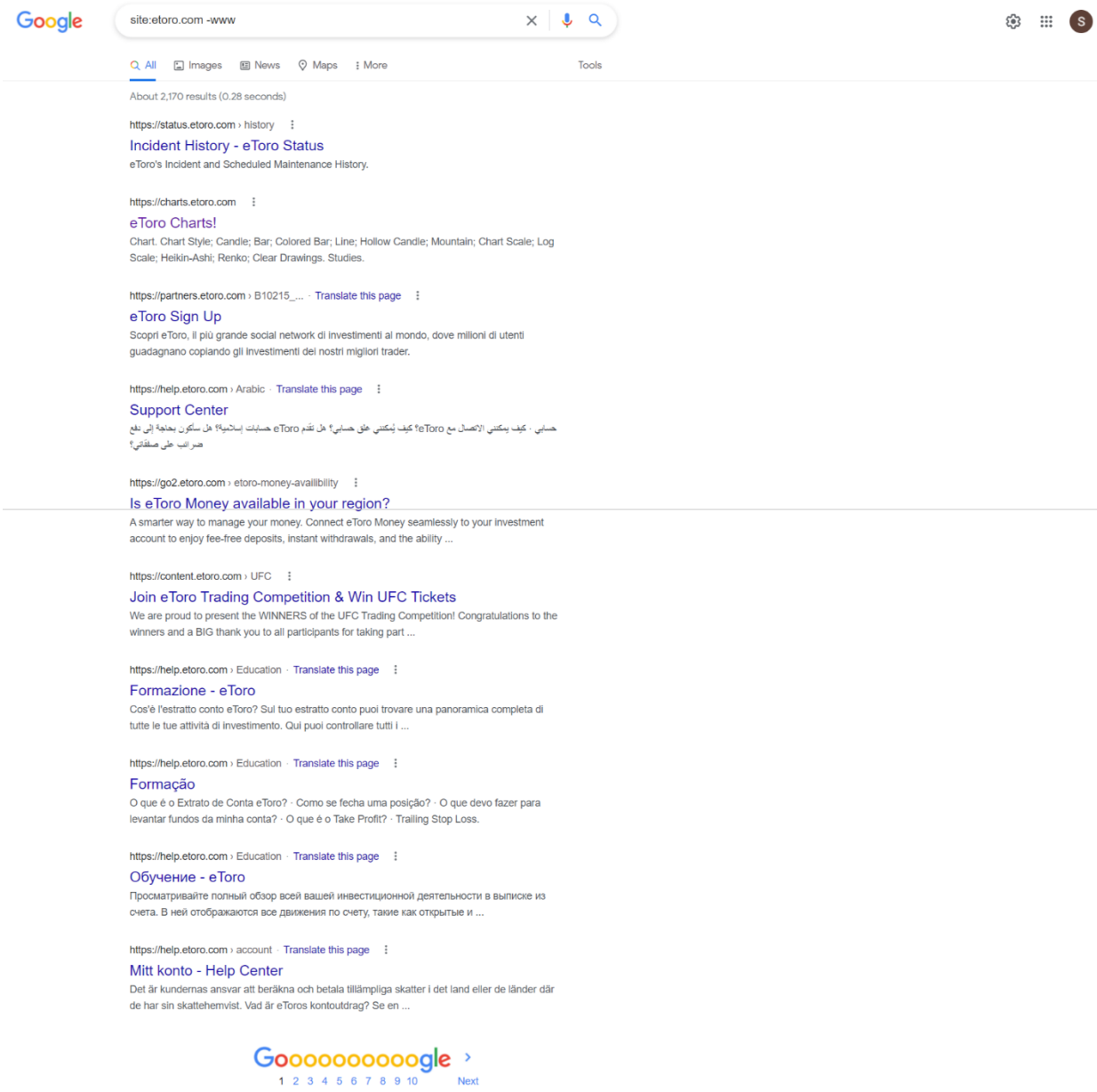




In here sublist3r found 332 subdomains of etoro.com

2. Subdomain enumeration with Google-fu

Using Google-fu tool also can used to find subdomains.



Harvesting E-Mails

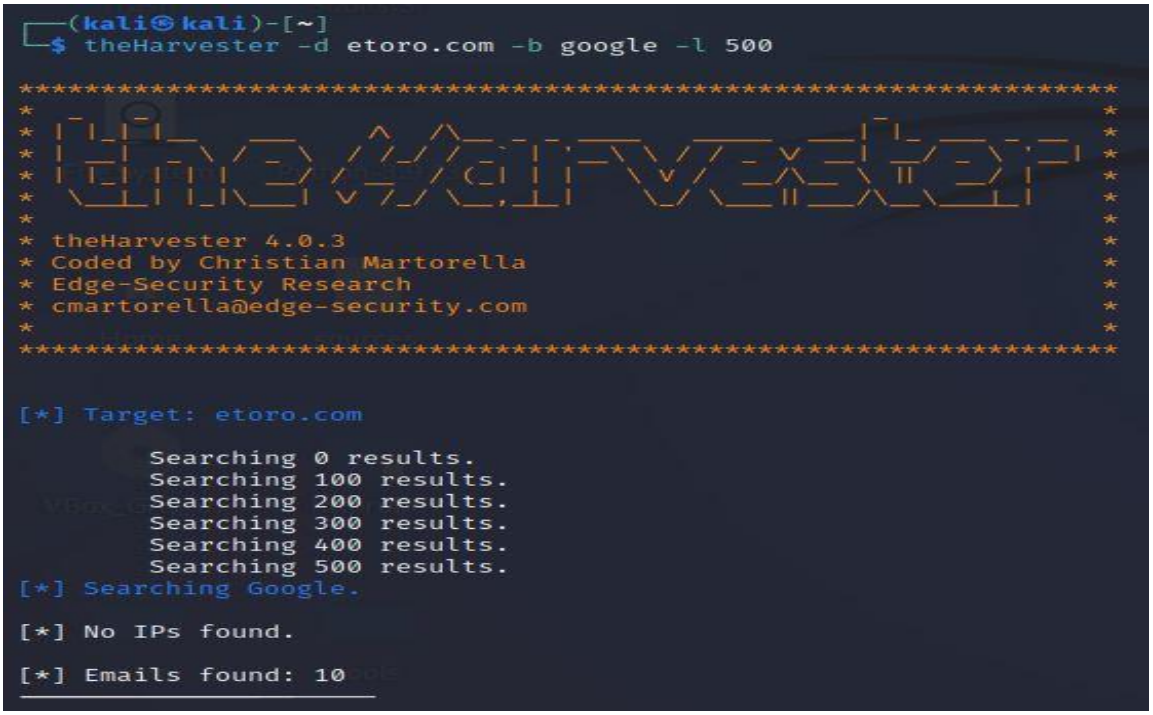
Email harvesting is the method of gaining many email addresses via several methods. For use in bulk emailing or for spamming is the purpose of harvesting email addresses.

Specialized harvesting software called as harvesting bots or harvesters is the most common technique of email harvesting.

1.Email harvesting using theHarvester tool

theHarvester is a tool which is available in kali linux used to search email accounts, virtual hosts, subdomain names, open ports / banners etc.

I used **-d etoro.com** command to check certain email addresses of targeted domain. And to limit the results I used **-l 500** , and I used Google like this **-b google**

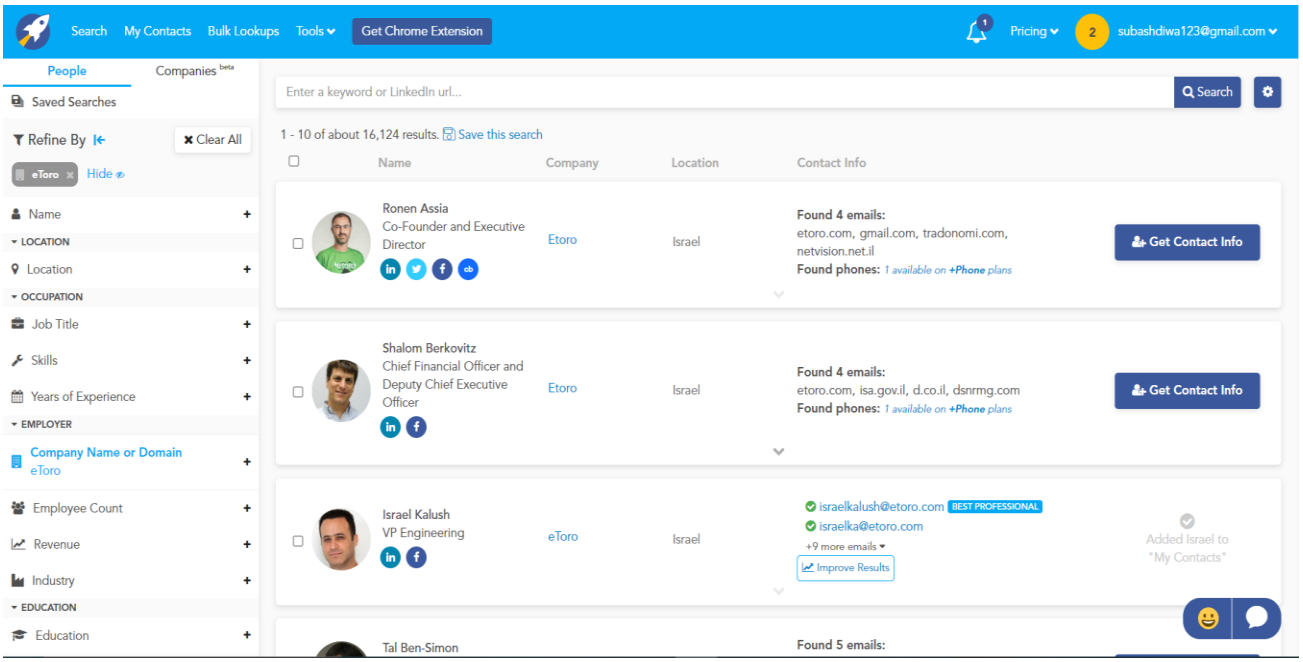


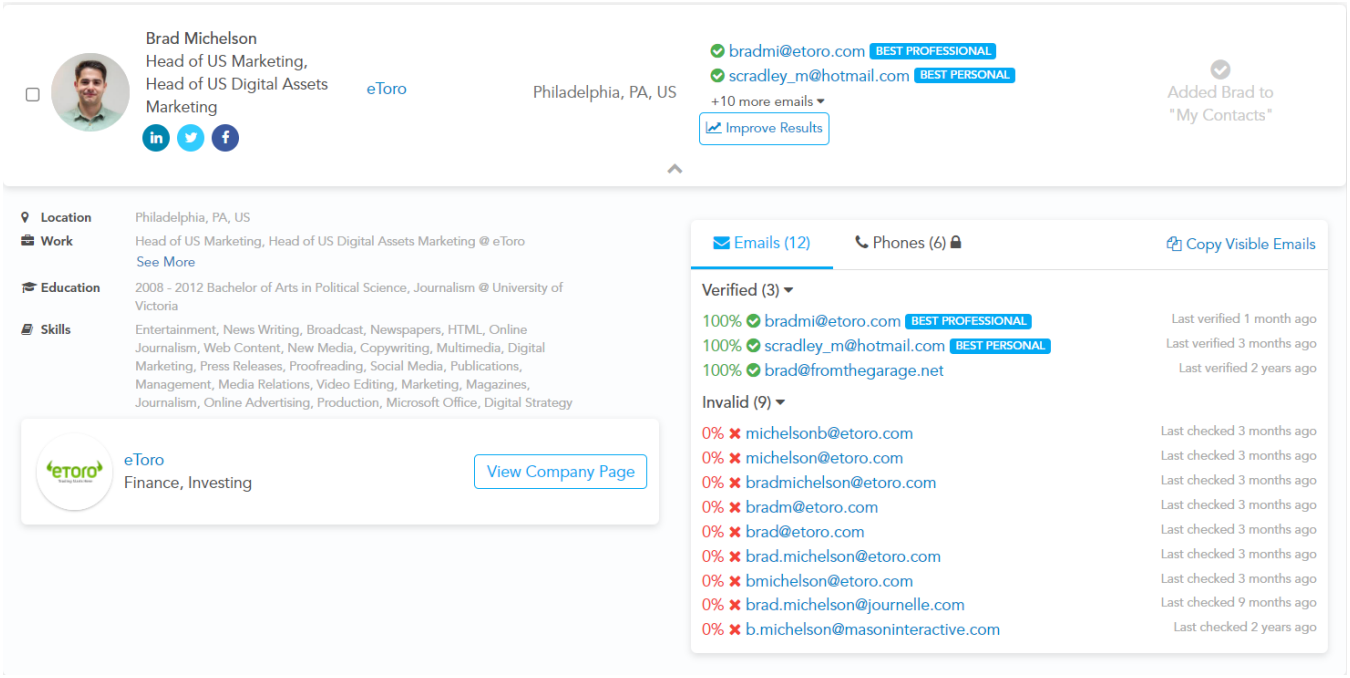
Harvester was unable to find Ips but theHarvester identified 10 emails and 2 hosts.

2. Using RocketReach online tool

To check for email address from specific domain, we can use this online tool. Before use this tool I created account in https://rocketreach.co/person tool. When we are searching specific domain name, we can find email address, phone numbers and other information.

In my case, I found several email address and other eToro related information from this tool.





DNS ENUMERATION

Dns Enumeration is the method of identifying all the DNS servers and their other information. This method can use to gather many interesting details about the target before initiate an attack. It gives information such as username, computer names and Ip address of potential target systems.

1.DNS Enumeration using DNSenum

DNSenum is the tool which is default available in kali linux.
In here I used **dnsenum –noreverse -o file.xml etoro.com** to retrieve DNS information without any redirections. To avoid reverse lookup used **–noreverse** and to save the output into **file.xml**, I used **-o**.

```
File  Actions  Edit  View  Help
┌──(kali㉿kali)-[~]
└─$ dnsenum --noreverse -o file.xml etoro.com
dnsenum VERSION:1.2.6

-----   etoro.com   -----


Host's addresses:
__________________

etoro.com.                               20       IN    A        23.198.122.134


Wildcard detection using: dsqlbtjvybxm
_______________________________________

dsqlbtjvybxm.etoro.com.                  600      IN    A        13.79.184.58


!!!!!!!!!!!!!!!!!!!!!!!!!!!

 Wildcards detected, all subdomains will point to the same IP address
 Omitting results containing 13.79.184.58.
 Maybe you are using OpenDNS servers.

!!!!!!!!!!!!!!!!!!!!!!!!!!!


Name Servers:
______________

ns1-13.akam.net.                         90000    IN    A        193.108.91.13
ns4-64.akam.net.                         167954   IN    A        84.53.139.64
ns5-64.akam.net.                         38456    IN    A        184.85.248.64
ns7-65.akam.net.                         78777    IN    A        96.7.49.65


Mail (MX) Servers:
___________________

alt1.aspmx.l.google.com.                 291      IN    A        173.194.202.27
aspmx.l.google.com.                      179      IN    A        142.251.10.26
alt3.aspmx.l.google.com.                 293      IN    A        142.250.141.26
alt4.aspmx.l.google.com.                 88       IN    A        142.250.115.27
alt2.aspmx.l.google.com.                 291      IN    A        142.250.142.26
```

```
Trying Zone Transfers and getting Bind Versions:
________________________________________________


Trying Zone Transfer for etoro.com on ns7-65.akam.net  ...
AXFR record query failed: REFUSED

Trying Zone Transfer for etoro.com on ns5-64.akam.net  ...
AXFR record query failed: REFUSED

Trying Zone Transfer for etoro.com on ns4-64.akam.net  ...
AXFR record query failed: REFUSED

Trying Zone Transfer for etoro.com on ns1-13.akam.net  ...
AXFR record query failed: REFUSED
```

```
Brute forcing with /usr/share/dnsenum/dns.txt:
_______________________________________

es.etoro.com.                           600      IN    CNAME     site.etoro.com.
fr.etoro.com.                           600      IN    CNAME     site.etoro.com.
it.etoro.com.                           600      IN    CNAME     site.etoro.com.
mail.etoro.com.                         86400    IN    CNAME     ghs.google.com.
ghs.google.com.                         299      IN    A         172.217.174.243
meta.etoro.com.                         600      IN    CNAME     www.etoro.com.
www.etoro.com.                          600      IN    CNAME     www-failover.etoro.akadns.net.
www-failover.etoro.akadns.net.          300      IN    CNAME     www.etoro.akadns.net.
www.etoro.akadns.net.                   300      IN    CNAME     etoro.com.cdn.cloudflare.net.
etoro.com.cdn.cloudflare.net.           300      IN    A         172.64.152.107
etoro.com.cdn.cloudflare.net.           300      IN    A         104.18.35.149
rdg.etoro.com.                          84600    IN    A         82.80.101.38
search.etoro.com.                       600      IN    CNAME     www.etoro.com.
www.etoro.com.                          547      IN    CNAME     www-failover.etoro.akadns.net.
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www.etoro.akadns.net.                   247      IN    CNAME     etoro.com.cdn.cloudflare.net.
etoro.com.cdn.cloudflare.net.           247      IN    A         172.64.152.107
etoro.com.cdn.cloudflare.net.           247      IN    A         104.18.35.149
smtp.etoro.com.                         86400    IN    A         82.166.64.66
test.etoro.com.                         600      IN    A         31.168.97.166
vsp.etoro.com.                          86400    IN    A         216.75.53.3
webmail.etoro.com.                      86400    IN    CNAME     webmail.secureserver.net.
webmail.secureserver.net.               3600     IN    CNAME     email.secureserver.net.
email.secureserver.net.                 60       IN    A         173.201.192.148
email.secureserver.net.                 60       IN    A         173.201.192.5
email.secureserver.net.                 60       IN    A         173.201.193.133
email.secureserver.net.                 60       IN    A         45.40.130.41
email.secureserver.net.                 60       IN    A         45.40.140.6
email.secureserver.net.                 60       IN    A         68.178.252.5
email.secureserver.net.                 60       IN    A         173.201.193.20
email.secureserver.net.                 60       IN    A         173.201.192.20
email.secureserver.net.                 60       IN    A         68.178.252.148
email.secureserver.net.                 60       IN    A         68.178.252.133
email.secureserver.net.                 60       IN    A         45.40.130.40
email.secureserver.net.                 60       IN    A         173.201.193.5
email.secureserver.net.                 60       IN    A         173.201.193.148
email.secureserver.net.                 60       IN    A         68.178.252.20
email.secureserver.net.                 60       IN    A         97.74.135.55
email.secureserver.net.                 60       IN    A         173.201.192.133
www.etoro.com.                          521      IN    CNAME     www-failover.etoro.akadns.net.
www-failover.etoro.akadns.net.          221      IN    CNAME     www.etoro.akadns.net.
www.etoro.akadns.net.                   221      IN    CNAME     etoro.com.cdn.cloudflare.net.
etoro.com.cdn.cloudflare.net.           221      IN    A         104.18.35.149
etoro.com.cdn.cloudflare.net.           221      IN    A         172.64.152.107
```

```
etoro.com class C netranges:
____________________________

 23.198.122.0/24
 31.168.97.0/24
 82.80.101.0/24
 82.166.64.0/24
 216.75.53.0/24


etoro.com ip blocks:
____________________

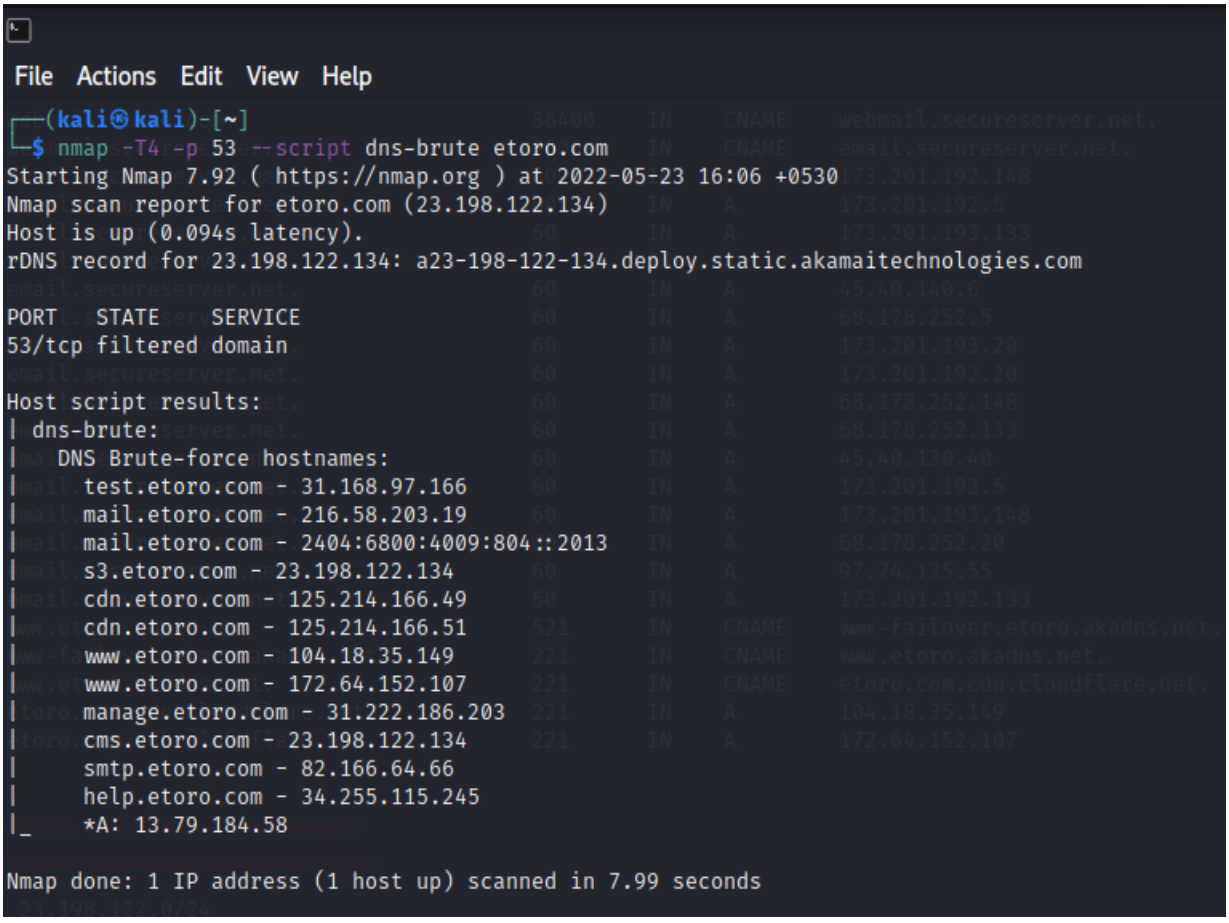
 23.198.122.134/32
 31.168.97.166/32
 82.80.101.38/32
 82.166.64.66/32
 216.75.53.3/32

done.
```

2. DNS Enumeration using Nmap

The Network Mapper also called Nmap is a linux command-line tool that can be used to scan IP address and ports in network. It can also use to detect installed applications, OS system detection and version detection. Network administrators can also find out which services are running on their network, as well as identify vulnerabilities.

