Sri Lanka Institute of Information Technology

Individual Assignment IE2062 – Web Security

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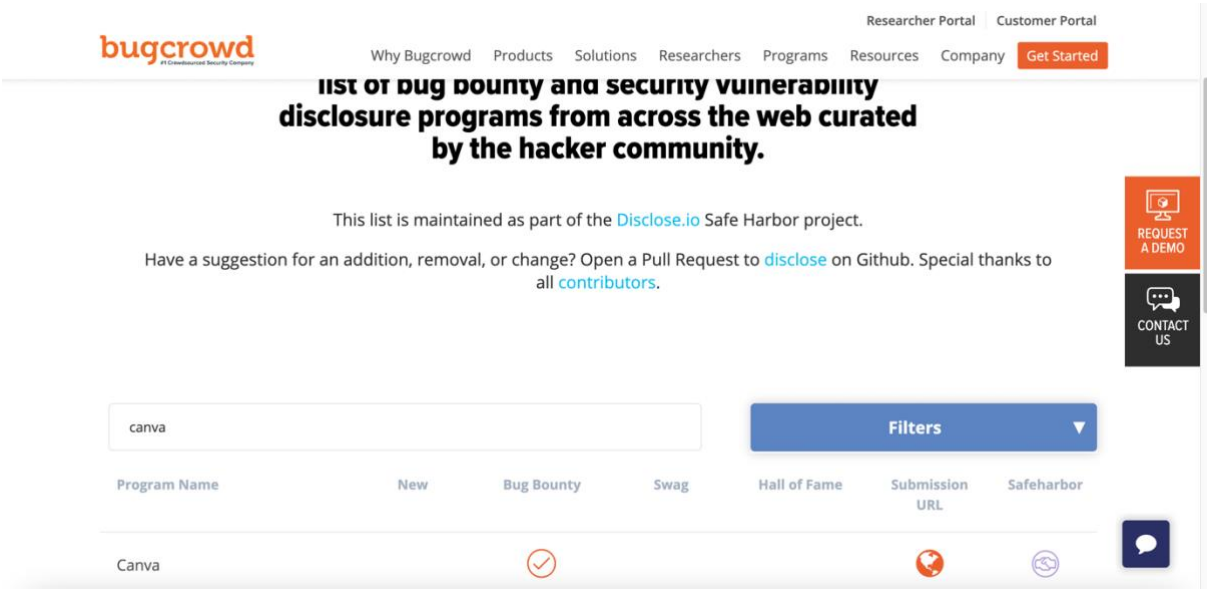
Introduction

What is a web audit?

The auditing of a website entails a detailed examination of all elements that influence search engine visibility. This typical technique gives you a complete picture of all your websites, traffic, and specific pages. The website audit has been completed solely for marketing purposes. The goal is to identify flaws in web-based campaigns. The website audit starts with a general website examination to identify the steps that need to be taken to improve SEO. The SEO audit on-site and off-site, which can include broken links, duplicate meta-descriptions, HTML validation, web site statistics, mistakes, index pages, and site speed, can all provide recommendations for improving search web ranks. There are various reasons for a website audit, but the most essential ones are usually SEO and content marketing. An SEO-based website audit identifies weak places in a website's SEO score and leads to a better knowledge of its SEO status. The content audit is used to assess participation and evaluate modifications to the content strategy in order to improve the website's performance.

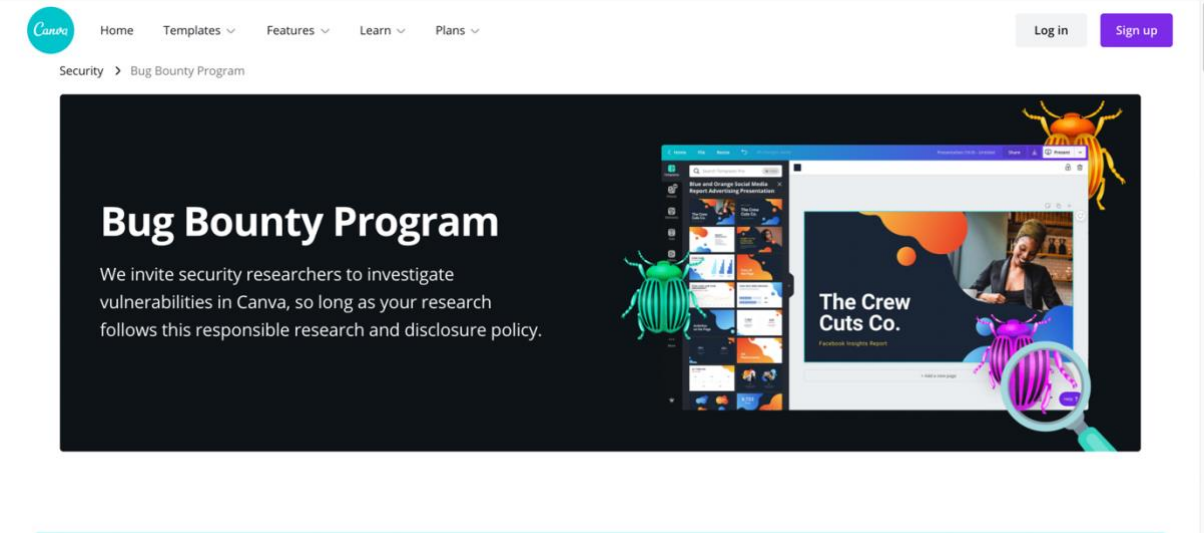
To do a web audit, we must first choose a website. I utilized the website "Bugcrowd" for this. Bugcrowd is a website that participates in the bug bounty program. There are numerous websites where you may conduct a web audit. We chose a website from among several that were presented to us.