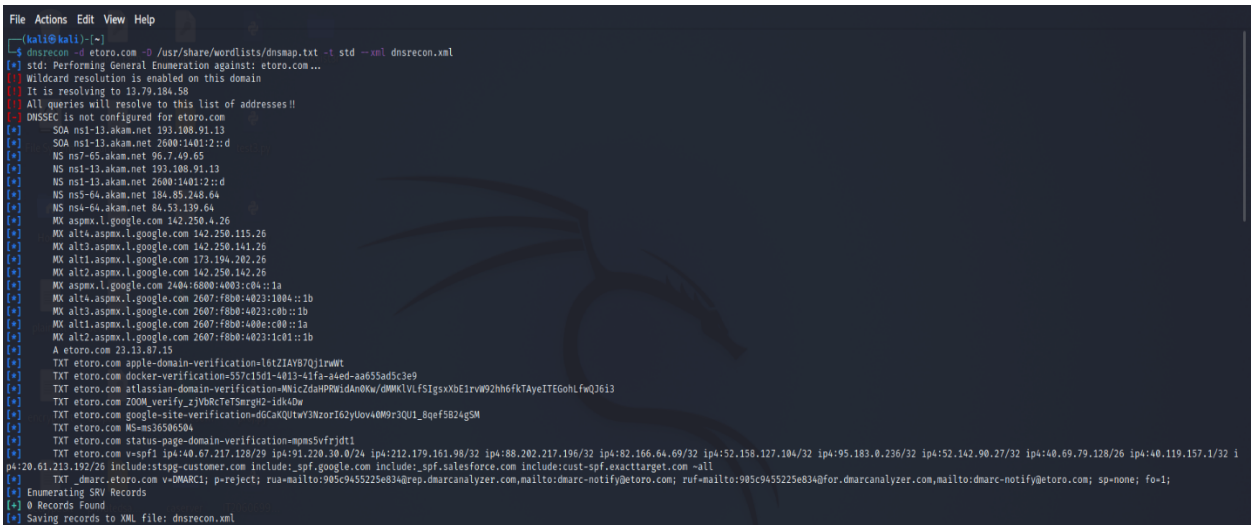
I used **nmap -T4 -p 53 --script dns-brute etoro.com** command for DNS enumeration by brute force estimating of popular subdomains.

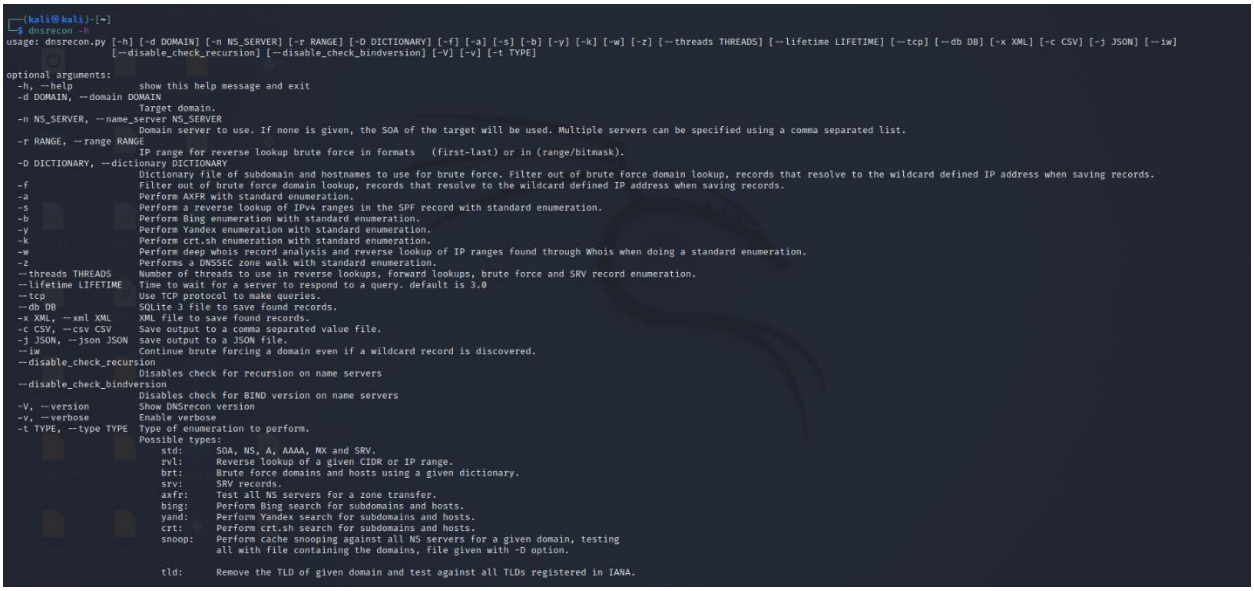


3. DNS Enumeration using Dnsrecon

Dnsrecone is a DNS scan tool in kali linux which is facilitate for verity of enumeration such as reverse lookup, Zone transfer, Google lookup, cache snooping, standard record enumeration, Domain Brute-Forcing and Zone walking.

In here I used this tool for get DNS details of etoro.com . And I used **dnsrecon -d etoro.com -D /usr/share/wordlists/dnsmap.txt -t std --xml dnsrecon.xml** command for DNS enumeration.

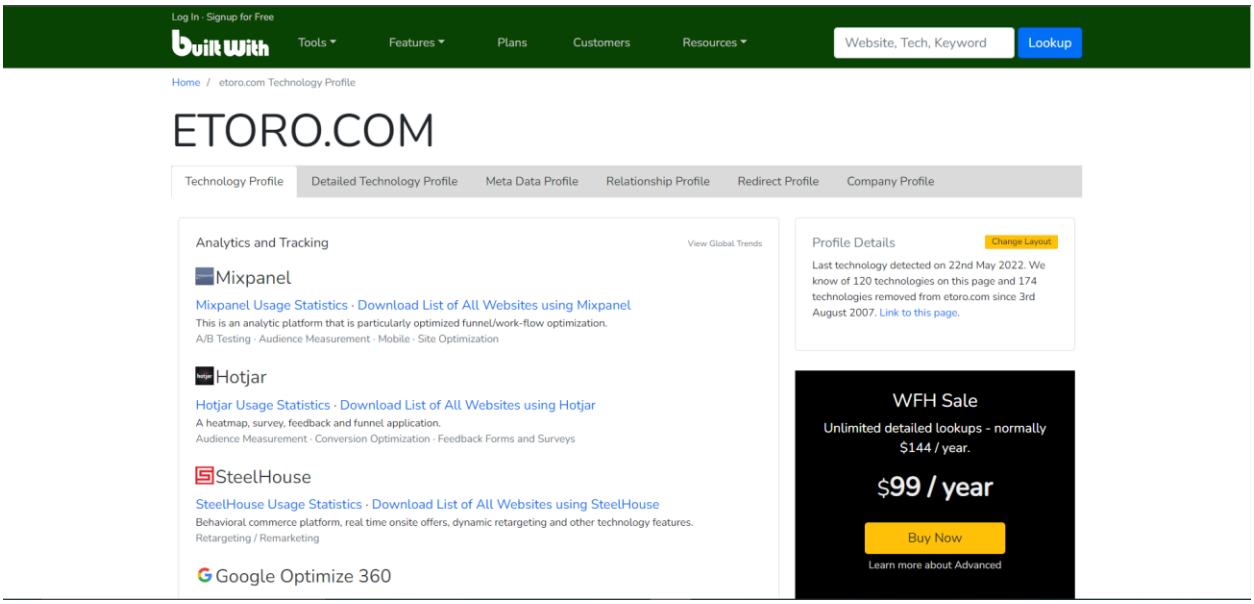


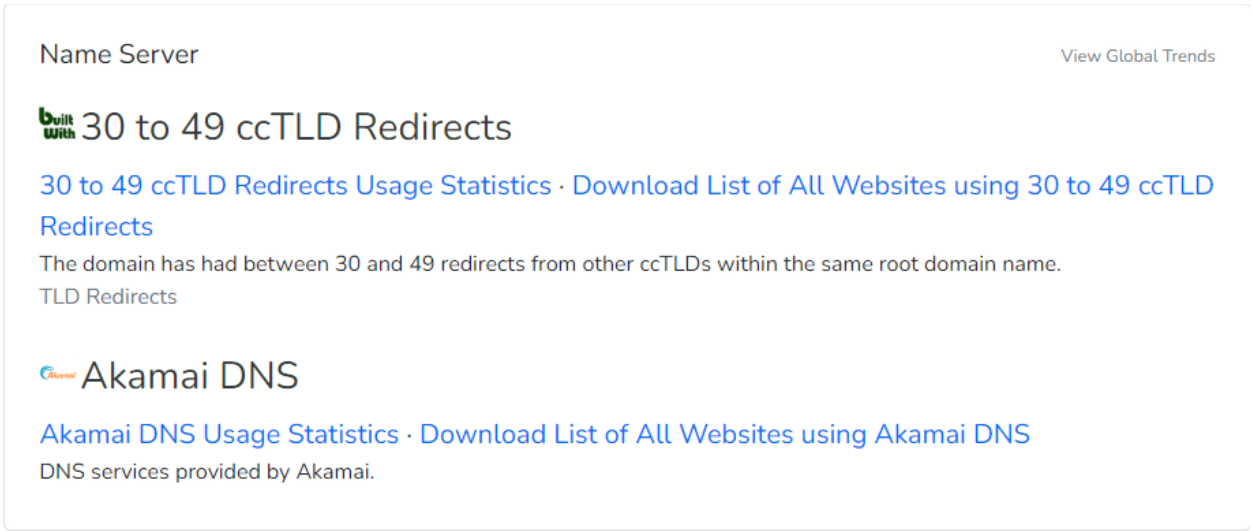


IDENTIFYING WEBSITE TECHNOLOGY

1.Using Buildwith

The technology that used to create website can be useful for identifying the vulnerability of a website. Using builtwith.com we can get a better understand about the technology used to create the website.





Content Delivery Network

View Global Trends

GStatic Google Static Content

GStatic Google Static Content Usage Statistics · Download List of All Websites using GStatic Google Static Content

Google has off-loaded static content (Javascript/Images/CSS) to a different domain name in an effort to reduce bandwidth usage and increase network performance for the end user.

CloudFront

CloudFront Usage Statistics · Download List of All Websites using CloudFront

Amazon CloudFront is a web service for content delivery. It integrates with other Amazon Web Services to give developers and businesses an easy way to distribute content to end users with low latency, high data transfer speeds, and no commitments.

AJAX Libraries API

AJAX Libraries API Usage Statistics · Download List of All Websites using AJAX Libraries API

The AJAX Libraries API is a content distribution network and loading architecture for the most popular, open source JavaScript libraries.

Yahoo Image CDN

Yahoo Image CDN Usage Statistics · Download List of All Websites using Yahoo Image CDN

[url] contains links to Yahoo image CDN.

Cloudflare

Cloudflare Usage Statistics · Download List of All Websites using Cloudflare

Automatically optimizes the delivery of your web pages so your visitors get the fastest page load times and best performance.

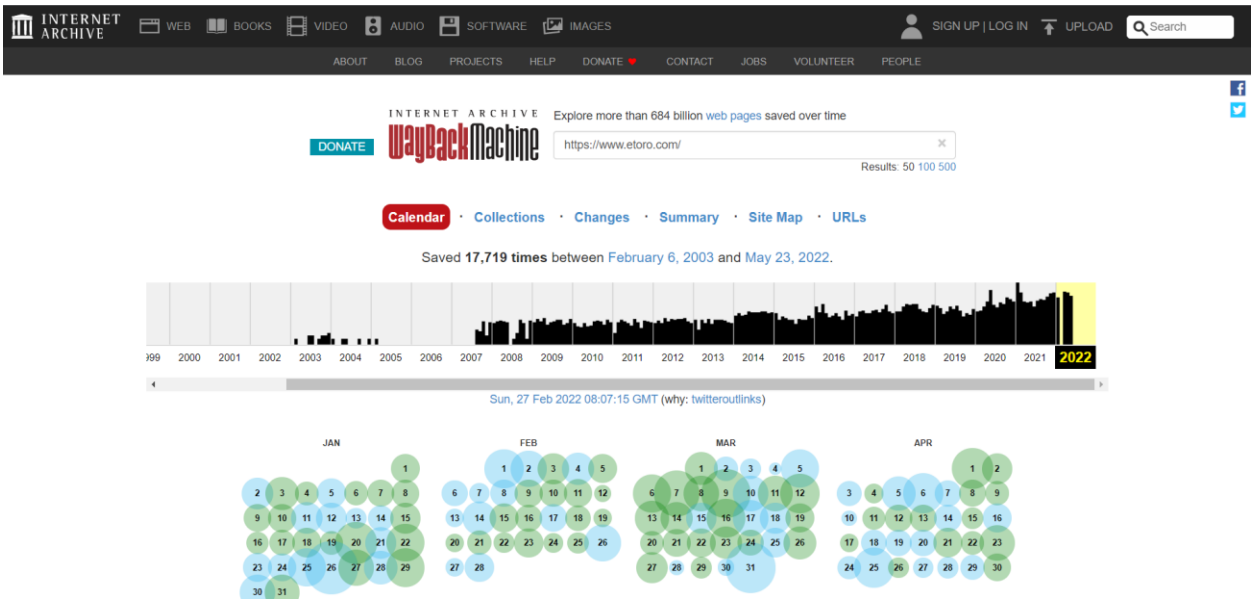
FINDING ACHIEVED INFORMATION

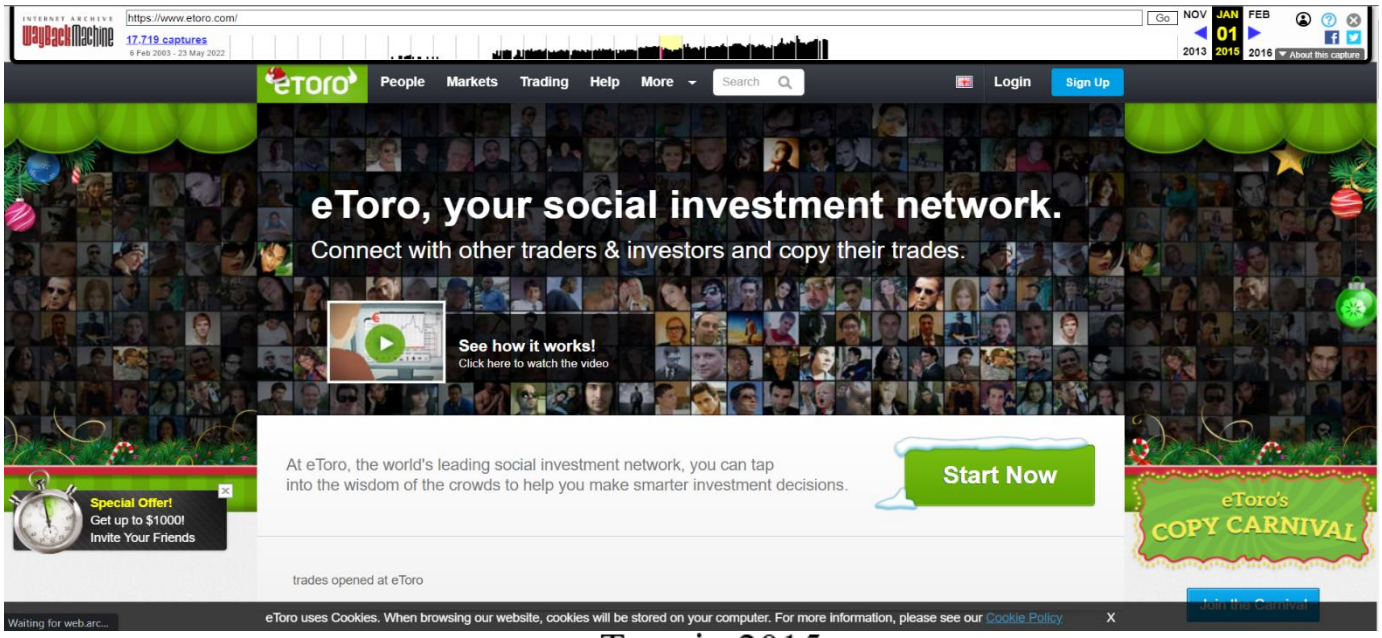
1.Wayback machine

Website URL:- http://web.archive.org/

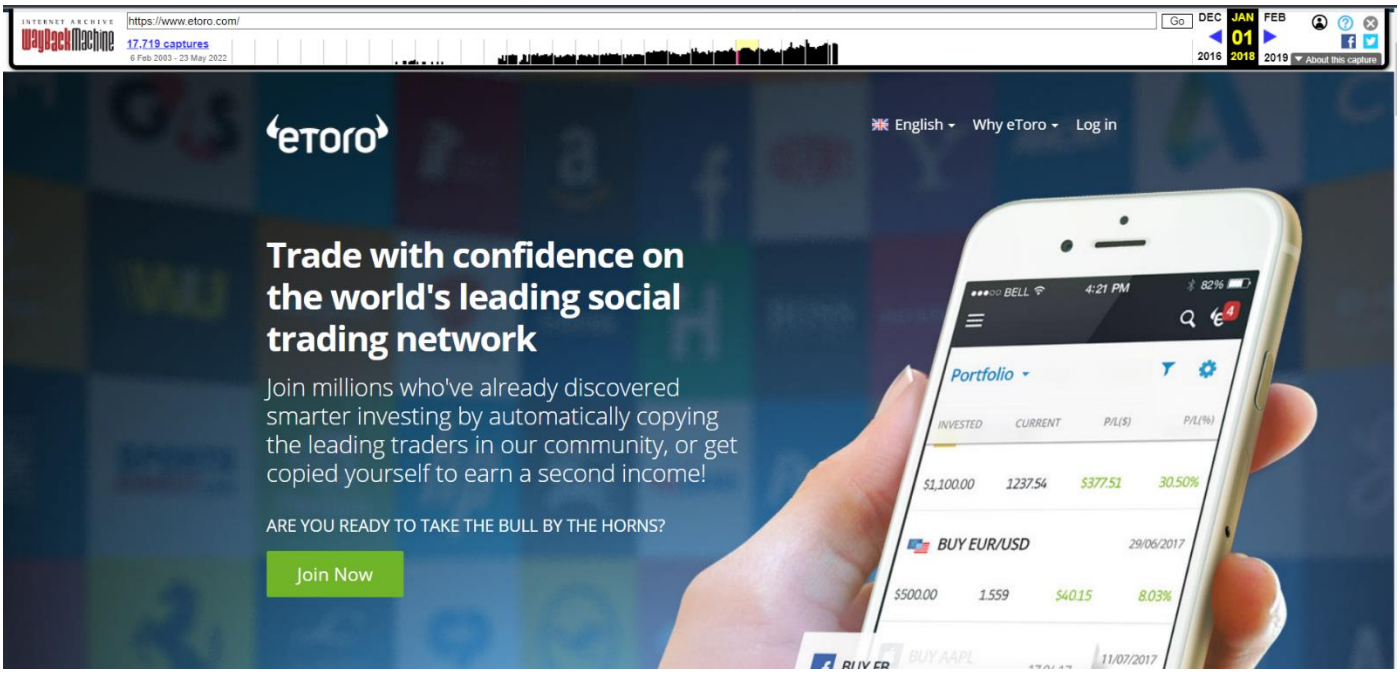
Using wayback machine, we can found some old information of any website we want. Wayback machine is a digital internet archive. It's a collection of more than 684 billion snapshots of web pages. Its contains copies of webpages, videos, audios, books, images etc. Using this website we can get a better understand about any website and its very useful for information gathering.

In here I used this website to find information about etoro.com





eToro in 2015



eToro in 2018

SEARCH FOR OPEN PORTS

Any computer based system open ports. Here are some of port numbers and their services.

- 21 – FTP (establish the connection between hosts)
- 22 – SSH (secure shell)
- 25 – SMTP (sending emails to one another across the internet)
- 53 – DNS (domain name service)
- 80 – HTTP (web server)
- 110 – POP3 (email inbox)
- 123 – NTP (Network Time Protocol)
- 143 – IMAP (email inbox)
- 443 – HTTPS (secure web server)
- 465 – SMTPS (send secure email)
- 631 – CUPS (print server)
- 993 – IMAPS (secure email inbox)
- 995 – POP3 (secure email inbox)

Open ports are very important because attackers can get lot of information before initiate an attack.