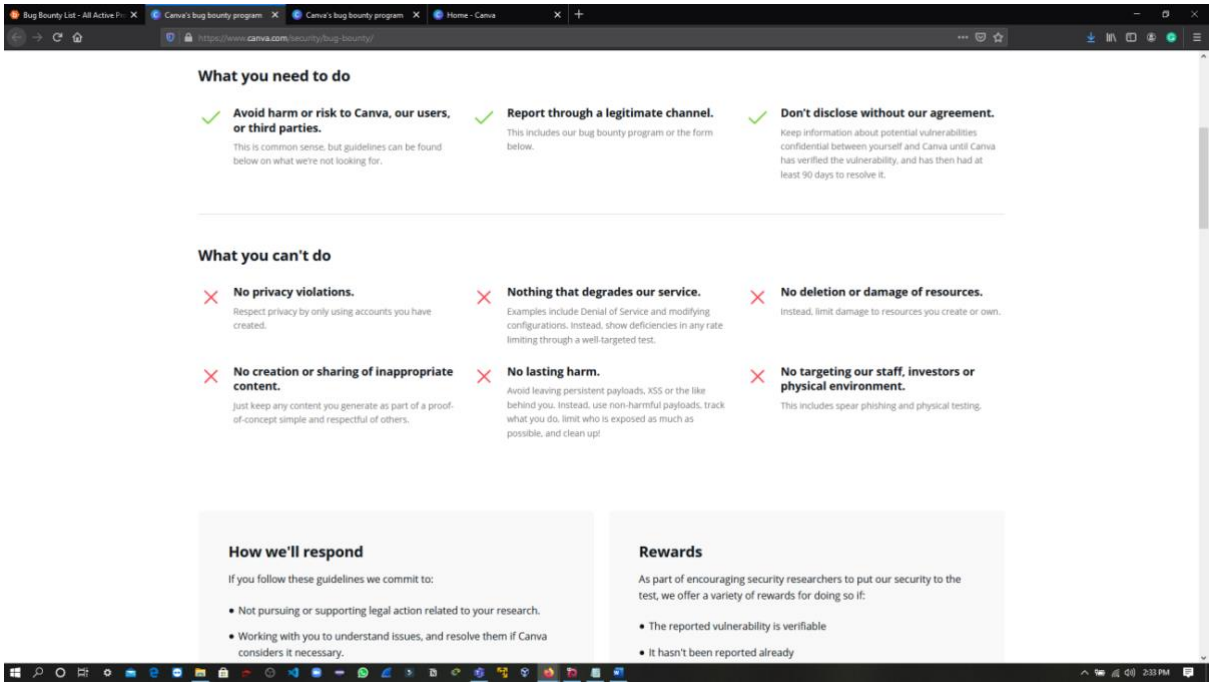


And for my assignment I used the “Canva” site

Canva is a graphic design tool for making social media graphics, presentations, posters, documents, and other visual content. Users can use the templates provided in the app. The platform is free to use, however paid memberships such as Canva Pro and Canva for Enterprise are available for those that want more features.

- Canva is a free graphic design website that can be used to create invites, business cards, Instagram posts, and other things.
- Customizing thousands of templates is simple and straightforward thanks to a drag-and-drop interface.
- Canva's broad feature set allows you to modify photographs even if you don't have a lot of experience with picture editing.





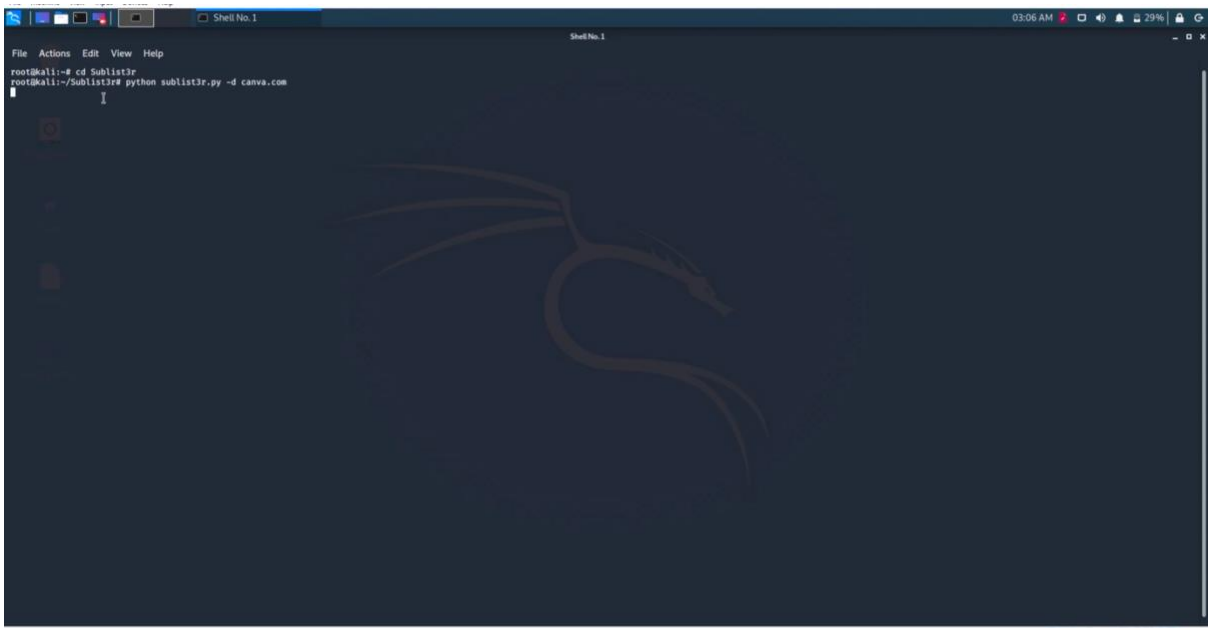
As seen in the diagram above, they have specified what they want from us and what they do not anticipate us to do during the online audit.

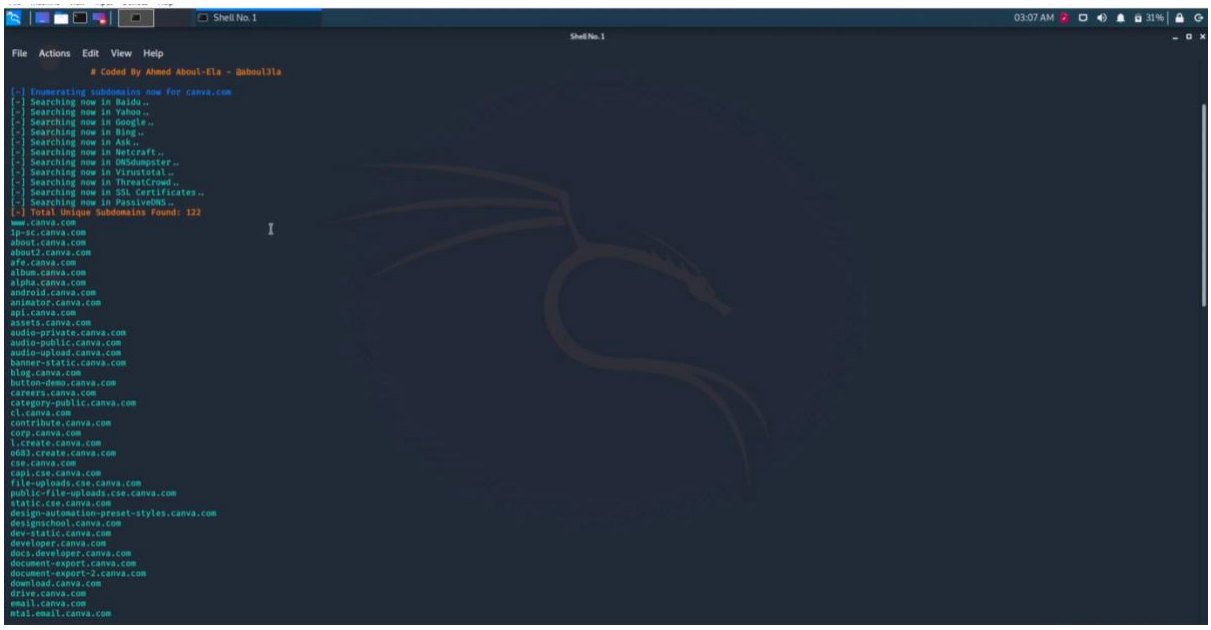
- What you should do:
    - Avoid causing harm or putting Canva, our users, or third parties in danger. · Make a formal report through a reputable source.
    - Do not reveal without our permission.