1.Search for open ports using Nmap tool

I do basic port scan for targeted main domain and sub domains using namap

Port scan for etoro.com

```
┌──(root💀kali)-[/home/kali]
└─# nmap -sS etoro.com
Starting Nmap 7.92 ( https://nmap.org ) at 2022-05-24 19:48 +0530
Nmap scan report for etoro.com (104.84.161.226)
Host is up (0.021s latency).
rDNS record for 104.84.161.226: a104-84-161-226.deploy.static.akamaitechnologies.com
Not shown: 997 filtered tcp ports (no-response)
PORT    STATE SERVICE
25/tcp  open  smtp
80/tcp  open  http
443/tcp open  https

Nmap done: 1 IP address (1 host up) scanned in 7.87 seconds
```

Port scan for etoropartners.com

```
┌──(root💀kali)-[/home/kali]
└─# nmap -sS etoropartners.com
Starting Nmap 7.92 ( https://nmap.org ) at 2022-05-24 19:53 +0530
Nmap scan report for etoropartners.com (104.21.22.117)
Host is up (0.026s latency).
Other addresses for etoropartners.com (not scanned): 172.67.204.146 2606:4700:3035::6815:1675 2606:4700:3035::ac43:cc92
Not shown: 995 filtered tcp ports (no-response)
PORT     STATE SERVICE
25/tcp   open  smtp
80/tcp   open  http
443/tcp  open  https
8080/tcp open  http-proxy
8443/tcp open  https-alt

Nmap done: 1 IP address (1 host up) scanned in 7.96 seconds
```

Port scan for charts.etoro.com

```
┌──(root💀kali)-[/home/kali]
└─# nmap -sS charts.etoro.com
Starting Nmap 7.92 ( https://nmap.org ) at 2022-05-24 19:55 +0530
Stats: 0:00:13 elapsed; 0 hosts completed (1 up), 1 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 73.60% done; ETC: 19:55 (0:00:05 remaining)
Stats: 0:00:13 elapsed; 0 hosts completed (1 up), 1 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 75.50% done; ETC: 19:55 (0:00:04 remaining)
Nmap scan report for charts.etoro.com (104.84.202.82)
Host is up (0.017s latency).
rDNS record for 104.84.202.82: a104-84-202-82.deploy.static.akamaitechnologies.com
Not shown: 997 filtered tcp ports (no-response)
PORT    STATE SERVICE
25/tcp  open  smtp
80/tcp  open  http
443/tcp open  https

Nmap done: 1 IP address (1 host up) scanned in 15.61 seconds
```

Port scan for etorox.com

```
┌──(root💀kali)-[/home/kali]
└─# nmap -sS etorox.com
Starting Nmap 7.92 ( https://nmap.org ) at 2022-05-24 19:57 +0530
Nmap scan report for etorox.com (104.19.236.38)
Host is up (0.031s latency).
Other addresses for etorox.com (not scanned): 104.19.237.38 2606:4700::6813:ec26 2606:4700::6813:ed26
Not shown: 995 filtered tcp ports (no-response)
PORT     STATE SERVICE
25/tcp   open  smtp
80/tcp   open  http
443/tcp  open  https
8080/tcp open  http-proxy
8443/tcp open  https-alt

Nmap done: 1 IP address (1 host up) scanned in 7.28 seconds
```

Port scan for partners.etoro.com

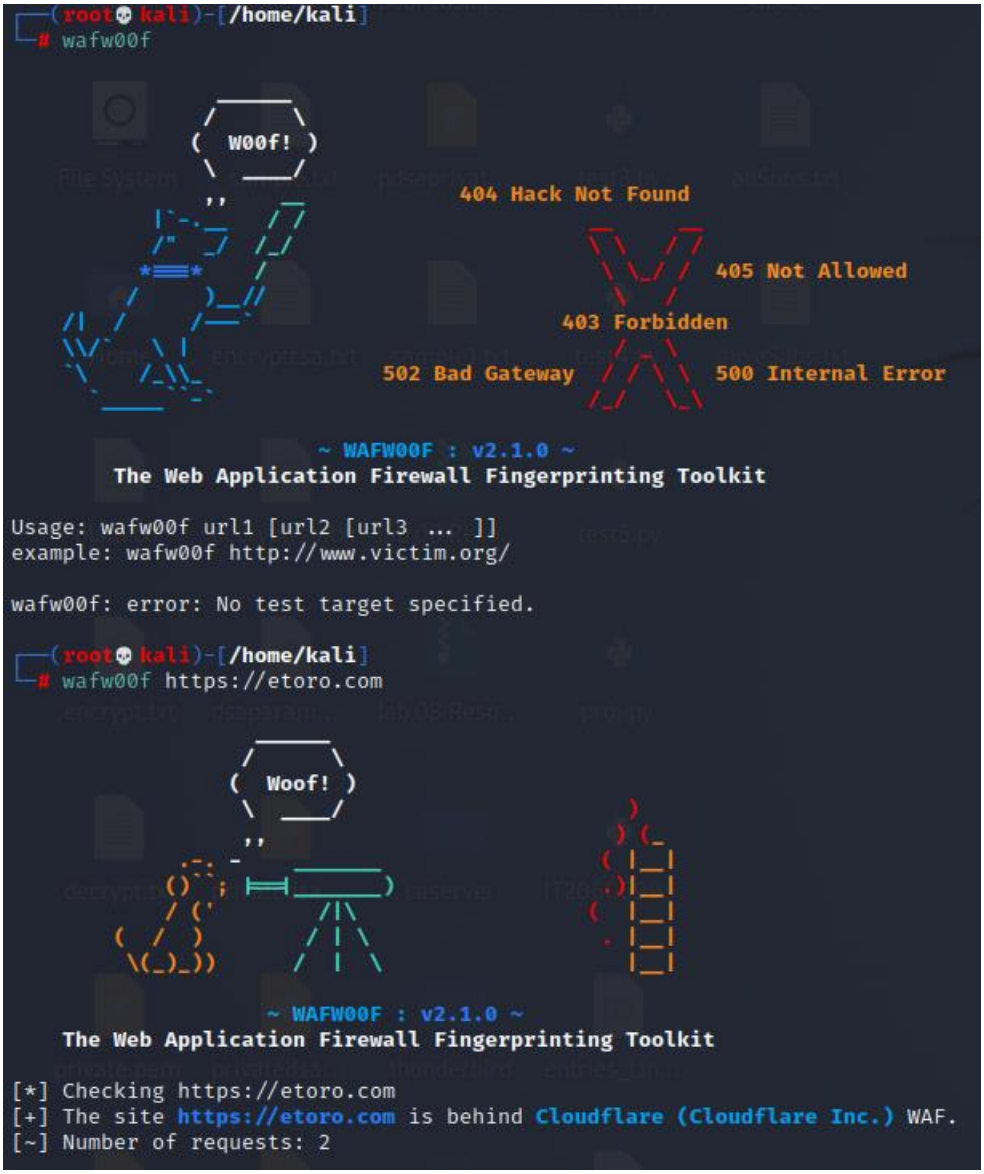
```
┌──(root💀kali)-[/home/kali]
└─# nmap -sS partners.etoro.com
Starting Nmap 7.92 ( https://nmap.org ) at 2022-05-24 19:59 +0530
Nmap scan report for partners.etoro.com (104.84.161.226)
Host is up (0.016s latency).
rDNS record for 104.84.161.226: a104-84-161-226.deploy.static.akamaitechnologies.com
Not shown: 997 filtered tcp ports (no-response)
PORT    STATE SERVICE
25/tcp  open  smtp
80/tcp  open  http
443/tcp open  https
```

Find the firewall protection of target domain

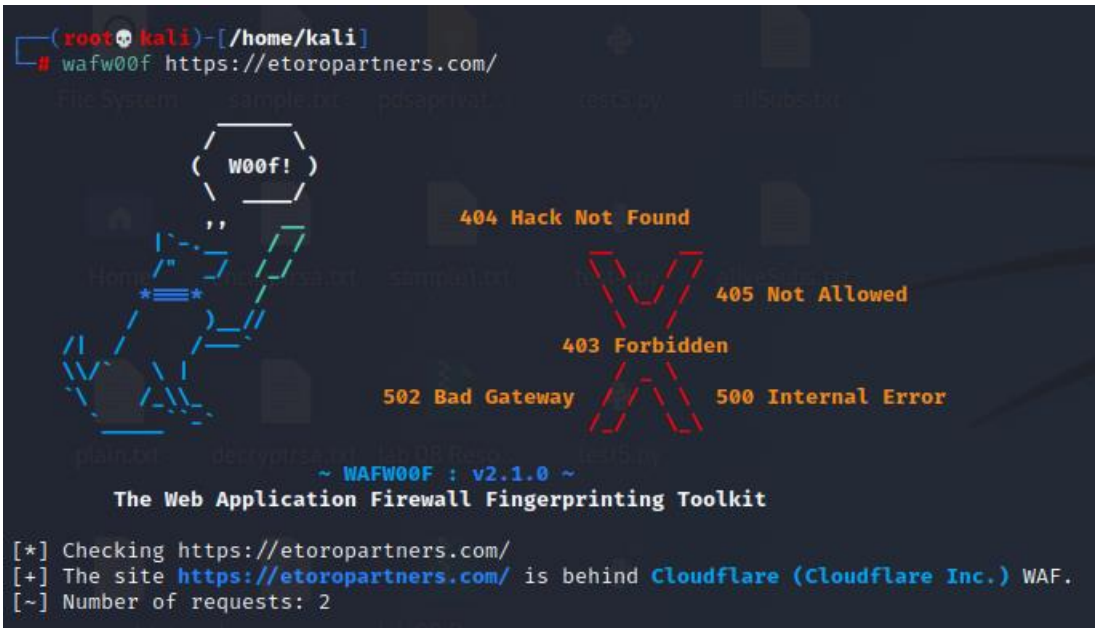
1.Using Wafw00f

Kali Linux's wafw00f tool is a web application firewall detection tool that can be used to identify web applications firewall. I used this tool to find my target URL if it's protected by a firewall.

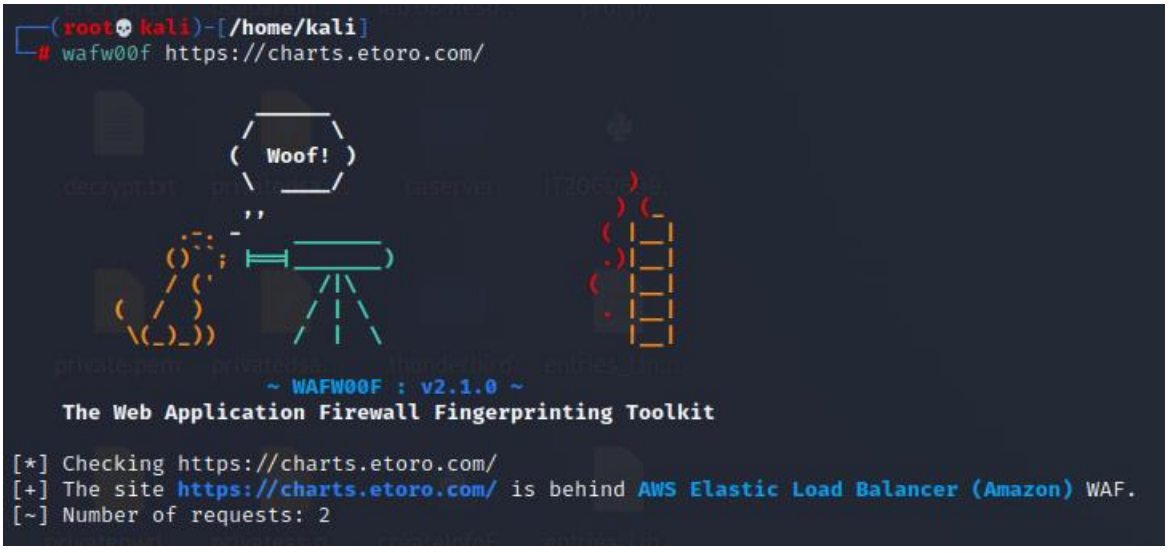
For etoro.com/



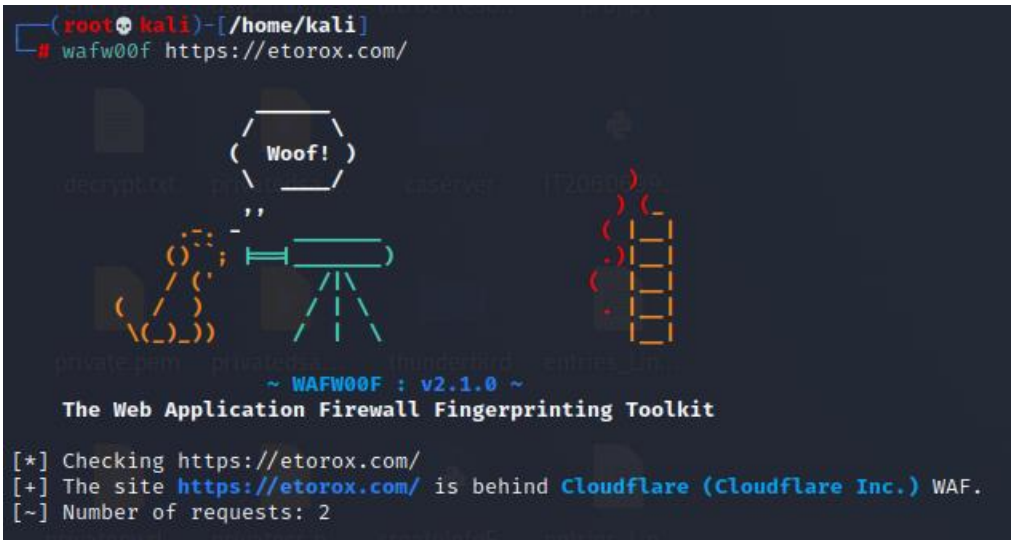
For etoropartners.com/



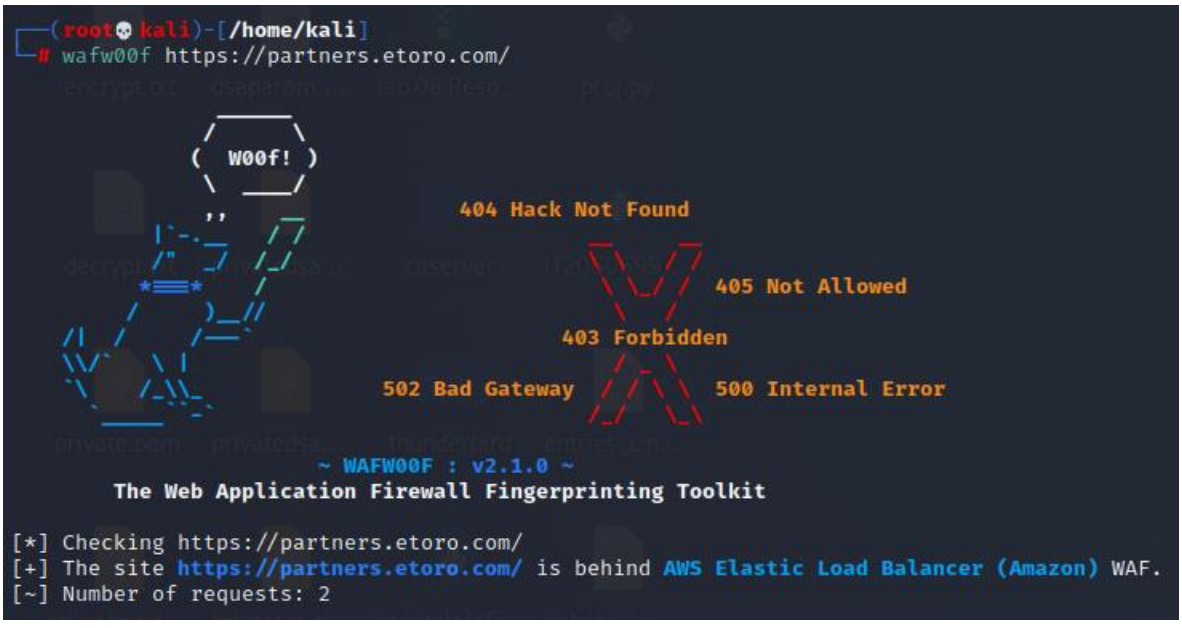
For charts.etoro.com/



For etorox.com/



For partners.etoro.com/



VULNERABILTY ASSESSMENT AND RECOMMENDATIONS

In this phase, we will analyze all the possible vulnerabilities in our targeted system including OWASP Top 10 vulnerabilities. Also we will come up with the recommendations for each vulnerabilities that assessed. There two ways to assess the vulnerabilities.

- Automated scan
- Manual scan

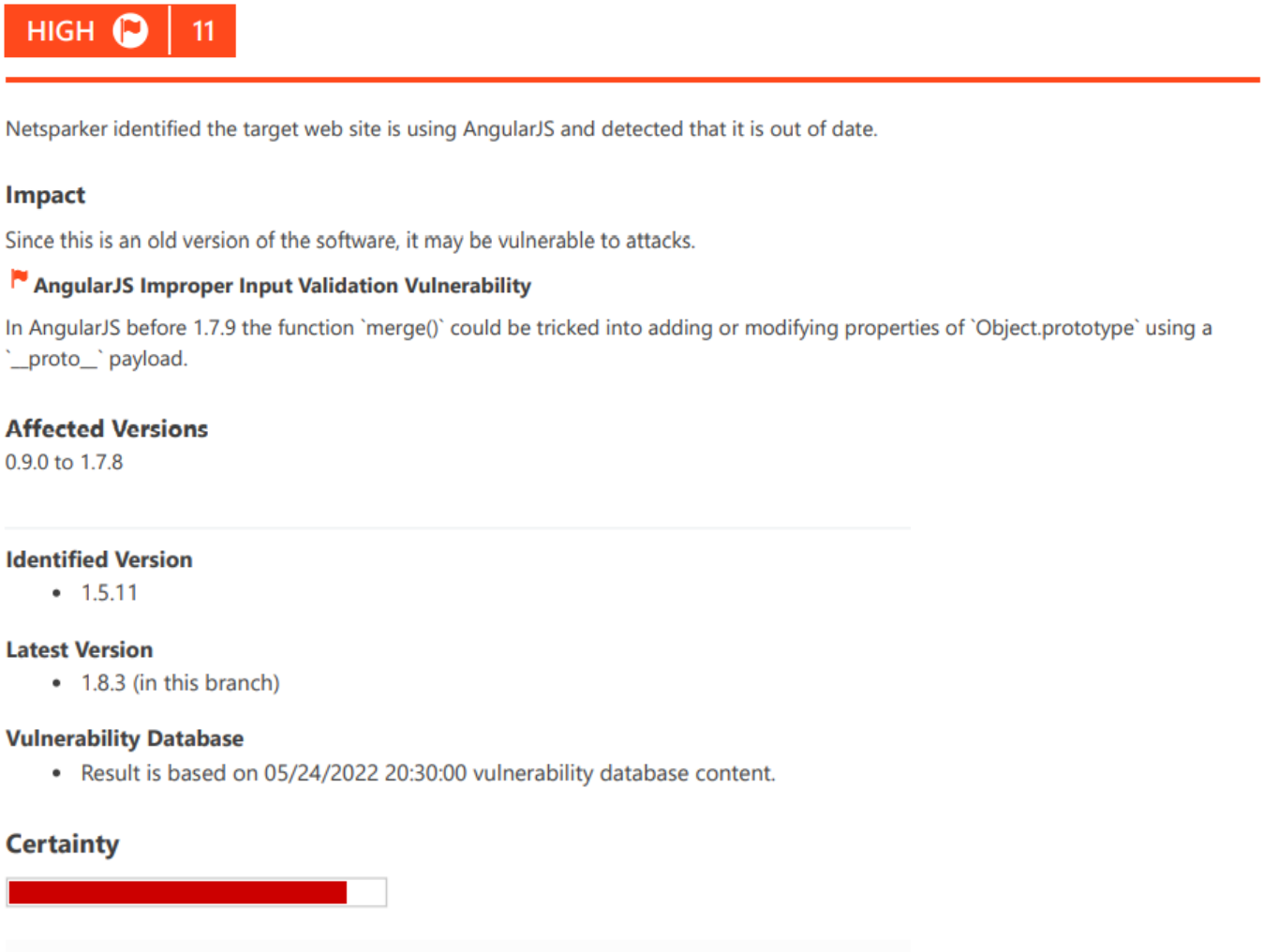
Automated scan

In here used **Netsparker** to scan vulnerabilities in targeted domains. Nersparker is web application security scan that scan automatically and detect Cross-site scripting (XSS), SQL injection and other vulnerabilities. After scan, Netsparker generate detailed report about vulnerabilities including OWASP Top 10.

1.Target domain :- https://www.etoro.com/

1) Out-of-date Version (AngularJS)

- Risk: High
- Method: GET



Remedy

Please upgrade your installation of AngularJS to the latest stable version.

2) Open Policy Crossdomain.xml Detected

- Risk: Medium
- Method: GET

MEDIUM | 1 CONFIRMED | 1

Netsparker detected an Open Policy `Crossdomain.xml`file.

Impact

Open policy Crossdomain.xml file allows other SWF files to make HTTP requests to your web server and see its response. This can be used for accessing one time tokens and CSRF nonces to bypass CSRF restrictions.

Vulnerabilities

2.1. https://www.etoro.com/crossdomain.xml

CONFIRMED

Policy Rules

- <allow-access-from domain="*" secure="false" />

Conceptual Proof

```
<?xml version="1.0"?>
<!DOCTYPE cross-domain-policy SYSTEM "http://www.macromedia.com/xml/dtds/cross-domain-policy.dtd">
<!-- Policy file for xmlsocket://socks.mysite.com -->
<cross-domain-policy>
<allow-access-from domain="*" secure="false"/>
<allow-http-request-headers-from domain="*" headers="*" secure="false"/>
</cross-domain-policy>
```

Remedy

Configure your Crossdomain.xml to prevent access from everywhere to your domain.

3) Weak Ciphers Enabled

- Risk: Medium
- Method: GET

MEDIUM 1 CONFIRMED 1

Netsparker detected that weak ciphers are enabled during secure communication (SSL).

You should allow only strong ciphers on your web server to protect secure communication with your visitors.

Impact

Attackers might decrypt SSL traffic between your server and your visitors.

Vulnerabilities

3.1. https://www.etoro.com/

CONFIRMED

List of Supported Weak Ciphers

- TLS_RSA_WITH_AES_128_CBC_SHA (0x002F)
- TLS_RSA_WITH_AES_256_CBC_SHA (0x0035)
- TLS_RSA_WITH_AES_128_CBC_SHA256 (0x003C)
- TLS_RSA_WITH_AES_256_CBC_SHA256 (0x003D)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA (0xC013)
- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA (0xC014)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 (0xC027)
- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 (0xC028)

Actions to Take

1. For Apache, you should modify the SSLCipherSuite directive in the `httpd.conf`.

```
SSLCipherSuite HIGH:MEDIUM:!MD5:!RC4
```

2. Lighttpd:

```
ssl.honor-cipher-order = "enable"
ssl.cipher-list = "EECDH+AESGCM:EDH+AESGCM"
```

3. For Microsoft IIS, you should make some changes to the system registry. **Incorrectly editing the registry may severely damage your system. Before making changes to the registry, you should back up any valued data on your computer.**

   a.Click Start, click Run, type `regedt32`or type `regedit`, and then click OK.
   b.In Registry Editor, locate the following registry key: `HKLM\SYSTEM\CurrentControlSet\Control\SecurityProviders`
   c.Set "Enabled" DWORD to "0x0" for the following registry keys:

```
SCHANNEL\Ciphers\DES 56/56
SCHANNEL\Ciphers\RC4 64/128
SCHANNEL\Ciphers\RC4 40/128
SCHANNEL\Ciphers\RC2 56/128
SCHANNEL\Ciphers\RC2 40/128
SCHANNEL\Ciphers\NULL
SCHANNEL\Hashes\MD5
```

Remedy

Configure your web server to disallow using weak ciphers.

4) [Possible] Phishing by Navigating Browser Tabs LOW

- Risk: Low
- Method: GET

LOW 1

Netsparker identified possible phishing by navigating browser tabs but was unable to confirm the vulnerability.

Open windows with normal hrefs with the tag `target="_blank"` can modify *window.opener.location* and replace the parent webpage with something else, even on a different origin.

Impact

While this vulnerability doesn't allow script execution, it does allow phishing attacks that silently replace the parent tab. If the links lack `rel="noopener noreferrer"` attribute, a third party site can change the URL of the source tab using *window.opener.location.assign* and trick the users into thinking that they're still in a trusted page and lead them to enter their sensitive data on the malicious website.

Vulnerabilities

4.1. https://www.etoro.com/en-us/

External Links

- https://brokercheck.finra.org/firm/summary/298361
- https://www.sipc.org/list-of-members/E

Certainty

Conceptual proofs

Response

Response Time (ms) : 2562.333 Total Bytes Received : 146378 Body Length : 145866 Is Compressed : No

```
HTTP/1.1 200 OK
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
CF-Cache-Status: DYNAMIC
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
Content-Encoding:
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 71107cde89812e86-SIN
Content-Type: text/html
Transfer-Encoding: chunked
Date: Wed, 25 May 2022 18:55:52 GMT
vary:
…
A Securities, Inc.("The BD"), a broker dealer registered with the Securities and Exchange Commission (S
EC). The BD is a member of the Financial Industry Regulatory Authority (<a target="_blank" href="http
s://brokercheck.finra.org/firm/summary/298361">FINRA</a>) and Securities Investor Protection Corporatio
n (<a target="_blank" href="https://www.sipc.org/list-of-members/E">SIPC</a>). eToro USA LLC (NMLS ID:
 1769299 ) is not a registered broker-dealer or FINRA member and your cryptocurrency holdings are not F
DIC or SIPC insured. Our full disclosures page is <a target="
…
```

Remedy

- Add `rel=noopener` to the links to prevent pages from abusing *window.opener*. This ensures that the page cannot access the *window.opener* property in Chrome and Opera browsers.
- For older browsers and in Firefox, you can add `rel=noreferrer` which additionally disables the Referer header.

```
<a href="..." target="_blank" rel="noopener noreferrer">...</a>
```

5) Misconfigured X-Frame-Options Header

- Risk: Low
- Method: GET

Netsparker detected that the X-Frame-Options HTTP Response header contains an invalid or not widely supported value.

Impact

A broken `X-Frame-Options`header will expose your users to UI Readressing attacks like Clickjacking. The attacker will load one of the web pages of a vulnerable application in an iframe on their own website. Then the attacker will overlay the iframe with their own HTML elements, which makes it invisible to the user.

Finally, the attacker will place a button element right over one of the buttons that were loaded inside the iframe, for example, the "Delete Account" button on an "Edit Profile" page. Additionally, the attacker will apply a certain CSS property on their own HTML elements, which has the effect that, if your users try to click on the button of the attackers page, they will actually click the "Delete Account" button in the iframe instead.

The only effective way to prevent this is by blocking other sites from loading your website in an iframe. This is what the `X-Frame-Options`header does. However, the header will not work as intended when an invalid value is set, which might expose your users to client-side attacks such as Clickjacking.

Additionally, the header might be ineffective for the majority of your users if a poorly supported value, such as ALLOW-FROM is set.

Frame Option(s)

- allow-fromfile://*

Certainty

Remedy

Either use the DENYor SAMEORIGINheader value to support the majority of browsers. Additionally, you can define the frame-ancestorsContent-Security-Policy directive.

6) Missing X-Frame-Options Header

- Risk: Low
- Method: GET

LOW | 11

Netsparker detected a missing `X-Frame-Options`header which means that this website could be at risk of a clickjacking attack.

The `X-Frame-Options`HTTP header field indicates a policy that specifies whether the browser should render the transmitted resource within a `frame`or an `iframe`. Servers can declare this policy in the header of their HTTP responses to prevent clickjacking attacks, which ensures that their content is not embedded into other pages or frames.

Impact

Clickjacking is when an attacker uses multiple transparent or opaque layers to trick a user into clicking on a button or link on a framed page when they were intending to click on the top level page. Thus, the attacker is "hijacking" clicks meant for their page and routing them to other another page, most likely owned by another application, domain, or both.

Using a similar technique, keystrokes can also be hijacked. With a carefully crafted combination of stylesheets, iframes, and text boxes, a user can be led to believe they are typing in the password to their email or bank account, but are instead typing into an invisible frame controlled by the attacker.

Vulnerabilities

10.1. https://www.etoro.com/

Certainty

Conceptual proof

```
HTTP/1.1 200 OK
Set-Cookie: TS01047baf=01d53e5818d7a660f5fa0a59d81cfdac6021015267c63536cb905213b6af8616b76b27375a6266d8
3ceee56b6553b04ff6c2c9a4eb; Path=/
Set-Cookie: __cf_bm=IMJ_UNAZJqOzl8aUcMpU7U7UR67CFgIxckx65fKQizE-1653504845-0-AXg2uvobL8Pl4pvsfDLdlOp6I3
852fVa7iO3UI0dZeid8qpoRaD+8nZk/g1dNENoQyKDfnutrCuQkmsP0kXQU5nCT7zcpBWLlhltLE/ErGRq; path=/; expires=We
d, 25-May-22 19:24:05 GMT; domain=.etoro.com; HttpOnly; Secure; SameSite=None
Set-Cookie: __cflb=02DiuEAg8LPSYevHEYkaxA3gcDJTcgwA1ZAY5tXjjPaEY; SameSite=None; Secure; path=/; expire
s=Thu, 26-May-22 17:54:05 GMT; HttpOnly
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
CF-Cache-Status: DYNAMIC
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
Content-Encoding:
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 71107a3ffee84d6f-SIN
Content-Type: text/html
Transfer-Encoding: chunked
Date: Wed, 25 May 2022 18:54:05 GMT
vary: Accept-Encoding

<!doctype html>
<html lang="en">
<head>
<link rel="dns-prefetch" href="https://marketing.etorostatic.com" />
<link rel="dns-prefetch" href="https://api-js.mixpanel.com">
<link rel="dns-prefetch" href="https://cdn.mxpnl.com">
<link rel="dns-prefetch" href="https://stats.g.doubleclick.net">
<link rel="dns-prefetch" href="https://www.google-analytics.com">
<link rel="preconnect" href="https://marketing.etorostatic.com">
<link rel="preconnect dns-prefetch" href="https://fonts.googleapis.com">
<link rel="preconnect dns-prefetch" href="https://fonts.gstatic.com/" crossorigin>
<meta charset="utf-8">
<meta name="apple-mobile-web-app-capable" content="yes">
<meta name="viewport" content="width=device-width,minimum-scale=1.0,minimal-ui">
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<meta http-equiv="X-UA-Compatible" content="IE=edge" /><script type="text/javascript">(window.NREUM||(N
REUM={})).
```

Remedy

- Sending the proper X-Frame-Options in HTTP response headers that instruct the browser to not allow framing from other domains.
    - `X-Frame-Options: DENY`It completely denies to be loaded in frame/iframe.
    - `X-Frame-Options: SAMEORIGIN`It allows only if the site which wants to load has a same origin.
    - `X-Frame-Options: ALLOW-FROM` *URL*It grants a specific URL to load itself in a iframe. However please pay attention to that, not all browsers support this.
- Employing defensive code in the UI to ensure that the current frame is the most top level window.

7) Cookie Not Marked as HttpOnly

- Risk: Low
- Method: GET

LOW 11 CONFIRMED 11

Netsparker identified a cookie not marked as HTTPOnly.

HTTPOnly cookies cannot be read by client-side scripts, therefore marking a cookie as HTTPOnly can provide an additional layer of protection against cross-site scripting attacks.

Impact

During a cross-site scripting attack, an attacker might easily access cookies and hijack the victim's session.

Vulnerabilities

5.1. https://www.etoro.com/

CONFIRMED

Identified Cookie(s)

- TS01047baf

Cookie Source

- HTTP Header

Conceptual proof

Response

Response Time (ms) : 439.3932 Total Bytes Received : 163180 Body Length : 162101 Is Compressed : No

```
HTTP/1.1 200 OK
Set-Cookie: TS01047baf=01d53e5818d7a660f5fa0a59d81cfdac6021015267c63536cb905213b6af8616b76b27375a6266d8
3ceee56b6553b04ff6c2c9a4eb; Path=/
Set-Cookie: __cf_bm=IMJ_UNAZJqOzl8aUcMpU7U7UR67CFgIxckx65fKQizE-1653504845-0-AXg2uvobL8Pl4pvsfDLdlOp6I3
852fVa7iO3UI0dZeid8qpoRaD+8nZk/g1dNENoQyKDfnutrCuQkmsP0kXQU5nCT7zcpBWLlhltLE/ErGRq; path=/; expires=We
d, 25-May-22 19:24:05 GMT; domain=.etoro.com; HttpOnly; Secure; SameSite=None
Set-Cookie: __cflb=02DiuEAg8LPSYevHEYkaxA3gcDJTcgwA1ZAY5tXjjPaEY; SameSite=None; Secure; path=/; expire
s=Thu, 26-May-22 17:54:05 GMT; HttpOnly
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
CF-Cache-Status: DYNAMIC
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
Content-Encoding:
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 71107a3ffee84d6f-SIN
Content-Type: text/html
Transfer-Encoding: chunked
Date: Wed, 25 MayHTTP/1.1 200 OK
Set-Cookie: TS01047baf=01d53e5818d7a660f5fa0a59d81cfdac6021015267c63536cb905213b6af8616b76b27375a6266d8
3ceee56b6553b04ff6c2c9a4eb; Path=/

Set-Cookie: __cf_bm=IMJ_UNAZJqOzl8aUcMpU7U7UR67CFgIxckx65fKQizE-1653504845-0-AXg2uvobL8Pl4pvsfDLdlOp6I3
852fVa7iO3UI0dZeid8qpoRaD+8nZk/g1dNENoQyKDfnutrCuQkmsP0kXQU5nCT7zcpBWLlhltLE/ErGRq; path=/; expi
…
```

Remedy

Mark the cookie as HTTPOnly. This will be an extra layer of defense against XSS. However this is not a silver bullet and will not protect the system against cross-site scripting attacks. An attacker can use a tool such as XSS Tunnelto bypass HTTPOnly protection.

8) Cookie Not Marked as Secure

- Risk: Low
- Method: GET

LOW 11 CONFIRMED 11

Netsparker identified a cookie not marked as secure, and transmitted over HTTPS.

This means the cookie could potentially be stolen by an attacker who can successfully intercept and decrypt the traffic, or following a successful man-in-the-middle attack.

Impact

This cookie will be transmitted over a HTTP connection, therefore if this cookie is important (*such as a session cookie*), an attacker might intercept it and hijack a victim's session. If the attacker can carry out a man-in-the-middle attack, he/she can force the victim to make an HTTP request to steal the cookie.

Vulnerabilities

6.1. https://www.etoro.com/

CONFIRMED

Identified Cookie(s)

- TS01047baf

Cookie Source

- HTTP Header

Conceptual proof

Response

Response Time (ms) : 439.3932 Total Bytes Received : 163180 Body Length : 162101 Is Compressed : No

```
HTTP/1.1 200 OK
Set-Cookie: TS01047baf=01d53e5818d7a660f5fa0a59d81cfdac6021015267c63536cb905213b6af8616b76b27375a6266d8
3ceee56b6553b04ff6c2c9a4eb; Path=/
Set-Cookie: __cf_bm=IMJ_UNAZJqOzl8aUcMpU7U7UR67CFgIxckx65fKQizE-1653504845-0-AXg2uvobL8Pl4pvsfDLdlOp6I3
852fVa7iO3UI0dZeid8qpoRaD+8nZk/g1dNENoQyKDfnutrCuQkmsP0kXQU5nCT7zcpBWLlhltLE/ErGRq; path=/; expires=We
d, 25-May-22 19:24:05 GMT; domain=.etoro.com; HttpOnly; Secure; SameSite=None
Set-Cookie: __cflb=02DiuEAg8LPSYevHEYkaxA3gcDJTcgwA1ZAY5tXjjPaEY; SameSite=None; Secure; path=/; expire
s=Thu, 26-May-22 17:54:05 GMT; HttpOnly
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
CF-Cache-Status: DYNAMIC
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
Content-Encoding:
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 71107a3ffee84d6f-SIN
Content-Type: text/html
Transfer-Encoding: chunked
Date: Wed, 25 MayHTTP/1.1 200 OK
Set-Cookie: TS01047baf=01d53e5818d7a660f5fa0a59d81cfdac6021015267c63536cb905213b6af8616b76b27375a6266d8
3ceee56b6553b04ff6c2c9a4eb; Path=/

Set-Cookie: __cf_bm=IMJ_UNAZJqOzl8aUcMpU7U7UR67CFgIxckx65fKQizE-1653504845-0-AXg2uvobL8Pl4pvsfDLdlOp6I3
852fVa7iO3UI0dZeid8qpoRaD+8nZk/g1dNENoQyKDfnutrCuQkmsP0kXQU5nCT7zcpBWLlhltLE/ErGRq; path=/; expi
...
```

Actions to Take

1. See the remedy for solution.
2. Mark all cookies used within the application as secure. *(If the cookie is not related to authentication or does not carry any personal information, you do not have to mark it as secure.)*

Remedy

Mark all cookies used within the application as secure.

9) Insecure Frame (External)

- Risk: Low
- Method: GET

Netsparker identified an external insecure or misconfigured iframe.

Impact

IFrame sandboxing enables a set of additional restrictions for the content within a frame in order to restrict its potentially malicious code from causing harm to the web page that embeds it.

The Same Origin Policy (SOP) will prevent JavaScript code from one origin from accessing properties and functions - as well as HTTP responses - of different origins. The access is only allowed if the protocol, port and also the domain match exactly.

Here is an example, the URLs below all belong to the same origin as *http://site.com*:

http://site.com
http://site.com/
http://site.com/my/page.html

Whereas the URLs mentioned below aren't from the same origin as *http://site.com*:

http://www.site.com (a sub domain)
http://site.org (different top level domain)
https://site.com (different protocol)
http://site.com:8080 (different port)

When the sandboxattribute is set, the iframe content is treated as being from a unique origin, even if its hostname, port and protocol match exactly. Additionally, sandboxed content is re-hosted in the browser with the following restrictions:

- Any kind of plugin, such as ActiveX, Flash, or Silverlight will be disabled for the iframe.
- Forms are disabled. The hosted content is not allowed to make forms post back to any target.
- Scripts are disabled. JavaScript is disabled and will not execute.
- Links to other browsing contexts are disabled. An anchor tag targeting different browser levels will not execute.
- Unique origin treatment. All content is treated under a unique origin. The content is not able to traverse the DOM or read cookie information.

When the sandbox attribute is set, the iframe content is treated as being from a unique origin, even if its hostname, port and protocol match exactly. Additionally, sandboxed content is re-hosted in the browser with the following restrictions:

- Any kind of plugin, such as ActiveX, Flash, or Silverlight will be disabled for the iframe.
- Forms are disabled. The hosted content is not allowed to make forms post back to any target.
- Scripts are disabled. JavaScript is disabled and will not execute.
- Links to other browsing contexts are disabled. An anchor tag targeting different browser levels will not execute.
- Unique origin treatment. All content is treated under a unique origin. The content is not able to traverse the DOM or read cookie information.

When the sandbox attribute is not set or not configured correctly, your application might be at risk.

A compromised website that is loaded in such an insecure iframe might affect the parent web application. These are just a few examples of how such an insecure frame might affect its parent:

- It might trick the user into supplying a username and password to the site loaded inside the iframe.
- It might navigate the parent window to a phishing page.
- It might execute untrusted code.
- It could show a popup, appearing to come from the parent site.

Sandbox containing a value of :

- `allow-same-origin` will not treat it as a unique origin.
- `allow-top-navigation` will allow code in the iframe to navigate the parent somewhere else, e.g. by changing parent.location.
- `allow-forms` will allow form submissions from inside the iframe.
- `allow-popups` will allow popups.
- `allow-scripts` will allow malicious script execution however it won't allow to create popups.

Frame Source(s)

- https://www.googletagmanager.com/ns.html?id=GTM-N7SQ5DP

Conceptual proof

Response

Response Time (ms) : 439.3932 **Total Bytes Received :** 163180 **Body Length :** 162101 **Is Compressed :** No

```
HTTP/1.1 200 OK
Set-Cookie: TS01047baf=01d53e5818d7a660f5fa0a59d81cfdac6021015267c63536cb905213b6af8616b76b27375a6266d8
3ceee56b6553b04ff6c2c9a4eb; Path=/
Set-Cookie: __cf_bm=IMJ_UNAZJqOzl8aUcMpU7U7UR67CFgIxckx65fKQizE-1653504845-0-AXg2uvobL8Pl4pvsfDLdlOp6I3
852fVa7iO3UI0dZeid8qpoRaD+8nZk/g1dNENoQyKDfnutrCuQkmsP0kXQU5nCT7zcpBWLlhltLE/ErGRq; path=/; expires=We
d, 25-May-22 19:24:05 GMT; domain=.etoro.com; HttpOnly; Secure; SameSite=None
Set-Cookie: __cflb=02DiuEAg8LPSYevHEYkaxA3gcDJTcgwA1ZAY5tXjjPaEY; SameSite=None; Secure; path=/; expire
s=Thu, 26-May-22 17:54:05 GMT; HttpOnly
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
CF-Cache-Status: DYNAMIC
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
Content-Encoding:
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 71107a3ffee84d6f-SIN
Content-Type: text/html
Transfer-Encoding: chunked
Date: Wed, 25 May
…
}
win[appsContainer]['etoroHomePage'] = createinstance('HomePage', 1.1, 'HomePage', {}, true, 'productio
n');
})(window, 'etoroLogger', 'etoroLoggerApps');

</script>

<noscript><iframe src="https://www.googletagmanager.com/ns.html?id=GTM-N7SQ5DP"
height="0" width="0" style="display:none;visibility:hidden"></iframe></noscript>
<style>/********GENERAL*********/
```

Remedy

- Apply sandboxing in inline frame

```
<iframe sandbox src="framed-page-url"></iframe>
```

- For untrusted content, avoid the usage of `seamless` attribute and `allow-top-navigation`, `allow-popups` and `allow-scripts` in sandbox attribute.

10) Internal Server Error

- Risk: Low
- Method: GET

LOW 11 CONFIRMED 11

Netsparker identified an internal server error.

The server responded with an HTTP status 500, indicating there is a server-side error. Reasons may vary, and the behavior should be analyzed carefully. If Netsparker is able to find a security issue in the same resource, it will report this as a separate vulnerability.

Impact

The impact may vary depending on the condition. Generally this indicates poor coding practices, not enough error checking, sanitization and whitelisting. However, there might be a bigger issue, such as SQL injection. If that's the case, Netsparker will check for other possible issues and report them separately.

Vulnerabilities

8.1. https://www.etoro.com/%23%7b28275*28275-(8109)%7d/404-page/?aspxerrorpath=/cs-cz/~.aspx

CONFIRMED

Method	Parameter	Value
GET	param2	404-page
GET	aspxerrorpath	/cs-cz/~.aspx
GET	param1	#{28275*28275-(8109)}

Conceptual proof

Response

Response Time (ms) : 667.4142 Total Bytes Received : 2637 Body Length : 2110 Is Compressed : No

```
HTTP/1.1 500 Internal Server Error
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
CF-Cache-Status: DYNAMIC
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 7110b8adbccba126-SIN
Content-Type: text/html; charset=utf-8
Transfer-Encoding: chunked
Date: Wed, 25 May 2022 19HTTP/1.1 500 Internal Server Error

alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
CF-Cache-Status: DYNAMIC
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
Strict-Transport-Security: max-age=1555200
…
```

Remedy

Analyze this issue and review the application code in order to handle unexpected errors; this should be a generic practice, which does not disclose further information upon an error. All errors should be handled server-side only.

11.Email Address Disclosure

- Risk: Information
- Method: GET

INFORMATION | 1

Netsparker identified an Email Address Disclosure.

Impact

Email addresses discovered within the application can be used by both spam email engines and also brute-force tools. Furthermore, valid email addresses may lead to social engineering attacks.

Vulnerabilities

19.1. https://www.etoro.com/cdn-cgi/bm/cv/669835187/api.js

Email Address(es)

- amdfcruz@gmail.com

Certainty

Conceptual proof

Response

Response Time (ms) : 910.0552 Total Bytes Received : 36193 Body Length : 35662 Is Compressed : No

```
HTTP/1.1 200 OK
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
Server: cloudflare
x-content-type-options: nosniff
Connection: keep-alive
Content-Encoding:
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 71107cd38a2287f3-SIN
Content-Type: text/javascript
Transfer-Encoding: chunked
Date: Wed, 25 May 2022 18:55:50 GMT
cache-control: max-age=604800, public
Vary:
…
pe: text/javascript
Transfer-Encoding: chunked
Date: Wed, 25 May 2022 18:55:50 GMT
cache-control: max-age=604800, public
Vary: Accept-Encoding

/**
* @license
* Copyright (c) 2015 André Cruz <amdfcruz@gmail.com>
* Permission is hereby granted, free of charge, to any person obtaining a copy of this software and ass
ociated documentation files (the 'Software'), to deal in the Software without restriction, inc
…
```

Remedy

Use generic email addresses such as contact@ or info@ for general communications and remove user/people-specific email addresses from the website; should this be required, use submission forms for this purpose.

12. Forbidden Resource

- Risk: Information
- Method: GET

INFORMATION 11 | CONFIRMED 11

Netsparker identified a forbidden resource.

Access to this resource has been denied by the web server. This is generally not a security issue, and is reported here for informational purposes.

Impact

This issue is reported as additional information only. There is no direct impact arising from this issue.

Vulnerabilities

21.1. https://www.etoro.com/

CONFIRMED

Conceptual proof

Response

Response Time (ms) : 2290.3662 **Total Bytes Received** : 4506 **Body Length** : 3925 **Is Compressed** : No

```
HTTP/1.1 403 Forbidden
alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
Expires: Wed, 25 May 2022 18:56:10 GMT
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
Strict-Transport-Security: max-age=15552000; includeSubDomains; preload
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
CF-RAY: 71107cf2bab80172-SIN
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Content-Encoding:
Date: Wed, 25 May 2022 18:55:55 GMT
CacHTTP/1.1 403 Forbidden

alt-svc: h3=":443"; ma=86400, h3-29=":443"; ma=86400
Expires: Wed, 25 May 2022 18:56:10 GMT
X-Content-Type-Options: nosniff
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN

...
```

Vulnerability summary

199 IDENTIFIED	58 CONFIRMED	0 CRITICAL
11 HIGH	2 MEDIUM	67 LOW
	58 BEST PRACTICE	61 INFORMATION

Identified Vulnerabilities

Critical	0
High	11
Medium	2
Low	67
Best Practice	58
Information	61
TOTAL	**199**

Confirmed Vulnerabilities

Critical	0
High	0
Medium	2
Low	44
Best Practice	0
Information	12
TOTAL	**58**

2. Target domain - https://etoropartners.com/

1. HTTP Strict Transport Security (HSTS) Policy Not Enabled

- Risk : Medium
- Method: GET

MEDIUM | 1

Netsparker identified that HTTP Strict Transport Security (HSTS) policy is not enabled.

The target website is being served from not only HTTPS but also HTTP and it lacks of HSTS policy implementation.

HTTP Strict Transport Security (HSTS) is a web security policy mechanism whereby a web server declares that complying user agents (such as a web browser) are to interact with it using only secure (HTTPS) connections. The HSTS Policy is communicated by the server to the user agent via a HTTP response header field named "Strict-Transport-Security". HSTS Policy specifies a period of time during which the user agent shall access the server in only secure fashion.