- What you can't do: o No invasions of privacy; o No resource deletion or harm.
    - No long-term consequences o Nothing that damages our service
    - No inappropriate content should be created or shared.
    - We will not attack our employees, investors, or physical environment.

• This assignment stipulates that the domain we choose must have at least 50 subdomains.

Sublist3r is a python utility that uses OSINT to enumerate website subdomains. It assists penetration testers and bug hunters in gathering and collecting subdomains for the site they are targeting. Sublist3r uses a variety of search engines to find subdomains, including Google, Yahoo, Bing, Baidu, and Ask. Sublist3r also uses Netcraft, Virustotal, ThreatCrowd, DNSdumpster, and ReverseDNS to find subdomains.

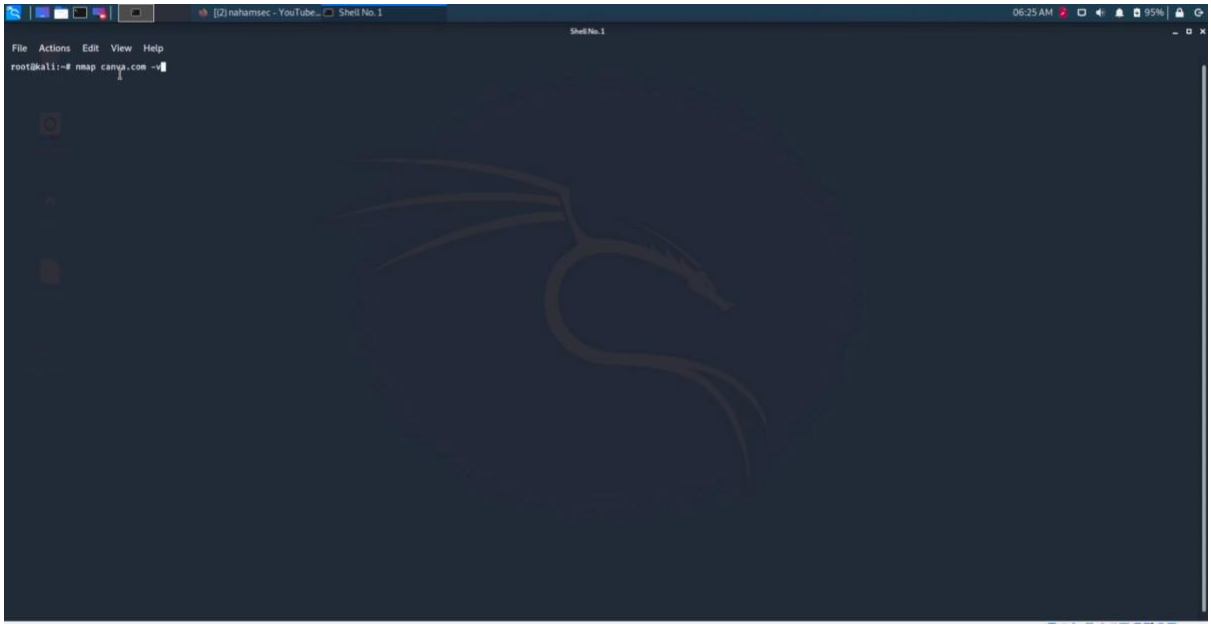




According to the details in the above figure there are 122 sub domains

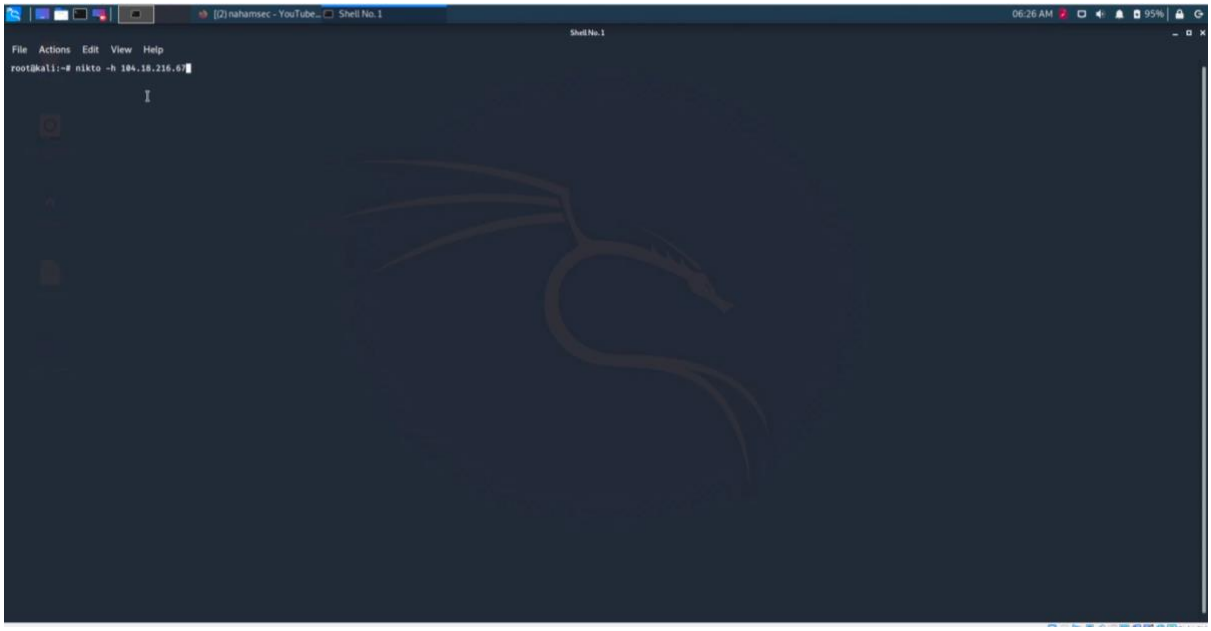
In my first effort, I attempted to exploit the site that I chose without first evaluating the site's vulnerabilities using several tools. Those attempts, however, were futile because the site was far more secure than I had imagined. Then I looked for ways to conduct a web audit properly. Nahamsec's "YouTube" videos on the issue given me some insight into web audits. According to the video, the recon must be done correctly by finding vulnerabilities and obtaining as much information as possible about the site before attempting the exploitation.

Nmap (Network Mapper) is a free and open-source vulnerability scanner and network discovery tool. Nmap is a network administrator's tool for determining what devices are running on their systems, locating available hosts and the services they provide, discovering open ports, and detecting security threats.