When a web application issues HSTS Policy to user agents, conformant user agents behave as follows:

- Automatically turn any insecure (HTTP) links referencing the web application into secure (HTTPS) links. (For instance, http://example.com/some/page/ will be modified to https://example.com/some/page/ before accessing the server.)
- If the security of the connection cannot be ensured (e.g. the server's TLS certificate is self-signed), user agents show an error message and do not allow the user to access the web application.

Vulnerabilities

1.1. https://etoropartners.com/

Certainty

Conceptual proof

Response

Response Time (ms) : 338.2355 **Total Bytes Received :** 7639 **Body Length :** 7068 **Is Compressed :** No

```
HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118baba9edd4b5c:SIN; path=/; expires=Thu, 26-May-22 18:56:42 GMT
Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 18:56:42 GMT
Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118baba9edd4b5c-SIN
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Date: Thu, 26 May 2022 18:56:12 GMT
Cache-Control: private, max-age=0, no-store, no-cache, must-revalidate, post-check=0, pre-check=0
```

Remedy

Configure your webserver so that HTTP queries are forwarded to HTTPS.

2. Weak Cipher Enabled

- Risk : Medium
- Method: GET

MEDIUM 1 CONFIRMED 1

Netsparker detected that weak ciphers are enabled during secure communication (SSL).

You should allow only strong ciphers on your web server to protect secure communication with your visitors.

Impact

Attackers might decrypt SSL traffic between your server and your visitors.

Vulnerabilities

2.1. https://etoropartners.com/

CONFIRMED

List of Supported Weak Ciphers

- TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA (0xC009)
- TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA (0xC00A)
- TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256 (0xC023)
- TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384 (0xC024)

Request

```
[NETSPARKER] SSL Connection
```

Actions to Take

1. For Apache, you should modify the SSLCipherSuite directive in the `httpd.conf`.

```
SSLCipherSuite HIGH:MEDIUM:!MD5:!RC4
```

2. Lighttpd:

```
ssl.honor-cipher-order = "enable"
ssl.cipher-list = "EECDH+AESGCM:EDH+AESGCM"
```

3. For Microsoft IIS, you should make some changes to the system registry. **Incorrectly editing the registry may severely damage your system. Before making changes to the registry, you should back up any valued data on your computer.**

a. Click Start, click Run, type `regedt32` or type `regedit`, and then click OK.
b. In Registry Editor, locate the following registry key: `HKLM\SYSTEM\CurrentControlSet\Control\SecurityProviders`
c. Set "Enabled" DWORD to "0x0" for the following registry keys:

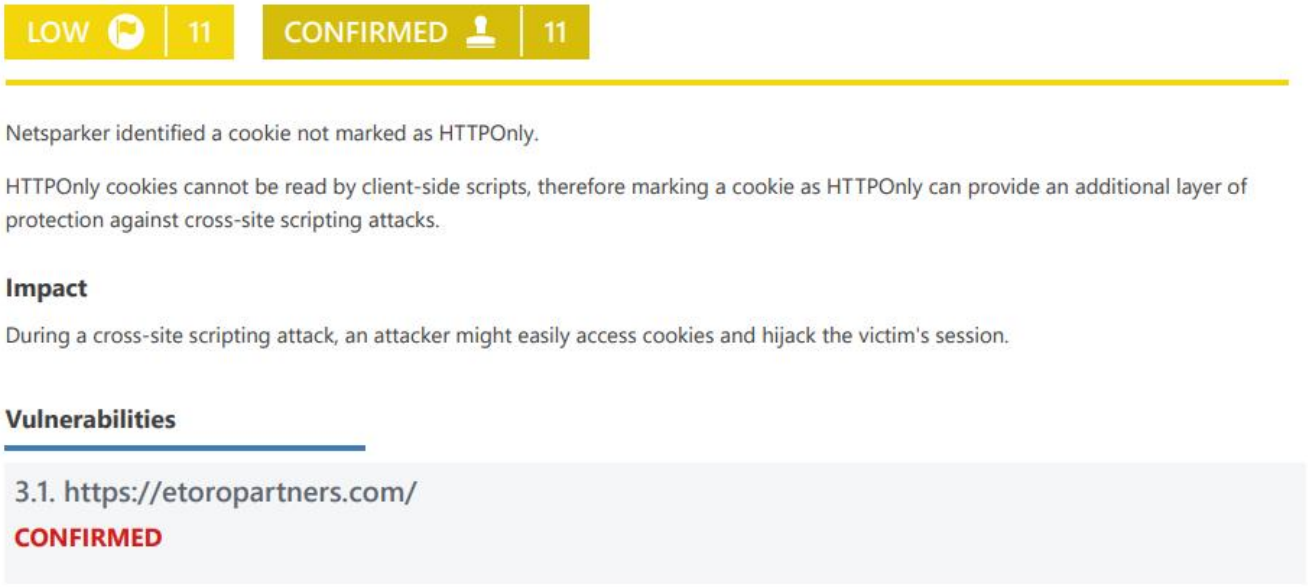
```
SCHANNEL\Ciphers\DES 56/56
SCHANNEL\Ciphers\RC4 64/128
SCHANNEL\Ciphers\RC4 40/128
SCHANNEL\Ciphers\RC2 56/128
SCHANNEL\Ciphers\RC2 40/128
SCHANNEL\Ciphers\NULL
SCHANNEL\Hashes\MD5
```

Remedy

Configure your web server to disallow using weak ciphers.

3. Cookie Not Marked as HttpOnly

- Risk: Low
- Method: GET



Identified Cookie(s)

- cf_use_ob
- cf_ob_info

Cookie Source

- HTTP Header

Conceptual proof

Response

Response Time (ms) : 1200.0396 **Total Bytes Received** : 7639 **Body Length** : 7068 **Is Compressed** : No

```
HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118ba06892749c0:SIN; path=/; expires=Thu, 26-May-22 18:56:14 GMT
Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 18:56:14 GMT
Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118ba06892749c0-SIN
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Date: Thu, 26 May 2022 18:55:44 GMT
Cache-Control: private, max-age=0, no-store, no-cache, must-HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118ba06892749c0:SIN; path=/; expires=Thu, 26-May-22 18:56:14 GMT

Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 18:56:14 GMT

Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118ba06892749c0-SIN
Content-Type: text/html; c
…
```

Actions to Take

1. See the remedy for solution.
2. Consider marking all of the cookies used by the application as HTTPOnly. (*After these changes javascript code will not be able to read cookies.*)

Remedy

Mark the cookie as HTTPOnly. This will be an extra layer of defense against XSS. However this is not a silver bullet and will not protect the system against cross-site scripting attacks. An attacker can use a tool such as XSS Tunnel to bypass HTTPOnly protection.

4. Cookie Not Marked as Secure

- Risk: Low
- Method: GET

LOW 11 CONFIRMED 11

Netsparker identified a cookie not marked as secure, and transmitted over HTTPS.

This means the cookie could potentially be stolen by an attacker who can successfully intercept and decrypt the traffic, or following a successful man-in-the-middle attack.

Impact

This cookie will be transmitted over a HTTP connection, therefore if this cookie is important (*such as a session cookie*), an attacker might intercept it and hijack a victim's session. If the attacker can carry out a man-in-the-middle attack, he/she can force the victim to make an HTTP request to steal the cookie.

Vulnerabilities

4.1. https://etoropartners.com/
CONFIRMED

Identified Cookie(s)

- cf_use_ob
- cf_ob_info

Cookie Source

- HTTP Header

Conceptual proof

Response

Response Time (ms) : 1200.0396 Total Bytes Received : 7639 Body Length : 7068 Is Compressed : No

```
HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118ba06892749c0:SIN; path=/; expires=Thu, 26-May-22 18:56:14 GMT
Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 18:56:14 GMT
Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118ba06892749c0-SIN
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Date: Thu, 26 May 2022 18:55:44 GMT
Cache-Control: private, max-age=0, no-store, no-cache, must-HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118ba06892749c0:SIN; path=/; expires=Thu, 26-May-22 18:56:14 GMT

Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 18:56:14 GMT

Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118ba06892749c0-SIN
Content-Type: text/html; c
…
```

Actions to Take

1. See the remedy for solution.
2. Mark all cookies used within the application as secure. *(If the cookie is not related to authentication or does not carry any personal information, you do not have to mark it as secure.)*

Remedy

Mark all cookies used within the application as secure.

5. Forbidden Resource

- Risk: Information
- Method: GET

INFORMATION 4 | CONFIRMED 4

Netsparker identified a forbidden resource.

Access to this resource has been denied by the web server. This is generally not a security issue, and is reported here for informational purposes.

Impact

This issue is reported as additional information only. There is no direct impact arising from this issue.

Vulnerabilities

10.1. https://etoropartners.com/cdn-cgi/images/

CONFIRMED

Conceptual proof

Response

Response Time (ms) : 79.8855 Total Bytes Received : 842 Body Length : 553 Is Compressed : No

```
HTTP/1.1 403 Forbidden

X-Content-Type-Options: nosniff
Server: cloudflare
CF-RAY: 7118bab3582d9fb3-SIN
Connection: keep-alive
X-Frame-Options: DENY
Content-Type: text/html
Transfer-Encoding: chunked
Content-Encoding:
Date: Thu, 26 May 2022 18:56:10 GMT
Vary: Accept-Encoding

<html>
<head><title>403 Forbidden</title></head>
<body>
<center><h1>403 Forbidden</h1></center>
<hr><center>cloudflare</center>
</body>
</html>
<!-- a padding to disable MSIE and Chrome friendly error page -->
<!-- a padding to disable MSIE and Chrome friendly error page -->
<!-- a padding to disable MSIE and Chrome friendly error page -->
<!-- a padding to disable MSIE and Chrome friendly error page -->
<!-- a padding to disable MSIE and Chrome friendly error page -->
<!-- a padding to disable MSIE and Chrome friendly error page -->
```

6. Robots.txt Detected

- Risk: Information
- Method: GET

INFORMATION 1 | CONFIRMED 1

Netsparker detected a `Robots.txt` file with potentially sensitive content.

Impact

Depending on the content of the file, an attacker might discover hidden directories and files.

Vulnerabilities

11.1. https://etoropartners.com/robots.txt

CONFIRMED

Interesting Robots.txt Entries

- Disallow: /wp-admin/

Remedy

Ensure you have nothing sensitive exposed within this file, such as the path of an administration panel. If disallowed paths are sensitive and you want to keep it from unauthorized access, do not write them in the `Robots.txt`, and ensure they are correctly protected by means of authentication.
`Robots.txt` is only used to instruct search robots which resources should be indexed and which ones are not.

The following block can be used to tell the crawler to index files under /web/ and **ignore the rest**:

```
User-Agent: *
```

```
Allow: /web/
Disallow: /
```

Please note that when you use the instructions above, **search engines will not index your website** except for the specified directories.

If you want to hide certain section of the website from the search engines `X-Robots-Tag` can be set in the response header to tell crawlers whether the file should be indexed or not:

```
X-Robots-Tag: googlebot: nofollow
X-Robots-Tag: otherbot: noindex, nofollow
```

By using `X-Robots-Tag` you don't have to list the these files in your `Robots.txt`.

It is also not possible to prevent media files from being indexed by putting using Robots Meta Tags. `X-Robots-Tag` resolves this issue as well.

For Apache, the following snippet can be put into `httpd.conf` or an `.htaccess` file to restrict crawlers to index multimedia files without exposing them in `Robots.txt`

```
<Files ~ "\.pdf$">
 # Don't index PDF files.
 Header set X-Robots-Tag "noindex, nofollow"
</Files>
```

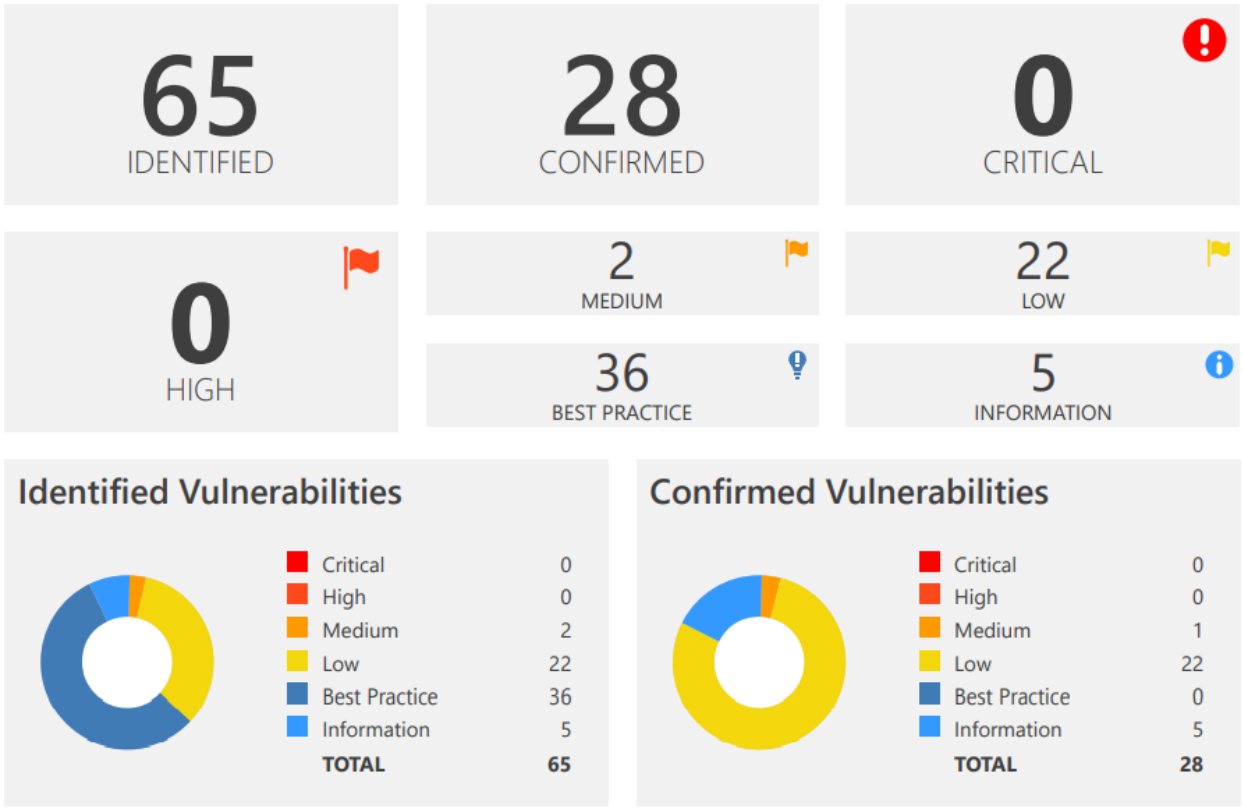
```
<Files ~ "\.(png|jpe?g|gif)$">
 #Don't index image files.
 Header set X-Robots-Tag "noindex"
</Files>
```

Conceptual proof

```
Content-Encoding:

User-agent: *
Disallow: /wp-admin/
Allow: /wp-admin/admin-ajax.php
```

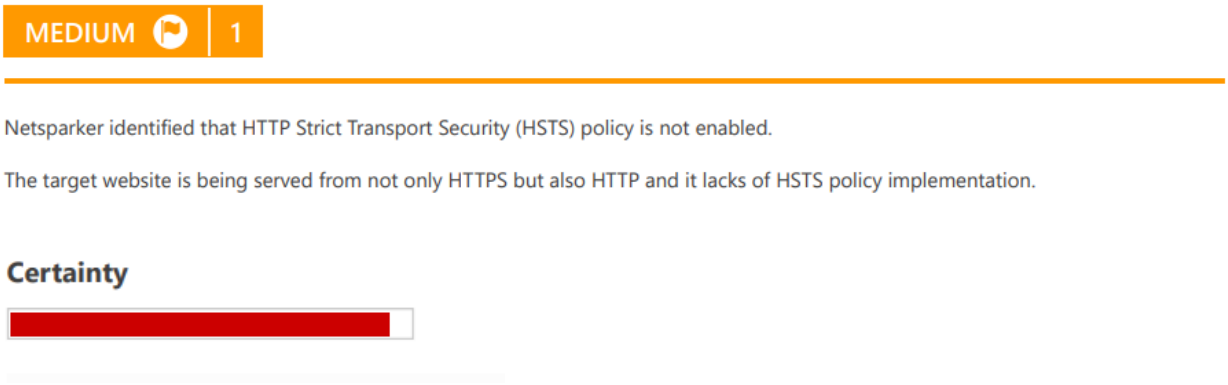
Vulnerability summary



3. Target domain - https://charts.etoro.com/

1. HTTP Strict Transport Security (HSTS) Policy Not Enabled

- Risk **:** Medium
- Method: GET



Conceptual proof

Response

Response Time (ms) : 113.8422 **Total Bytes Received** : 72591 **Body Length** : 71958 **Is Compressed** : No

```
HTTP/1.1 200 OK
Cache-Control: max-age=300
ETag: "f1bde4626df8c3244b53ed4d1779bd47"
x-amz-request-id: 8FKVPEA3PPG3R476
frame-ancestors: *.etoro.com
frame-ancestors: *.etoro.com
Server: AmazonS3
Accept-Ranges: bytes
Connection: keep-alive
Expires: Thu, 26 May 2022 19:26:20 GMT
x-amz-id-2: CJEEZYTrPiswAJU52SsejMBsqZQ8jSwXq0+udsFnusk3ow9/K94yC9vUPC/5fvfvGHfHn/FmMW4=
Vary: Accept-Encoding
x-amz-meta-s3fox-modifiedtime: 1449592060000
Content-Length: 18883
x-amz-meta-s3fox-filesize: 71958
Last-Modified: Tue, 08 Dec 2015 16:35:59 GMT
Content-Type: text/html
Date: Thu, 26 May 2022 19:21:20 GMT
Content-Encoding:
```

Remedy

Configure your webserver to redirect HTTP requests to HTTPS.

i.e. for Apache, you should have modification in the httpd.conf. For more configurations, please refer to External References section.

```
# load module
LoadModule headers_module modules/mod_headers.so

# redirect all HTTP to HTTPS (optional)
<VirtualHost *:80>
       ServerAlias *
       RewriteEngine On
       RewriteRule ^(.*)$ https://%{HTTP_HOST}$1 [redirect=301]
</VirtualHost>

# HTTPS-Host-Configuration
<VirtualHost *:443>
      # Use HTTP Strict Transport Security to force client to use secure connections only
      Header always set Strict-Transport-Security "max-age=31536000; includeSubDomains"

      # Further Configuration goes here
      [...]
</VirtualHost>
```

External References

- Wikipedia - HTTP Strict Transport Security
- Configure HSTS (HTTP Strict Transport Security) for Apache/Nginx
- HTTP Strict Transport Security (HSTS) HTTP Header
- Mozilla SSL Configuration Generator

2. Weak Ciphers Enabled

- Risk : Medium
- Method: GET

MEDIUM 1 CONFIRMED 1

Netsparker detected that weak ciphers are enabled during secure communication (SSL).

You should allow only strong ciphers on your web server to protect secure communication with your visitors.

Impact

Attackers might decrypt SSL traffic between your server and your visitors.

Vulnerabilities

2.1. https://charts.etoro.com/

CONFIRMED

List of Supported Weak Ciphers

- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 (0xC028)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 (0xC027)
- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA (0xC014)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA (0xC013)

Request

```
[NETSPARKER] SSL Connection
```

Actions to Take

1. For Apache, you should modify the SSLCipherSuite directive in the `httpd.conf`.

```
SSLCipherSuite HIGH:MEDIUM:!MD5:!RC4
```

2. Lighttpd:

```
ssl.honor-cipher-order = "enable"
ssl.cipher-list = "EECDH+AESGCM:EDH+AESGCM"
```

3. For Microsoft IIS, you should make some changes to the system registry. **Incorrectly editing the registry may severely damage your system. Before making changes to the registry, you should back up any valued data on your computer.**

a. Click Start, click Run, type `regedt32` or type `regedit`, and then click OK.
b. In Registry Editor, locate the following registry key: `HKLM\SYSTEM\CurrentControlSet\Control\SecurityProviders`
c. Set "Enabled" DWORD to "0x0" for the following registry keys:

```
SCHANNEL\Ciphers\DES 56/56
SCHANNEL\Ciphers\RC4 64/128
SCHANNEL\Ciphers\RC4 40/128
SCHANNEL\Ciphers\RC2 56/128
SCHANNEL\Ciphers\RC2 40/128
SCHANNEL\Ciphers\NULL
SCHANNEL\Hashes\MD5
```

Remedy

Configure your web server to disallow using weak ciphers.

3. Missing X-Frame-Options Header

- Risk: Low
- Method: GET

LOW | 1

Netsparker detected a missing `X-Frame-Options` header which means that this website could be at risk of a clickjacking attack.

The `X-Frame-Options` HTTP header field indicates a policy that specifies whether the browser should render the transmitted resource within a `frame` or an `iframe`. Servers can declare this policy in the header of their HTTP responses to prevent clickjacking attacks, which ensures that their content is not embedded into other pages or frames.

Impact

Clickjacking is when an attacker uses multiple transparent or opaque layers to trick a user into clicking on a button or link on a framed page when they were intending to click on the top level page. Thus, the attacker is "hijacking" clicks meant for their page and routing them to other another page, most likely owned by another application, domain, or both.

Using a similar technique, keystrokes can also be hijacked. With a carefully crafted combination of stylesheets, iframes, and text boxes, a user can be led to believe they are typing in the password to their email or bank account, but are instead typing into an invisible frame controlled by the attacker.

Vulnerabilities

5.1. https://charts.etoro.com/

Certainty

Conceptual proof

Response

Response Time (ms) : 427.7785 Total Bytes Received : 72561 Body Length : 71958 Is Compressed : No

```
HTTP/1.1 200 OK
Cache-Control: max-age=300
ETag: "f1bde4626df8c3244b53ed4d1779bd47"
x-amz-request-id: 8FKVPEA3PPG3R476
frame-ancestors: *.etoro.com
Server: AmazonS3
Connection: keep-alive
Expires: Thu, 26 May 2022 19:26:01 GMT
x-amz-id-2: CJEEZYTrPiswAJU52SsejMBsqZQ8jSwXq0+udsFnusk3ow9/K94yC9vUPC/5fvfvGHfHn/FmMW4=
Vary: Accept-Encoding
x-amz-meta-s3fox-modifiedtime: 1449592060000
Content-Length: 18883
x-amz-meta-s3fox-filesize: 71958
Last-Modified: Tue, 08 Dec 2015 16:35:59 GMT
Content-Type: text/html
Accept-Ranges: bytes
Date: Thu, 26 May 2022 19:21:01 GMT
Content-Encoding:
```

Remedy

- Sending the proper X-Frame-Options in HTTP response headers that instruct the browser to not allow framing from other domains.
    - `X-Frame-Options: DENY` It completely denies to be loaded in frame/iframe.
    - `X-Frame-Options: SAMEORIGIN` It allows only if the site which wants to load has a same origin.
    - `X-Frame-Options: ALLOW-FROM` *URL* It grants a specific URL to load itself in a iframe. However please pay attention to that, not all browsers support this.
- Employing defensive code in the UI to ensure that the current frame is the most top level window.

Remedy references

- Clickjacking Defense Cheat Sheet

4. Cookie Not Marked as HttpOnly

- Risk: Low
- Method: GET

Netsparker identified a cookie not marked as HTTPOnly.

HTTPOnly cookies cannot be read by client-side scripts, therefore marking a cookie as HTTPOnly can provide an additional layer of protection against cross-site scripting attacks.

Impact

During a cross-site scripting attack, an attacker might easily access cookies and hijack the victim's session.

Vulnerabilities

3.1. https://charts.etoro.com/
CONFIRMED

Identified Cookie(s)

- _ga
- _gid
- _gat

Cookie Source

- JavaScript

Conceptual proof

Response

Response Time (ms) : 427.7785 Total Bytes Received : 72561 Body Length : 71958 Is Compressed : No

```
HTTP/1.1 200 OK
Cache-Control: max-age=300
ETag: "f1bde4626df8c3244b53ed4d1779bd47"
x-amz-request-id: 8FKVPEA3PPG3R476
frame-ancestors: *.etoro.com
Server: AmazonS3
Connection: keep-alive
Expires: Thu, 26 May 2022 19:26:01 GMT
x-amz-id-2: CJEEZYTrPiswAJU52SsejMBsqZQ8jSwXq0+udsFnusk3ow9/K94yC9vUPC/5fvfvGHfHn/FmMW4=
Vary: Accept-Encoding
x-amz-meta-s3fox-modifiedtime: 1449592060000
Content-Length: 18883
x-amz-meta-s3fox-filesize: 71958
Last-Modified: Tue, 08 Dec 2015 16:35:59 GMT
Content-Type: text/html
Accept-Ranges: bytes
Date: Thu, 26 May 2022 19:21:01 GMT
Content-Encoding:
```

Actions to Take

1. See the remedy for solution.
2. Consider marking all of the cookies used by the application as HTTPOnly. (*After these changes javascript code will not be able to read cookies.*)

Remedy

Mark the cookie as HTTPOnly. This will be an extra layer of defense against XSS. However this is not a silver bullet and will not protect the system against cross-site scripting attacks. An attacker can use a tool such as XSS Tunnel to bypass HTTPOnly protection.

5. Cookie Not Marked as Secure

- Risk: Low
- Method: GET

LOW 1 CONFIRMED 1

Netsparker identified a cookie not marked as secure, and transmitted over HTTPS.

This means the cookie could potentially be stolen by an attacker who can successfully intercept and decrypt the traffic, or following a successful man-in-the-middle attack.

Impact

This cookie will be transmitted over a HTTP connection, therefore if this cookie is important (*such as a session cookie*), an attacker might intercept it and hijack a victim's session. If the attacker can carry out a man-in-the-middle attack, he/she can force the victim to make an HTTP request to steal the cookie.

Vulnerabilities

4.1. https://charts.etoro.com/

CONFIRMED

Identified Cookie(s)

- _ga
- _gid
- _gat

Cookie Source

- JavaScript

Conceptual proof

Request

```
GET / HTTP/1.1
Host: charts.etoro.com
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8
Accept-Encoding: gzip, deflate
Accept-Language: en-us,en;q=0.5
Cache-Control: no-cache
User-Agent: Mozilla/5.0 (Windows NT 10.0; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/70.0.3538.
77 Safari/537.36
```

Response

Response Time (ms) : 427.7785 Total Bytes Received : 72561 Body Length : 71958 Is Compressed : No

```
HTTP/1.1 200 OK
Cache-Control: max-age=300
ETag: "f1bde4626df8c3244b53ed4d1779bd47"
x-amz-request-id: 8FKVPEA3PPG3R476
frame-ancestors: *.etoro.com
Server: AmazonS3
Connection: keep-alive
Expires: Thu, 26 May 2022 19:26:01 GMT
x-amz-id-2: CJEEZYTrPiswAJU52SsejMBsqZQ8jSwXq0+udsFnusk3ow9/K94yC9vUPC/5fvfvGHfHn/FmMW4=
Vary: Accept-Encoding
x-amz-meta-s3fox-modifiedtime: 1449592060000
Content-Length: 18883
x-amz-meta-s3fox-filesize: 71958
Last-Modified: Tue, 08 Dec 2015 16:35:59 GMT
Content-Type: text/html
Accept-Ranges: bytes
Date: Thu, 26 May 2022 19:21:01 GMT
Content-Encoding:
```

Actions to Take

1. See the remedy for solution.
2. Mark all cookies used within the application as secure. *(If the cookie is not related to authentication or does not carry any personal information, you do not have to mark it as secure.)*

Remedy

Mark all cookies used within the application as secure.

6. Forbidden Resource

- Risk: Information
- Method: GET

INFORMATION 11 | CONFIRMED 11

Netsparker identified a forbidden resource.

Access to this resource has been denied by the web server. This is generally not a security issue, and is reported here for informational purposes.

Impact

This issue is reported as additional information only. There is no direct impact arising from this issue.

Vulnerabilities

11.1. https://charts.etoro.com/

CONFIRMED

Conceptual proof

Response

Response Time (ms) : 325.5473 **Total Bytes Received** : 528 **Body Length** : 262 **Is Compressed** : No

```
HTTP/1.1 403 Forbidden

Server: AkamaiGHost
Content-Length: 262
Expires: Thu, 26 May 2022 19:26:24 GMT
Connection: close
Mime-Version: 1.0
frame-ancestors: *.etoro.com
Content-Type: text/html
Date: Thu, 26 May 2022 19:21:24 GMT
Cache-Control: max-age=300

<HTML><HEAD>
<TITLE>Access Denied</TITLE>
</HEAD><BODY>
<H1>Access Denied</H1>

You don't have permission to access "http&#58;&#47;&#47;charts&#46;etoro&#46;com&#47;" on this server.<
P>
Reference&#32;&#35;18&#46;651d2017&#46;1653592884&#46;5b56
</BODY>
</HTML>
```

Vulnerability summary

31 IDENTIFIED	14 CONFIRMED	0 CRITICAL
0 HIGH	2 MEDIUM	3 LOW
	15 BEST PRACTICE	11 INFORMATION

Identified Vulnerabilities

Critical	0
High	0
Medium	2
Low	3
Best Practice	15
Information	11
TOTAL	**31**

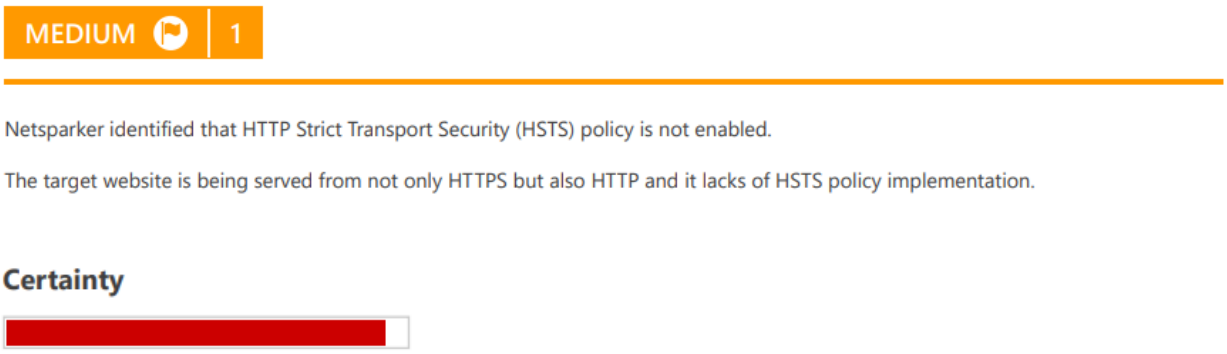
Confirmed Vulnerabilities

Critical	0
High	0
Medium	1
Low	2
Best Practice	0
Information	11
TOTAL	**14**

4. Target domain - https://etorox.com/

1. HTTP Strict Transport Security (HSTS) Policy Not Enabled

- Risk **:** Medium
- Method: GET



Conceptual proof

Response

Response Time (ms) : 354.6928 **Total Bytes Received** : 7625 **Body Length** : 7054 **Is Compressed** : No

```
HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118f2250dd3a3f2:SIN; path=/; expires=Thu, 26-May-22 19:34:32 GMT
Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 19:34:32 GMT
Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118f2250dd3a3f2-SIN
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Date: Thu, 26 May 2022 19:34:02 GMT
Cache-Control: private, max-age=0, no-store, no-cache, must-revalidate, post-check=0, pre-check=0
```

Remedy

Configure your webserver to redirect HTTP requests to HTTPS.

i.e. for Apache, you should have modification in the httpd.conf. For more configurations, please refer to External References section.

```
# load module
LoadModule headers_module modules/mod_headers.so

# redirect all HTTP to HTTPS (optional)
<VirtualHost *:80>
       ServerAlias *
       RewriteEngine On
       RewriteRule ^(.*)$ https://%{HTTP_HOST}$1 [redirect=301]
</VirtualHost>

# HTTPS-Host-Configuration
<VirtualHost *:443>
      # Use HTTP Strict Transport Security to force client to use secure connections only
      Header always set Strict-Transport-Security "max-age=31536000; includeSubDomains"

      # Further Configuration goes here
      [...]
</VirtualHost>
```

External References

- Wikipedia - HTTP Strict Transport Security
- Configure HSTS (HTTP Strict Transport Security) for Apache/Nginx
- HTTP Strict Transport Security (HSTS) HTTP Header
- Mozilla SSL Configuration Generator

2. Weak Ciphers Enabled

- Risk : Medium
- Method: GET

MEDIUM 1 CONFIRMED 1

Netsparker detected that weak ciphers are enabled during secure communication (SSL).

You should allow only strong ciphers on your web server to protect secure communication with your visitors.

Impact

Attackers might decrypt SSL traffic between your server and your visitors.

Vulnerabilities

2.1. https://etorox.com/

CONFIRMED

List of Supported Weak Ciphers

- TLS_RSA_WITH_AES_128_CBC_SHA (0x002F)
- TLS_RSA_WITH_AES_256_CBC_SHA (0x0035)
- TLS_RSA_WITH_AES_128_CBC_SHA256 (0x003C)
- TLS_RSA_WITH_AES_256_CBC_SHA256 (0x003D)
- TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA (0xC009)
- TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA (0xC00A)
- TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256 (0xC023)
- TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384 (0xC024)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA (0xC013)
- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA (0xC014)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 (0xC027)
- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 (0xC028)

Request

```
[NETSPARKER] SSL Connection
```

Action to take

1. For Apache, you should modify the SSLCipherSuite directive in the `httpd.conf`.

```
SSLCipherSuite HIGH:MEDIUM:!MD5:!RC4
```

2. Lighttpd:

```
ssl.honor-cipher-order = "enable"
ssl.cipher-list = "EECDH+AESGCM:EDH+AESGCM"
```

3. For Microsoft IIS, you should make some changes to the system registry. **Incorrectly editing the registry may severely damage your system. Before making changes to the registry, you should back up any valued data on your computer.**

a. Click Start, click Run, type `regedt32` or type `regedit`, and then click OK.
b. In Registry Editor, locate the following registry key: `HKLM\SYSTEM\CurrentControlSet\Control\SecurityProviders`
c. Set "Enabled" DWORD to "0x0" for the following registry keys:

```
SCHANNEL\Ciphers\DES 56/56
SCHANNEL\Ciphers\RC4 64/128
SCHANNEL\Ciphers\RC4 40/128
SCHANNEL\Ciphers\RC2 56/128
SCHANNEL\Ciphers\RC2 40/128
SCHANNEL\Ciphers\NULL
SCHANNEL\Hashes\MD5
```

Remedy

Configure your web server to disallow using weak ciphers.

3.Missing Content-Type Header

- Risk: Low
- Method: GET

LOW | 1

Netsparker detected a missing `Content-Type` header which means that this website could be at risk of a MIME-sniffing attacks.

Impact

MIME type sniffing is a standard functionality in browsers to find an appropriate way to render data where the HTTP headers sent by the server are either inconclusive or missing.

This allows older versions of Internet Explorer and Chrome to perform MIME-sniffing on the response body, potentially causing the response body to be interpreted and displayed as a content type other than the intended content type.

The problem arises once a website allows users to upload content which is then published on the web server. If an attacker can carry out XSS (Cross-site Scripting) attack by manipulating the content in a way to be accepted by the web application and rendered as HTML by the browser, it is possible to inject code in e.g. an image file and make the victim execute it by viewing the image.

Vulnerabilities

5.1. https://etorox.com/cdn-cgi/

Certainty

Conceptual proof

Response

Response Time (ms) : 254.3787 **Total Bytes Received :** 389 **Body Length :** 0 **Is Compressed :** No

```
HTTP/1.1 404 Not Found
CF-Cache-Status: MISS
CF-RAY: 7118f21c98b6016a-SIN
Server: cloudflare
Expires: Thu, 26 May 2022 23:34:00 GMT
Connection: keep-alive
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
Transfer-Encoding: chunked
Date: Thu, 26 May 2022 19:34:00 GMT
Cache-Control: public, max-age=14400
Vary: Accept-Encoding
```

Remedy

1. When serving resources, make sure you send the content-type header to appropriately match the type of the resource being served. For example, if you are serving an HTML page, you should send the HTTP header:

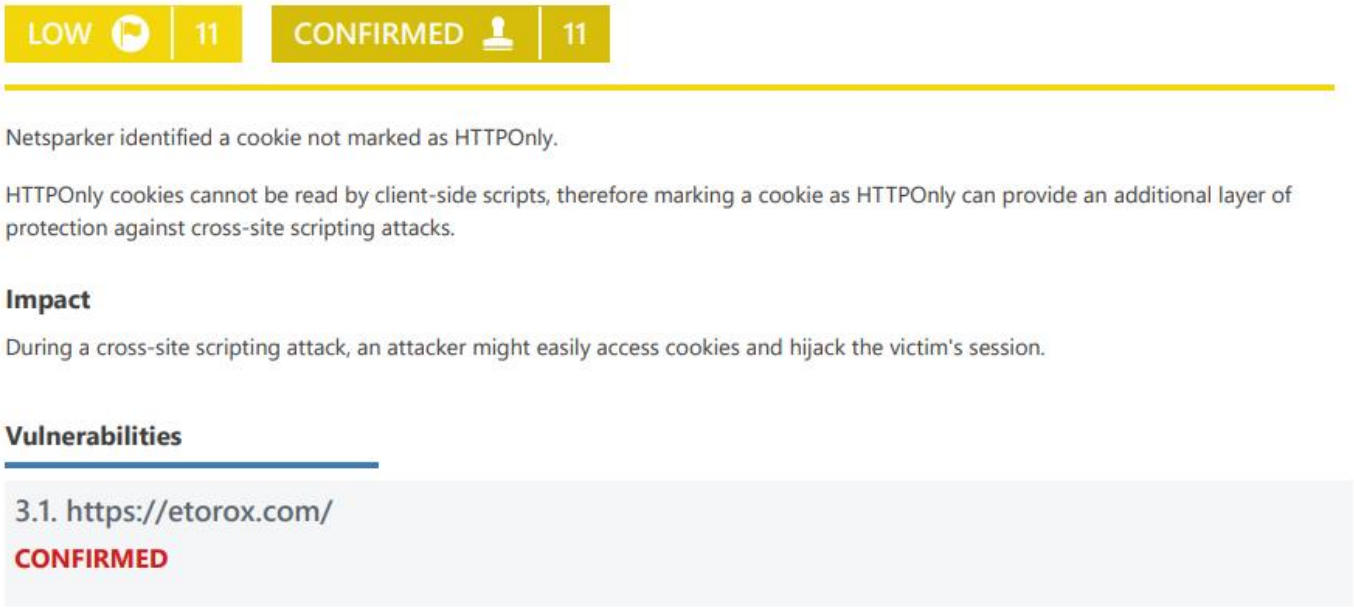
```
Content-Type: text/html
```

2. Add the X-Content-Type-Options header with a value of "nosniff" to inform the browser to trust what the site has sent is the appropriate content-type, and to not attempt "sniffing" the real content-type.

```
X-Content-Type-Options: nosniff
```

4.Cookie Not Marked as HttpOnly

- Risk: Low
- Method: GET



Identified Cookie(s)

- cf_ob_info
- cf_use_ob

Cookie Source

- HTTP Header

Conceptual proof

Response

Response Time (ms) : 1236.3139 Total Bytes Received : 7586 Body Length : 7015 Is Compressed : No

```
HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118f19b6e7e4993:SIN; path=/; expires=Thu, 26-May-22 19:34:10 GMT
Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 19:34:10 GMT
Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118f19b6e7e4993-SIN
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Date: Thu, 26 May 2022 19:33:40 GMT
Cache-Control: private, max-age=0, no-store, no-cache, must-HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118f19b6e7e4993:SIN; path=/; expires=Thu, 26-May-22 19:34:10 GMT

Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 19:34:10 GMT

Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118f19b6e7e4993-SIN
Content-Type: text/html; c
…
```

Actions to Take

Actions to Take

1. See the remedy for solution.
2. Consider marking all of the cookies used by the application as HTTPOnly. (*After these changes javascript code will not be able to read cookies.*)

Remedy

Mark the cookie as HTTPOnly. This will be an extra layer of defense against XSS. However this is not a silver bullet and will not protect the system against cross-site scripting attacks. An attacker can use a tool such as XSS Tunnel to bypass HTTPOnly protection.

5. Cookie Not Marked as Secure

- Risk: Low
- Method: GET

LOW 11 CONFIRMED 11

Netsparker identified a cookie not marked as secure, and transmitted over HTTPS.

This means the cookie could potentially be stolen by an attacker who can successfully intercept and decrypt the traffic, or following a successful man-in-the-middle attack.

Impact

This cookie will be transmitted over a HTTP connection, therefore if this cookie is important (*such as a session cookie*), an attacker might intercept it and hijack a victim's session. If the attacker can carry out a man-in-the-middle attack, he/she can force the victim to make an HTTP request to steal the cookie.

Vulnerabilities

4.1. https://etorox.com/

CONFIRMED

Identified Cookie(s)

- cf_ob_info
- cf_use_ob

Cookie Source

- HTTP Header

Conceptual proof

Response

Response Time (ms) : 1236.3139 Total Bytes Received : 7586 Body Length : 7015 Is Compressed : No

```
HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118f19b6e7e4993:SIN; path=/; expires=Thu, 26-May-22 19:34:10 GMT
Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 19:34:10 GMT
Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118f19b6e7e4993-SIN
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Date: Thu, 26 May 2022 19:33:40 GMT
Cache-Control: private, max-age=0, no-store, no-cache, must-HTTP/1.1 502 Bad Gateway
Set-Cookie: cf_ob_info=502:7118f19b6e7e4993:SIN; path=/; expires=Thu, 26-May-22 19:34:10 GMT

Set-Cookie: cf_use_ob=443; path=/; expires=Thu, 26-May-22 19:34:10 GMT

Expires: Thu, 01 Jan 1970 00:00:01 GMT
Referrer-Policy: same-origin
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
CF-RAY: 7118f19b6e7e4993-SIN
Content-Type: text/html; c
…
```

Actions to Take

Actions to Take

1. See the remedy for solution.
2. Mark all cookies used within the application as secure. *(If the cookie is not related to authentication or does not carry any personal information, you do not have to mark it as secure.)*

Remedy

Mark all cookies used within the application as secure.

6.Web Application Firewall Detected

- Risk: Information
- Method: GET

INFORMATION 1

Netsparker detected that the target website is using a Web Application Firewall (WAF).

Impact

This issue is reported as additional information only. There is no direct impact arising from this issue.

Vulnerabilities

13.1. https://etorox.com/%3Cscript%3Ealert(0)%3C/script%3E

Method	Parameter	Value
GET	URI-BASED	<script>alert(0)</script>

WAF Name

- Cloudflare

Certainty

7. Forbidden Resource

- Risk: Information
- Method: GET

INFORMATION 11 | CONFIRMED 11

Netsparker identified a forbidden resource.

Access to this resource has been denied by the web server. This is generally not a security issue, and is reported here for informational purposes.

Impact

This issue is reported as additional information only. There is no direct impact arising from this issue.

Vulnerabilities

12.1. https://etorox.com/

CONFIRMED

Conceptual proof

Response

Response Time (ms) : 185.4631 **Total Bytes Received** : 4371 **Body Length** : 3950 **Is Compressed** : No

```
HTTP/1.1 403 Forbidden
Expires: Thu, 26 May 2022 19:34:21 GMT
CF-RAY: 7118f2434cad9f8c-SIN
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
Expect-CT: max-age=604800, report-uri="https://report-uri.cloudflare.com/cdn-cgi/beacon/expect-ct"
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Content-Encoding:
Date: Thu, 26 May 2022 19:34:06 GMT
CacHTTP/1.1 403 Forbidden

Expires: Thu, 26 May 2022 19:34:21 GMT
CF-RAY: 7118f2434cad9f8c-SIN
Server: cloudflare
Connection: keep-alive
X-Frame-Options: SAMEORIGIN
Expect-CT: max-age=604800, report-uri="https://report-ur
…
```

Vulnerability summary

79 IDENTIFIED	34 CONFIRMED
0 CRITICAL	0 HIGH
2 MEDIUM	23 LOW
42 BEST PRACTICE	12 INFORMATION

Identified Vulnerabilities

Critical	0
High	0
Medium	2
Low	23
Best Practice	42
Information	12
TOTAL	**79**

Confirmed Vulnerabilities

Critical	0
High	0
Medium	1
Low	22
Best Practice	0
Information	11
TOTAL	**34**

5.Target domain - https://partners.etoro.com/

1. HTTP Strict Transport Security (HSTS) Policy Not Enabled

- Risk : Medium
- Method: GET

MEDIUM | 1

Netsparker identified that HTTP Strict Transport Security (HSTS) policy is not enabled.

The target website is being served from not only HTTPS but also HTTP and it lacks of HSTS policy implementation.

HTTP Strict Transport Security (HSTS) is a web security policy mechanism whereby a web server declares that complying user agents (such as a web browser) are to interact with it using only secure (HTTPS) connections. The HSTS Policy is communicated by the server to the user agent via a HTTP response header field named "Strict-Transport-Security". HSTS Policy specifies a period of time during which the user agent shall access the server in only secure fashion.

When a web application issues HSTS Policy to user agents, conformant user agents behave as follows:

- Automatically turn any insecure (HTTP) links referencing the web application into secure (HTTPS) links. (For instance, http://example.com/some/page/ will be modified to https://example.com/some/page/ before accessing the server.)
- If the security of the connection cannot be ensured (e.g. the server's TLS certificate is self-signed), user agents show an error message and do not allow the user to access the web application.