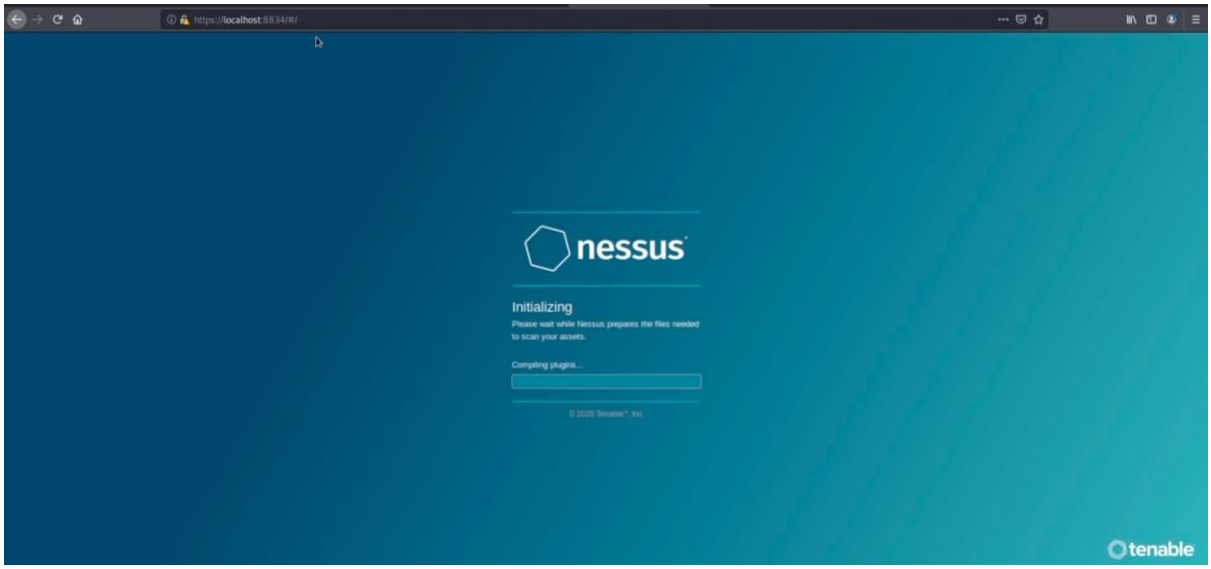


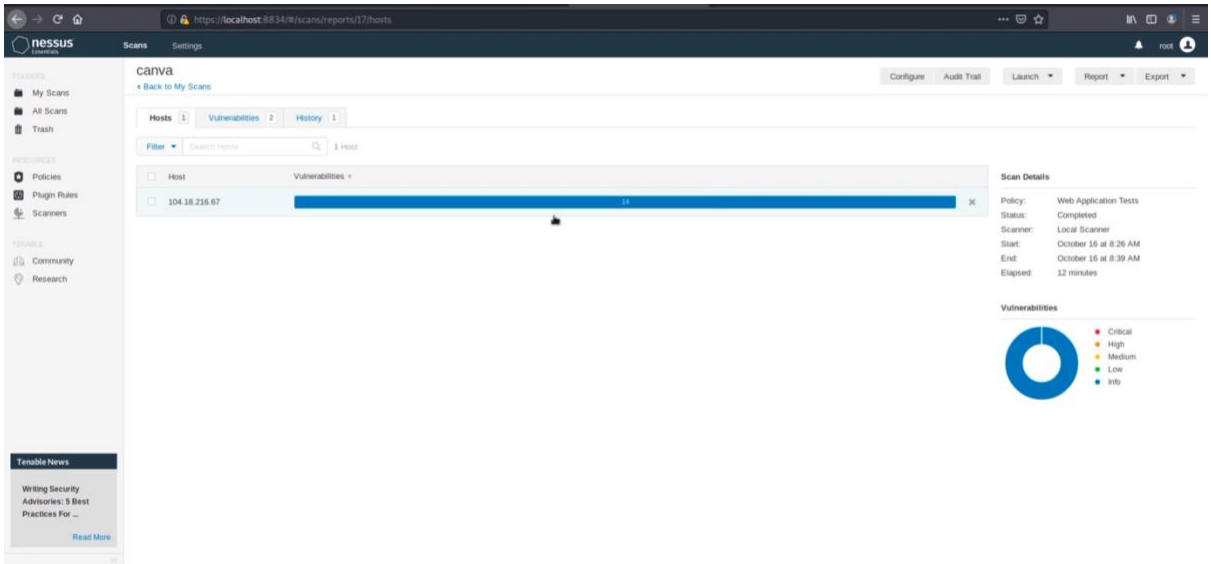
This figure shows how I used the Nmap tool to gather information about my domain and detected five open ports as well as the domain's IP address.

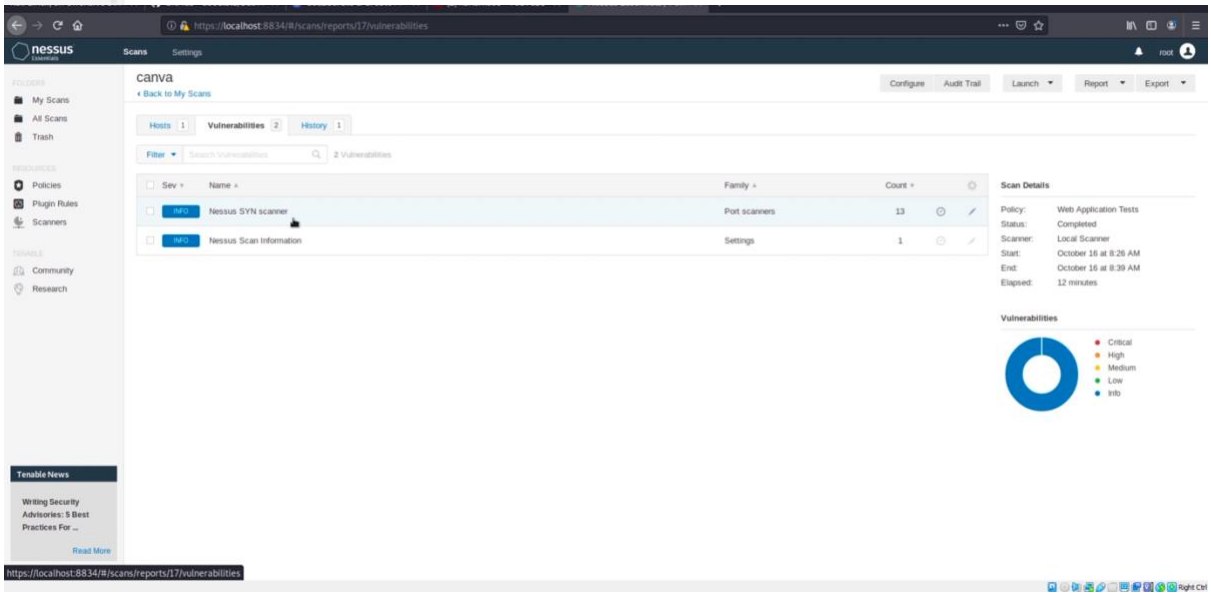
Nikto is an open-source vulnerability scanner written in Perl that provides extra vulnerability scanning particular to web servers. It was first released in late 2001. It scans web servers for 6400 potentially harmful files and scripts, 1200 out-of-date server versions, and approximately 300 version-specific issues.