Vulnerabilities

1.1. https://partners.etoro.com/

Certainty

Conceptual proof

Response

Response Time (ms) : 194.3214 **Total Bytes Received :** 12016 **Body Length :** 11592 **Is Compressed :** No

```
HTTP/1.1 200 OK
x-amz-id-2: DYMxWCOfd/rY7/utiAzlkBKvygLZHgOeRqpFrZBNNnRNcvU10YRw+ner/okVMUnO+73eZdxKoyA=
Server: AmazonS3
x-amz-request-id: 2HFHDRTZ8ZS2C1GD
Content-Length: 2846
Last-Modified: Sun, 24 Apr 2022 10:00:34 GMT
Accept-Ranges: bytes
Vary: Accept-Encoding
Content-Type: text/html
Content-Encoding:
Connection: keep-alive
Date: Mon, 30 May 2022 18:39:37 GMT
ETag: "10a90d7706de8f21059cb906eeae9800"
```

Remedy

Configure your webserver to redirect HTTP requests to HTTPS.

i.e. for Apache, you should have modification in the httpd.conf. For more configurations, please refer to External References section.

```
# load module
LoadModule headers_module modules/mod_headers.so

# redirect all HTTP to HTTPS (optional)
<VirtualHost *:80>
       ServerAlias *
       RewriteEngine On
       RewriteRule ^(.*)$ https://%{HTTP_HOST}$1 [redirect=301]
</VirtualHost>

# HTTPS-Host-Configuration
<VirtualHost *:443>
      # Use HTTP Strict Transport Security to force client to use secure connections only
      Header always set Strict-Transport-Security "max-age=31536000; includeSubDomains"

      # Further Configuration goes here
      [...]
</VirtualHost>
```

2. Weak Ciphers Enabled

- Risk : Medium
- Method: GET

MEDIUM 1 CONFIRMED 1

Netsparker detected that weak ciphers are enabled during secure communication (SSL).

You should allow only strong ciphers on your web server to protect secure communication with your visitors.

Impact

Attackers might decrypt SSL traffic between your server and your visitors.

Vulnerabilities

2.1. https://partners.etoro.com/

CONFIRMED

List of Supported Weak Ciphers

- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 (0xC028)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 (0xC027)
- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA (0xC014)
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA (0xC013)

Request

```
[NETSPARKER] SSL Connection
```

Response

Response Time (ms) : 1 Total Bytes Received : 27 Body Length : 0 Is Compressed : No

```
[NETSPARKER] SSL Connection
```

Actions to Take

1. For Apache, you should modify the SSLCipherSuite directive in the `httpd.conf`.

```
SSLCipherSuite HIGH:MEDIUM:!MD5:!RC4
```

2. Lighttpd:

```
ssl.honor-cipher-order = "enable"
ssl.cipher-list = "EECDH+AESGCM:EDH+AESGCM"
```

3. For Microsoft IIS, you should make some changes to the system registry. **Incorrectly editing the registry may severely damage your system. Before making changes to the registry, you should back up any valued data on your computer.**

a. Click Start, click Run, type `regedt32` or type `regedit`, and then click OK.
b. In Registry Editor, locate the following registry key: `HKLM\SYSTEM\CurrentControlSet\Control\SecurityProviders`
c. Set "Enabled" DWORD to "0x0" for the following registry keys:

```
SCHANNEL\Ciphers\DES 56/56
SCHANNEL\Ciphers\RC4 64/128
SCHANNEL\Ciphers\RC4 40/128
SCHANNEL\Ciphers\RC2 56/128
SCHANNEL\Ciphers\RC2 40/128
SCHANNEL\Ciphers\NULL
SCHANNEL\Hashes\MD5
```

Remedy

Configure your web server to disallow using weak ciphers.

3.Forbidden Resource

- Risk: Information
- Method: GET

INFORMATION 5 | CONFIRMED 5

Netsparker identified a forbidden resource.

Access to this resource has been denied by the web server. This is generally not a security issue, and is reported here for informational purposes.

Impact

This issue is reported as additional information only. There is no direct impact arising from this issue.

Vulnerabilities

4.1. https://partners.etoro.com/

CONFIRMED

Conceptual proof

Response

Response Time (ms) : 90.5341 **Total Bytes Received** : 476 **Body Length** : 268 **Is Compressed** : No

```
HTTP/1.1 403 Forbidden

Server: AkamaiGHost
Content-Length: 268
Expires: Mon, 30 May 2022 18:39:47 GMT
Connection: close
Mime-Version: 1.0
Content-Type: text/html
Date: Mon, 30 May 2022 18:39:47 GMT

<HTML><HEAD>
<TITLE>Access Denied</TITLE>
</HEAD><BODY>
<H1>Access Denied</H1>

You don't have permission to access "http&#58;&#47;&#47;partners&#46;etoro&#46;com&#47;" on this serve
r.<P>
Reference&#32;&#35;18&#46;a760c117&#46;1653935987&#46;38d62f5d
</BODY>
</HTML>
```

Manual Testing

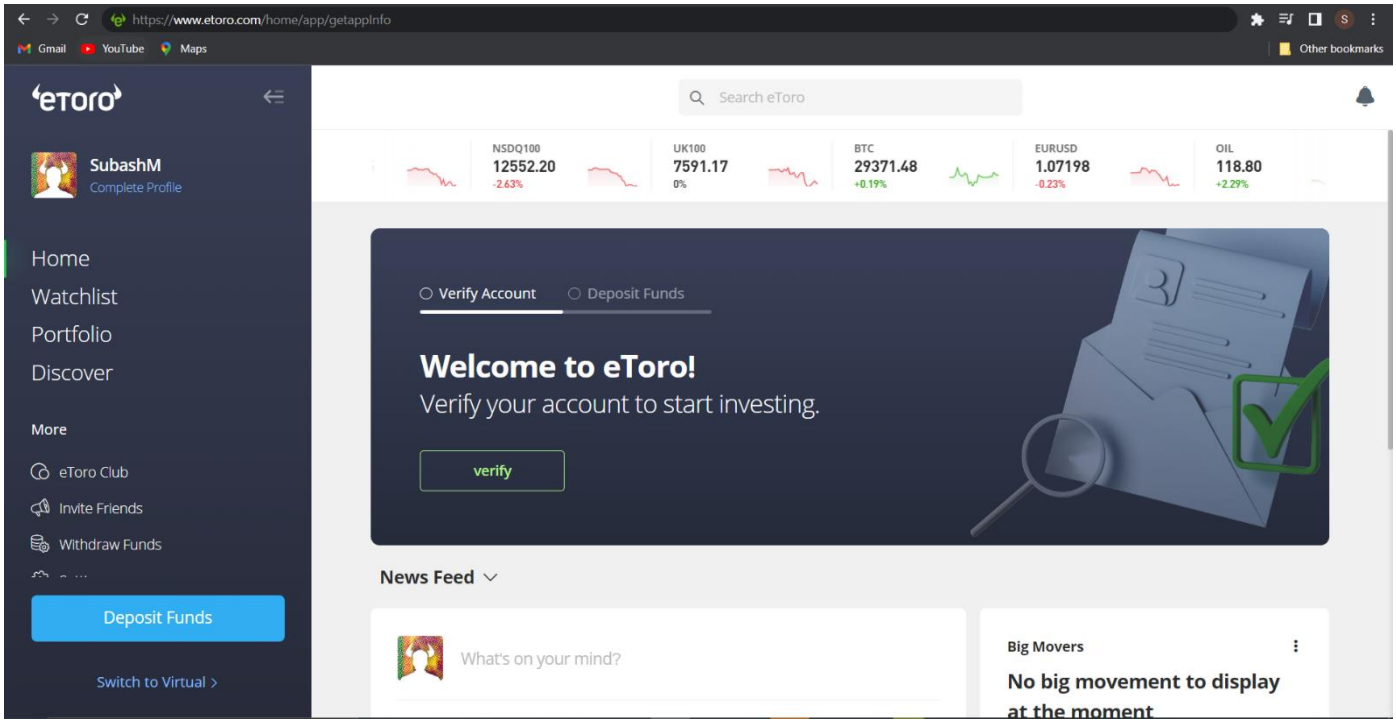
In here I manually checked the vulnerabilities on targeted domains.

Testing Broken Access Control

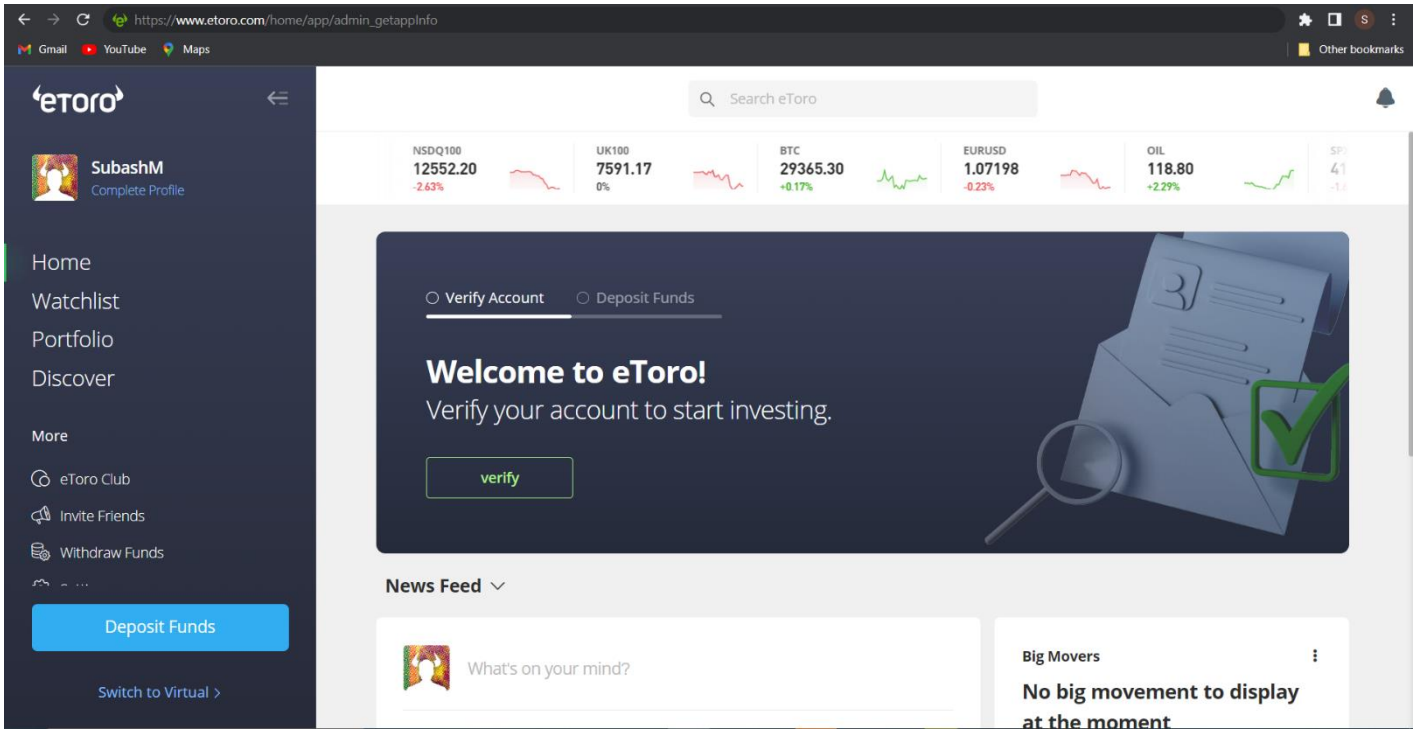
A broken access control scenario is a type of attack that allows an attacker to modify or perform actions outside of an systems' authorized access.

1.Target domain - https://www.etoro.com/

I tried broken access control by adding **/app/getappInfo** to end of the url to get admins access. But it redirected to the home page.



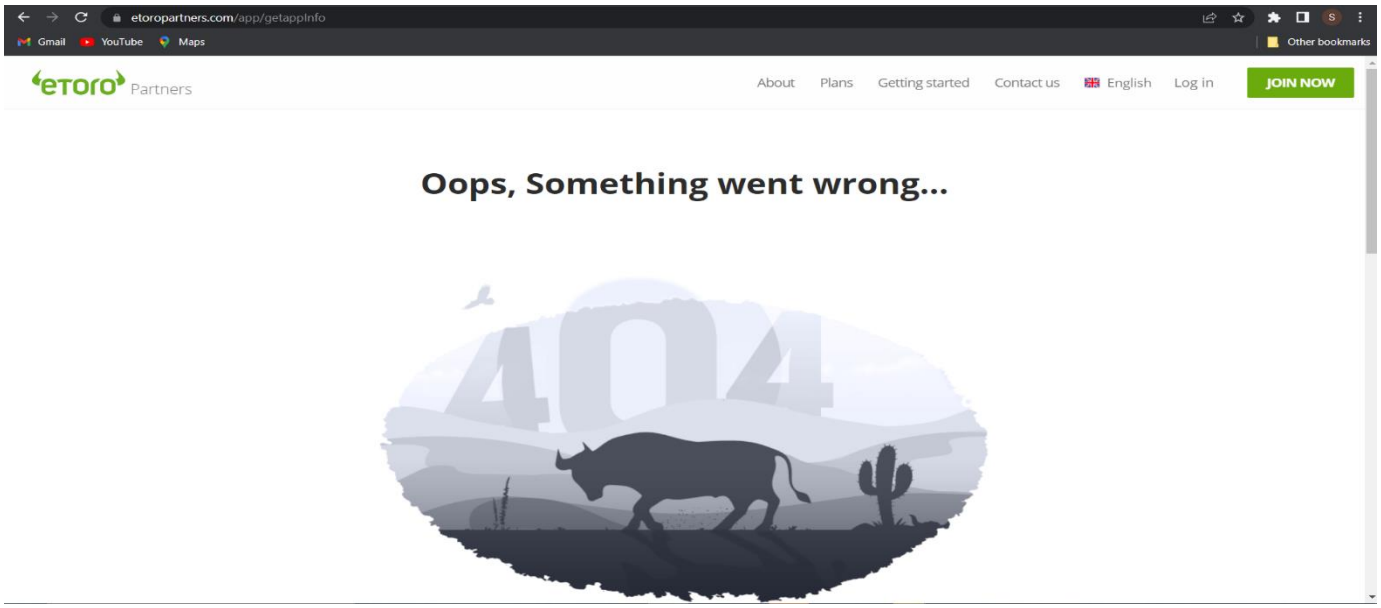
Also I used **app/admin_getappInfo** to admin access. But it also redirected to the home page.

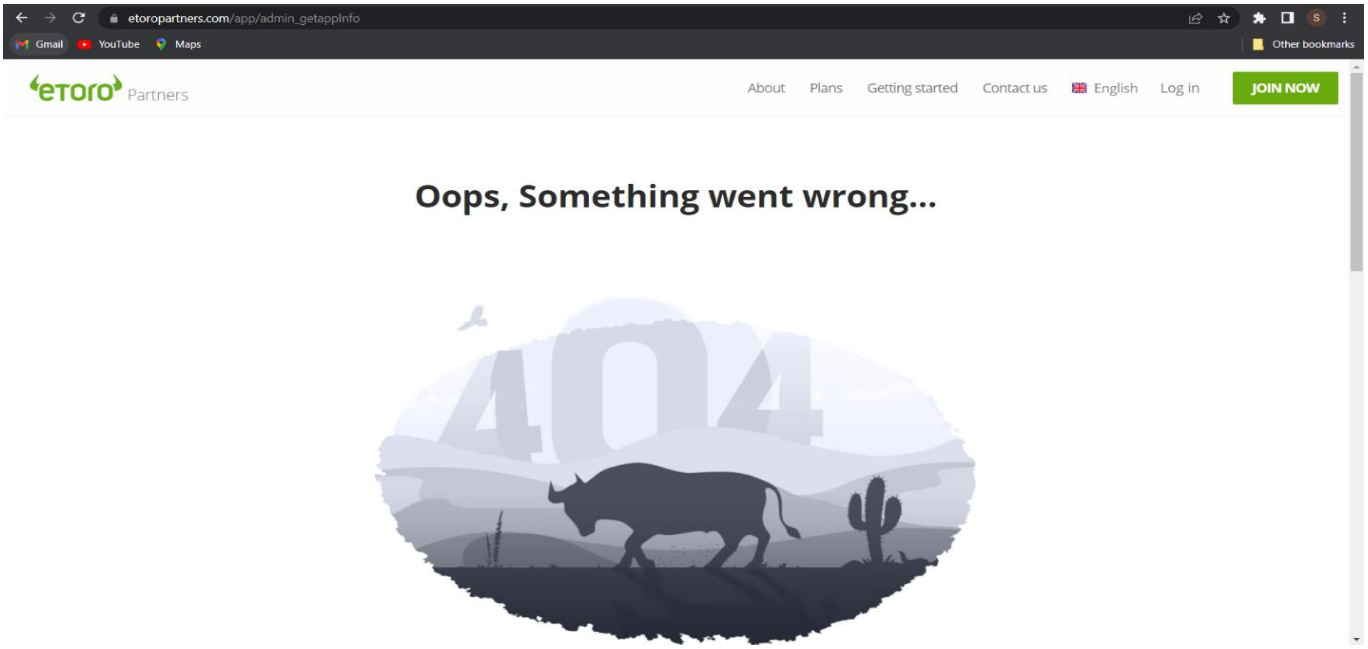


So that this domain is safe from broken access control vulnerability.

2.Target domain - https://etoropartners.com/

I tried broken access control by adding **/app/getappInfo** and **app/admin_getappInfo** to end of the url to get admins access. But it shown an error.

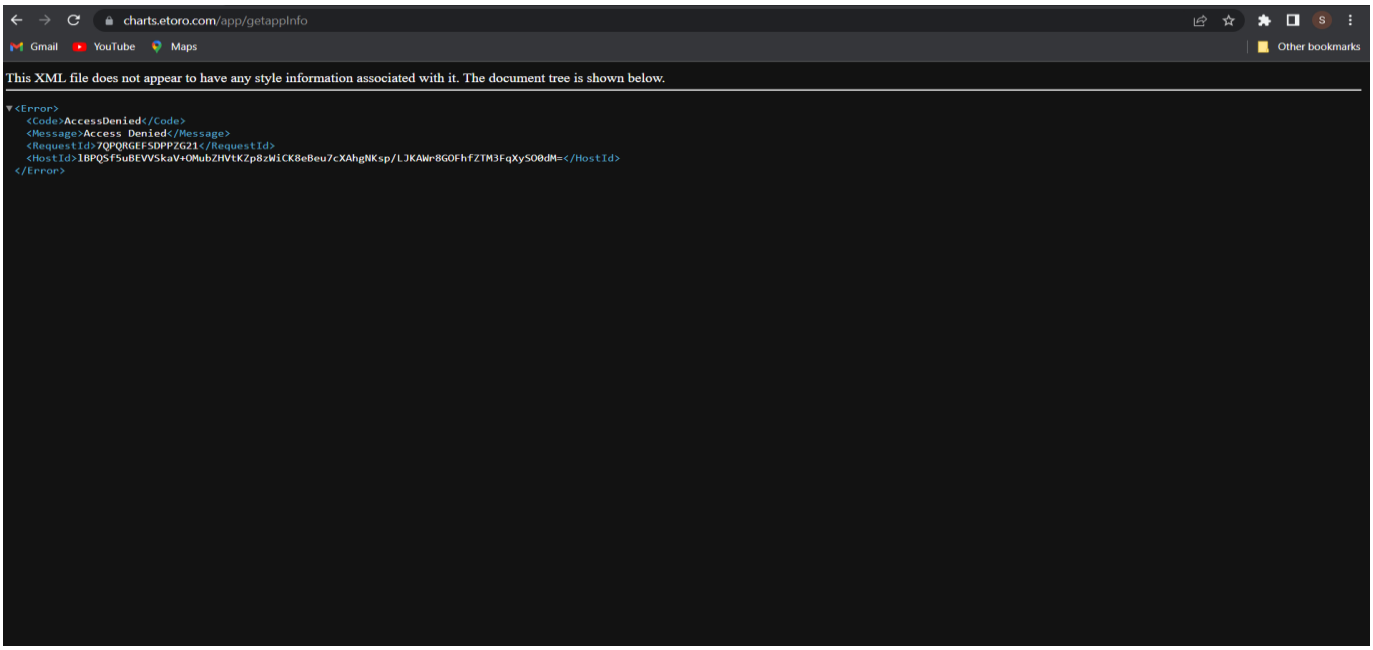


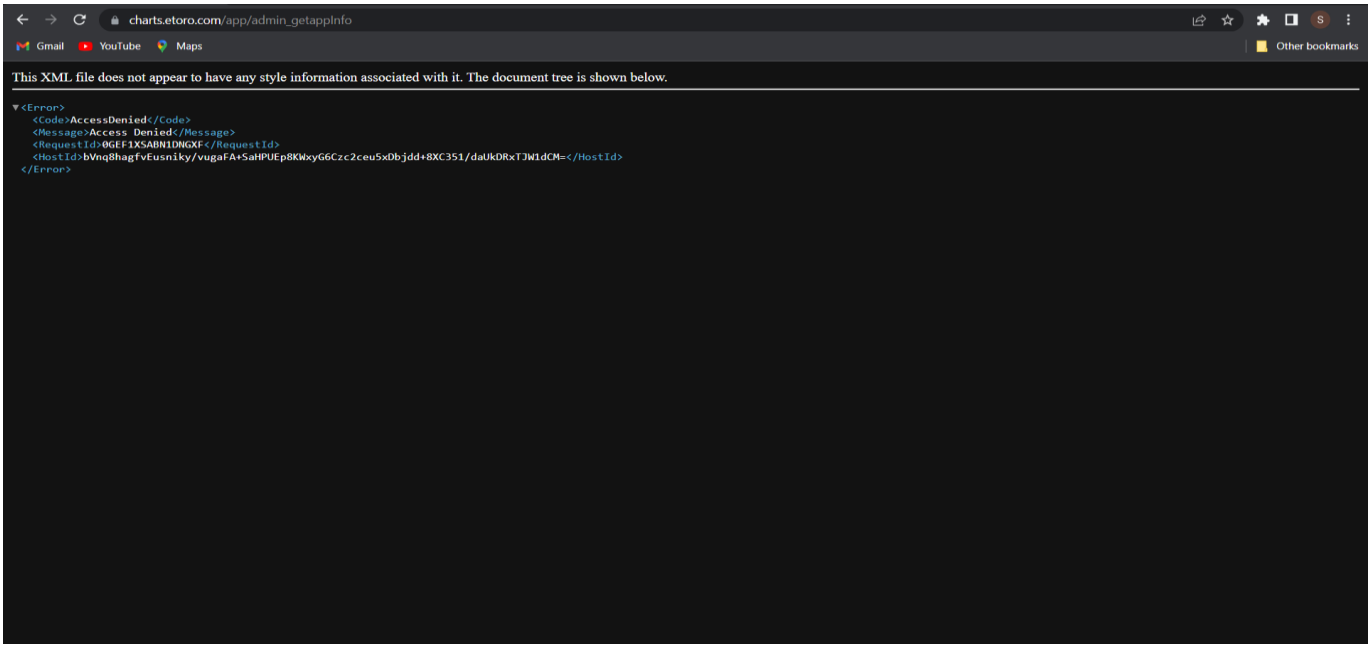


So that this domain is safe from broken access control vulnerability.

3.Target domain - https://charts.etoro.com/

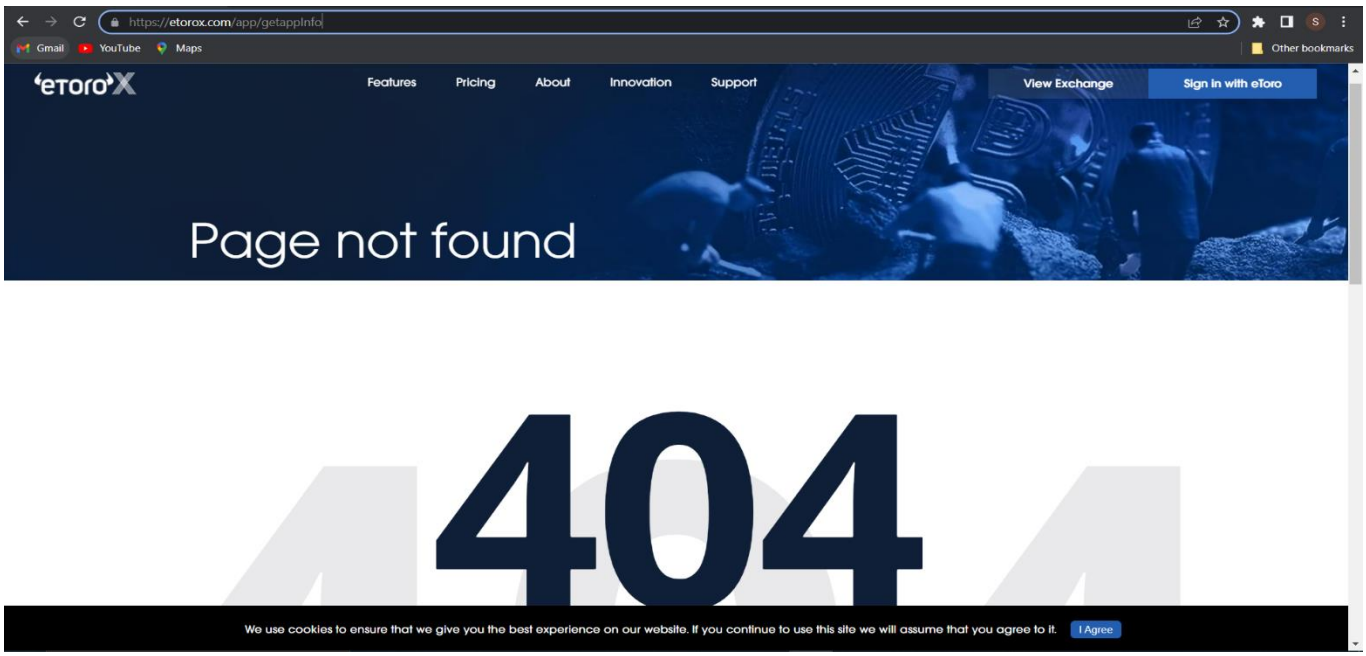
I tried broken access control by adding **/app/getappInfo** and **app/admin_getappInfo** to end of the url. So as a result of this, it shown some XML code.

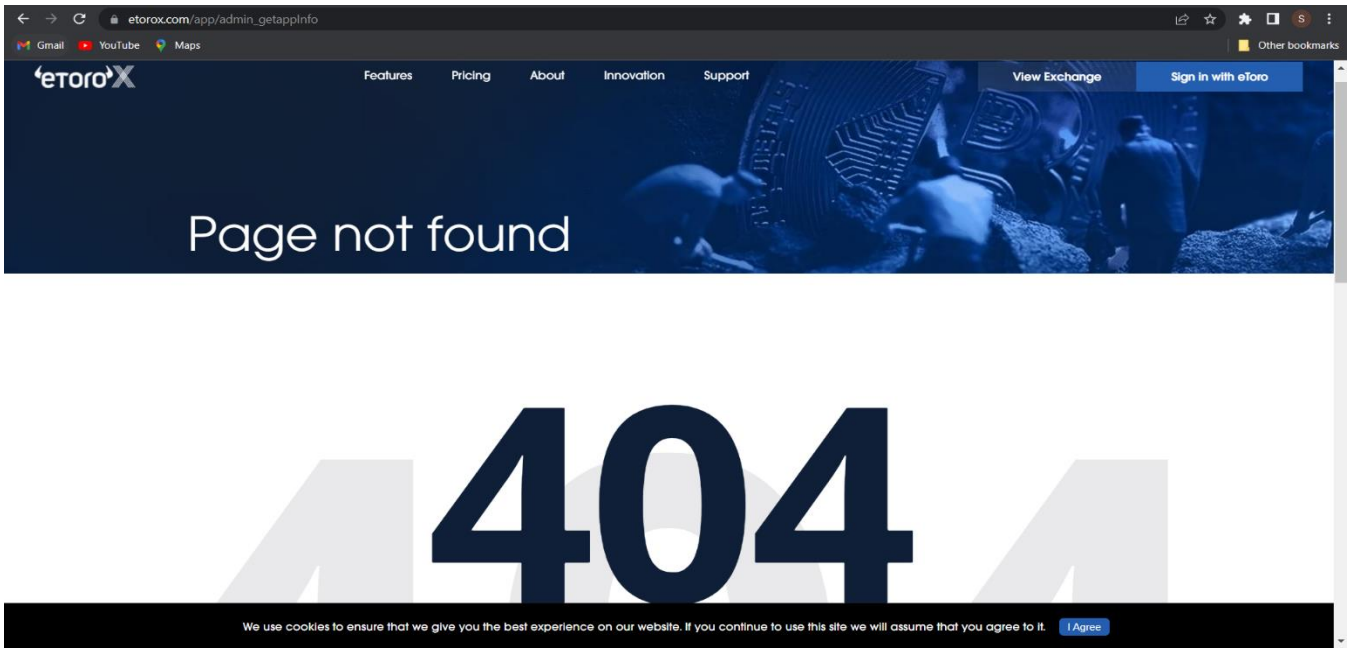




4.Target domain - https://etorox.com/

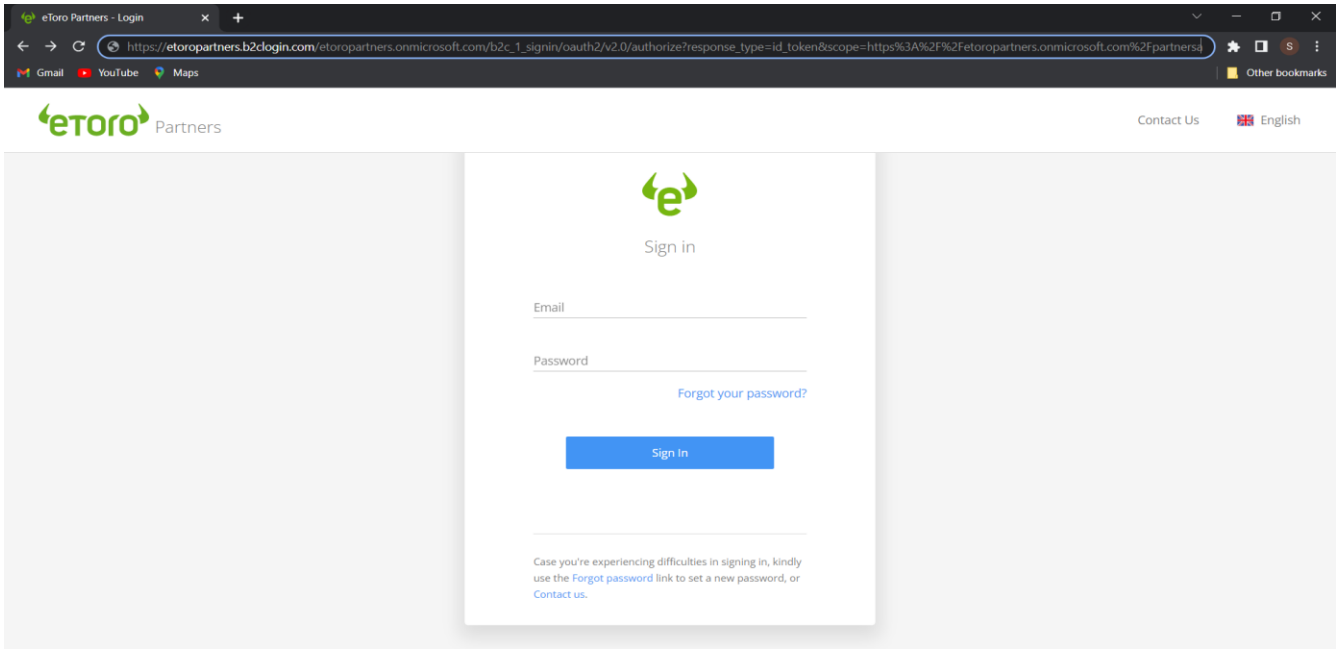
I tried broken access control by adding **/app/getappInfo** and **app/admin_getappInfo** to end of the url to get admins access. But it shown an error.

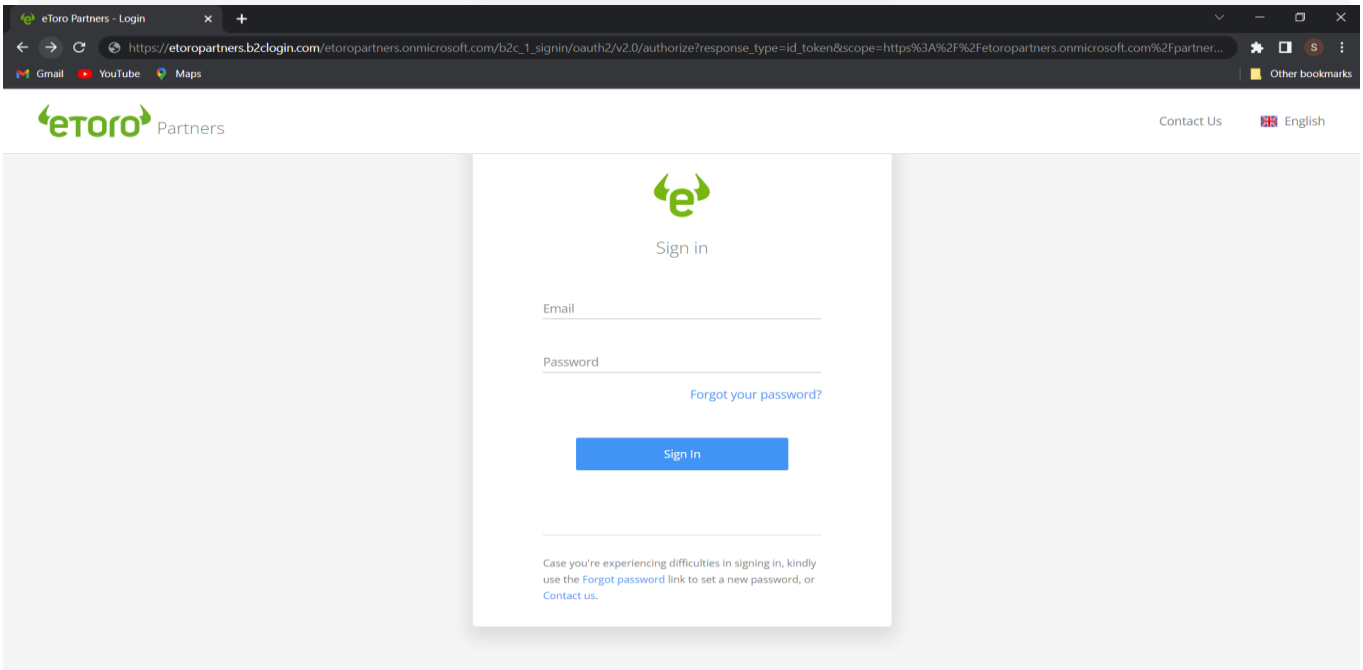




5.Target domain - https://partners.etoro.com/

I tried broken access control by adding **/app/getappInfo** and **app/admin_getappInfo** to end of the url. But it redirected to the same page.

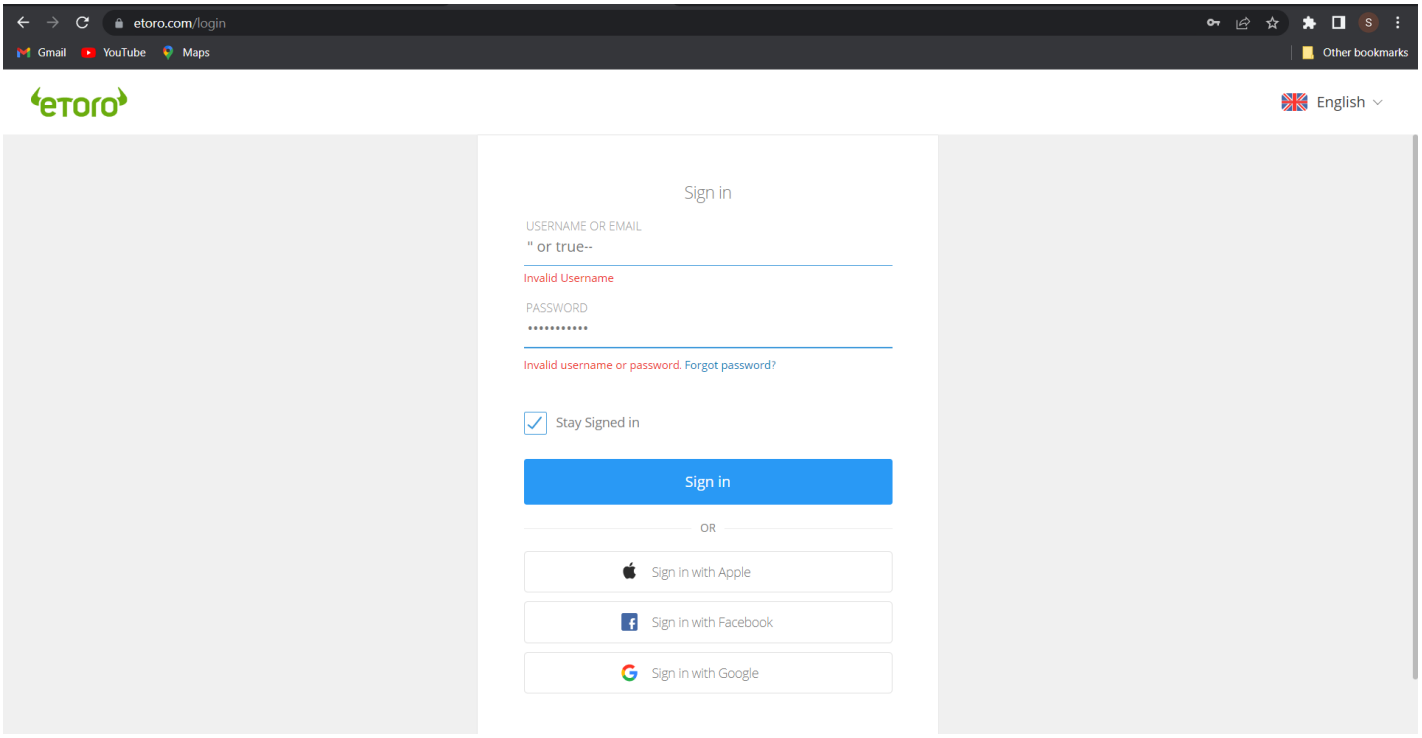


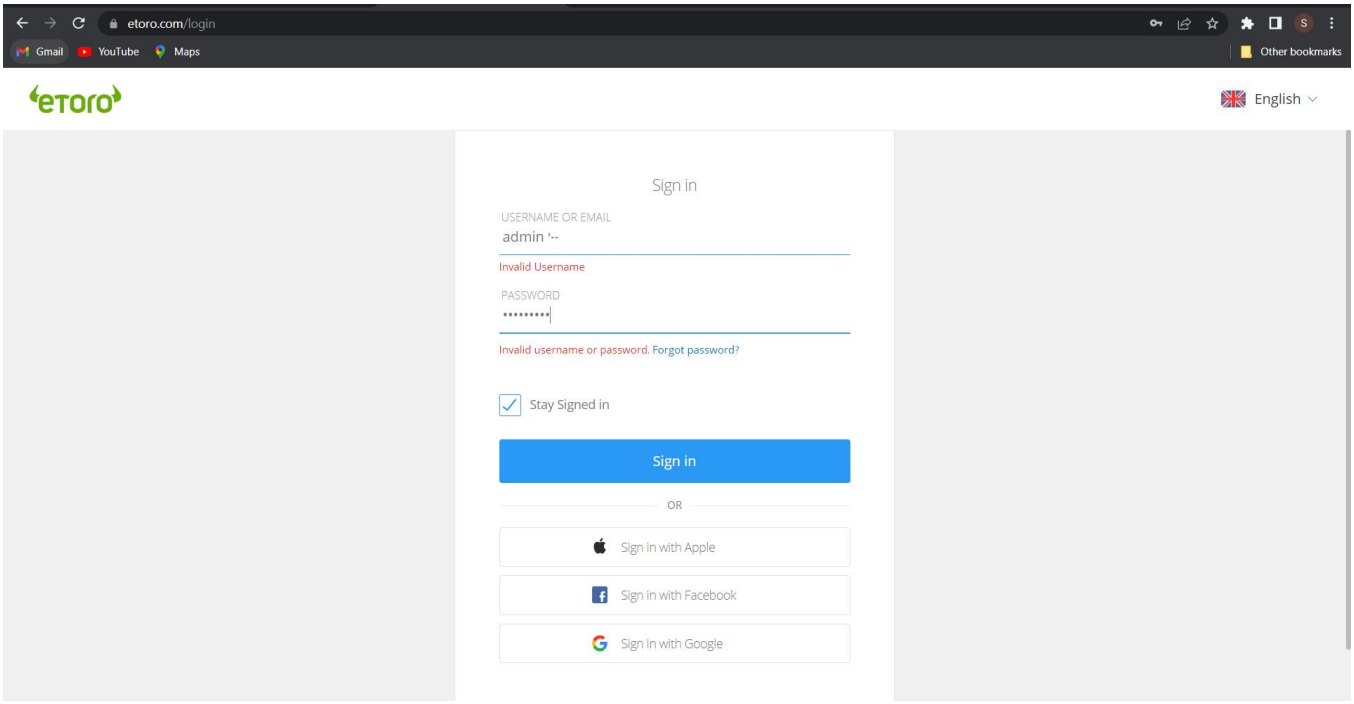


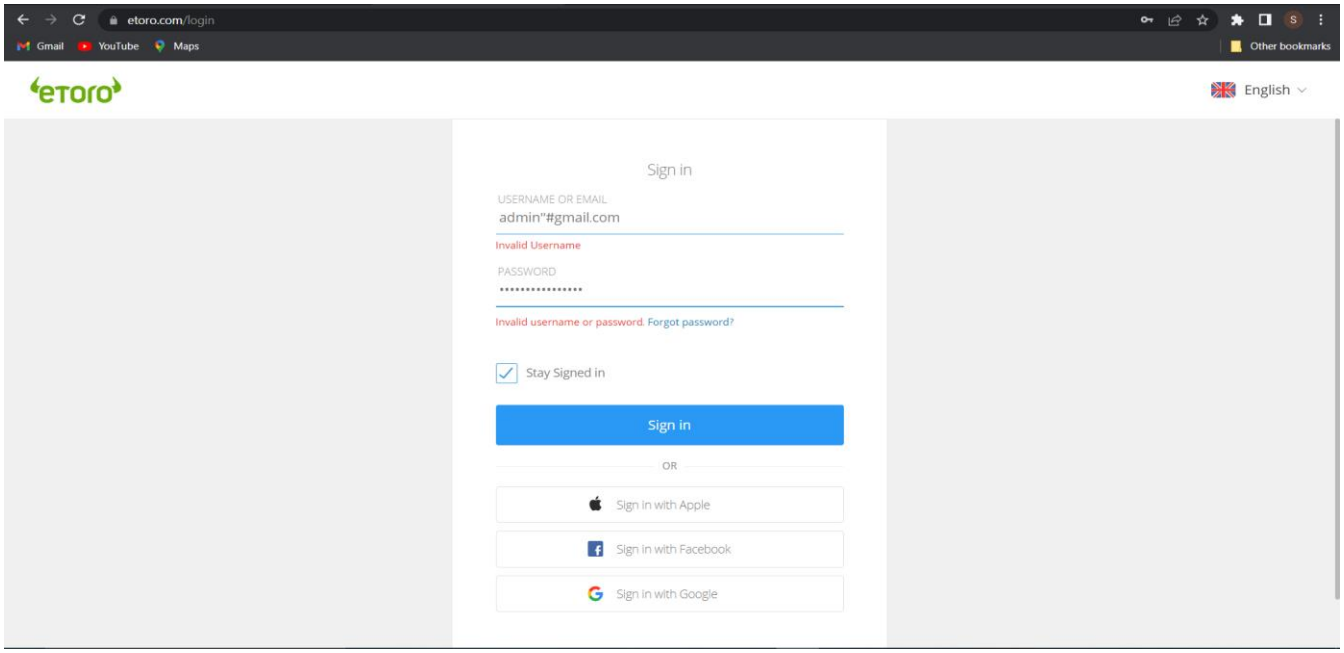
Testing SQL Injection

1.Target domain - https://www.etoro.com/

This domain has login page. So that I tried some SQL injection to this domain to identify whether there is a SQL injection vulnerability.







The site was detected the script even before I click on the sign in button. And also the site identify if the email address has unwanted characters. So that this domain is not vulnerable to SQL injection.

Conclusion

The report included a vulnerability assessment of the etoro.com web domain, as well as its five sub-domains. This was done in two phases: the information gathering phase, and the vulnerability assessment. Both phases were carried out in a standard manner, and the report was made available to the client's terms, subject to change. Both automated and manual tests were used to do this vulnerability assessment. This report describes the various techniques and tools used to gather information about a vulnerable system. It also describes the findings of the vulnerability assessment and the steps that are being taken to minimize these vulnerabilities. Although no critical vulnerabilities were discovered, medium and low level vulnerabilities were found on targeted domains.

References

- https://owasp.org/www-project-top-ten/
- https://www.kali.org/tools/sublist3r/
- https://github.com/aboul3la/Sublist3r
- https://www.kali.org/tools/theharvester/
- https://github.com/laramies/theHarvester
- https://www.kali.org/tools/dnsenum/
- https://github.com/fwaeytens/dnsenum
- The Bug Hunter Podcast Ep. 2: Wayback Machine & Reading ebooks on the move · Pentester Land
- https://www.kali.org/tools/dnsrecon/
- https://github.com/darkoperator/dnsrecon