Nessus is a remote security scanning application that examines a computer and alerts you if it finds any vulnerabilities that malevolent hackers could exploit to obtain access to any computer on your network. It accomplishes this by doing over 1200 checks on a specific machine, determining whether any of these attacks might be used to break into or harm the machine.




https://localhost:8834/#/scans/reports/17/hosts
nessus
Scans
Settings
root
canva
Back to My Scans
Configure
Audit Trail
Launch
Report
Export
My Scans
All Scans
Trash
Policies
Plugin Rules
Scanners
Community
Research
Hosts 1
Vulnerabilities 2
History 1
Filter
1 Host
Host
Vulnerabilities
104.18.216.67
14
Scan Details
Policy: Web Application Tests
Status: Completed
Scanner: Local Scanner
Start: October 16 at 8:26 AM
End: October 16 at 8:39 AM
Elapsed: 12 minutes
Vulnerabilities
Critical
High
Medium
Low
Info
Tenable News
Writing Security Advisories: 5 Best Practices For ...
Read More


https://localhost:8834/#/scans/reports/17/vulnerabilities
nessus
Scans
Settings
root
canva
Back to My Scans
Configure
Audit Trail
Launch
Report
Export
My Scans
All Scans
Trash
Policies
Plugin Rules
Scanners
Community
Research
Hosts 1
Vulnerabilities 2
History 1
Filter
2 Vulnerabilities
Sev
Name
Family
Count
INFO
Nessus SYN scanner
Port scanners
13
INFO
Nessus Scan Information
Settings
1
Scan Details
Policy: Web Application Tests
Status: Completed
Scanner: Local Scanner
Start: October 16 at 8:26 AM
End: October 16 at 8:39 AM
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Vulnerabilities
Critical
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Medium
Low
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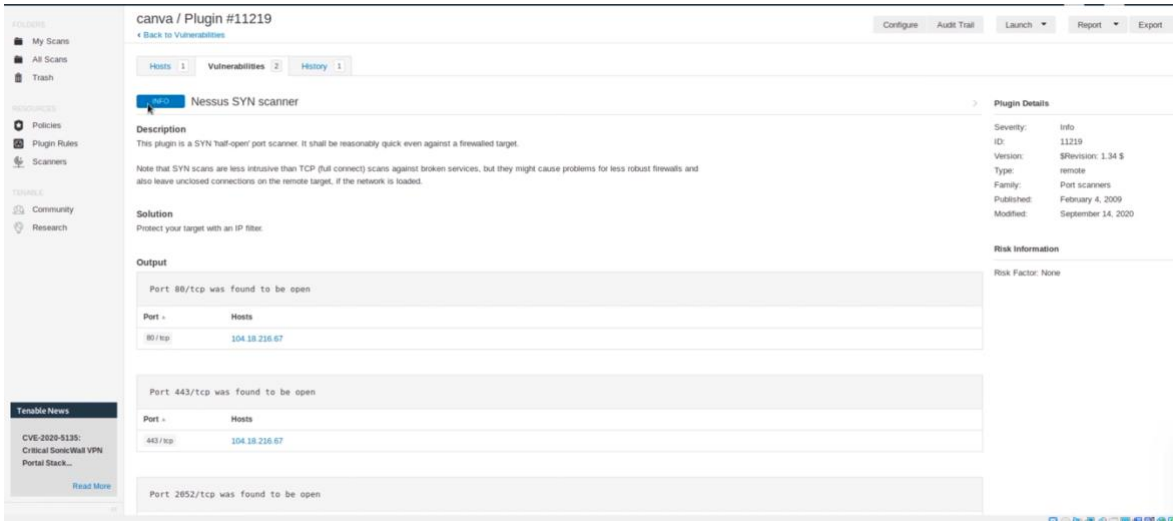
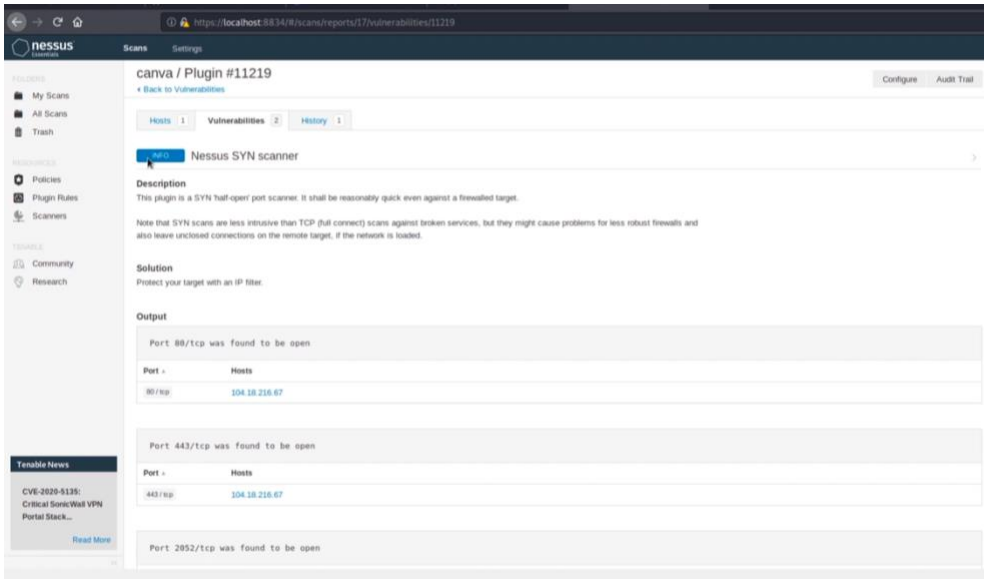
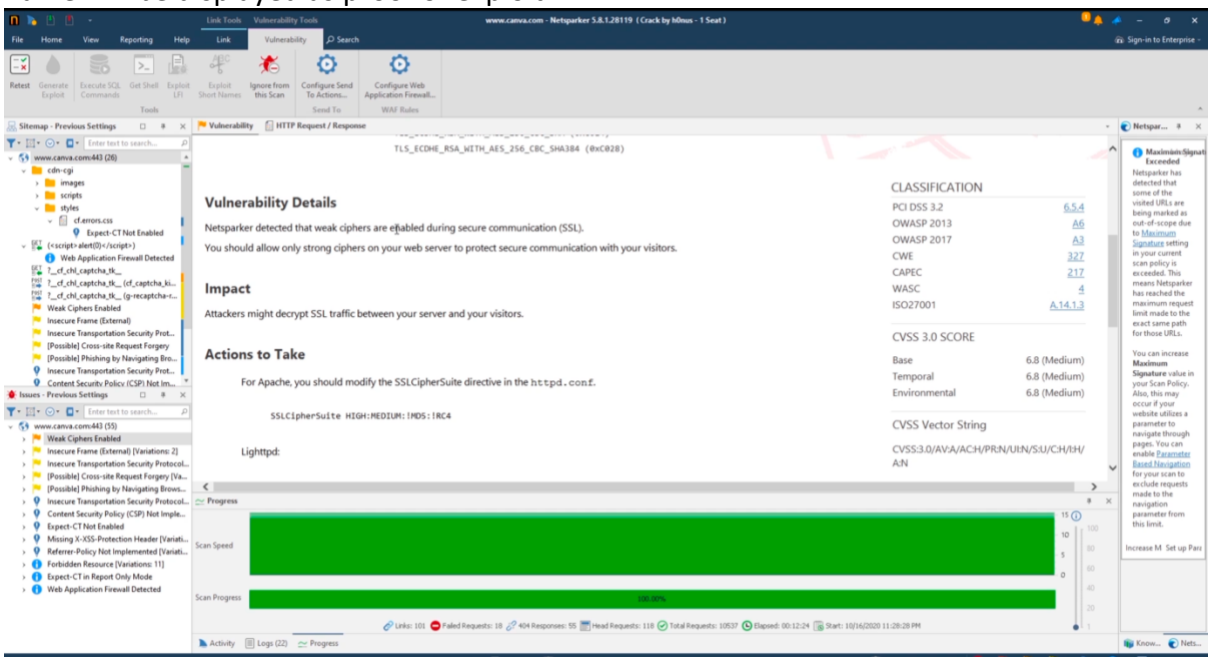
Tenable News
Writing Security Advisories: 5 Best Practices For ...
Read More
https://localhost:8834/#/scans/reports/17/vulnerabilities

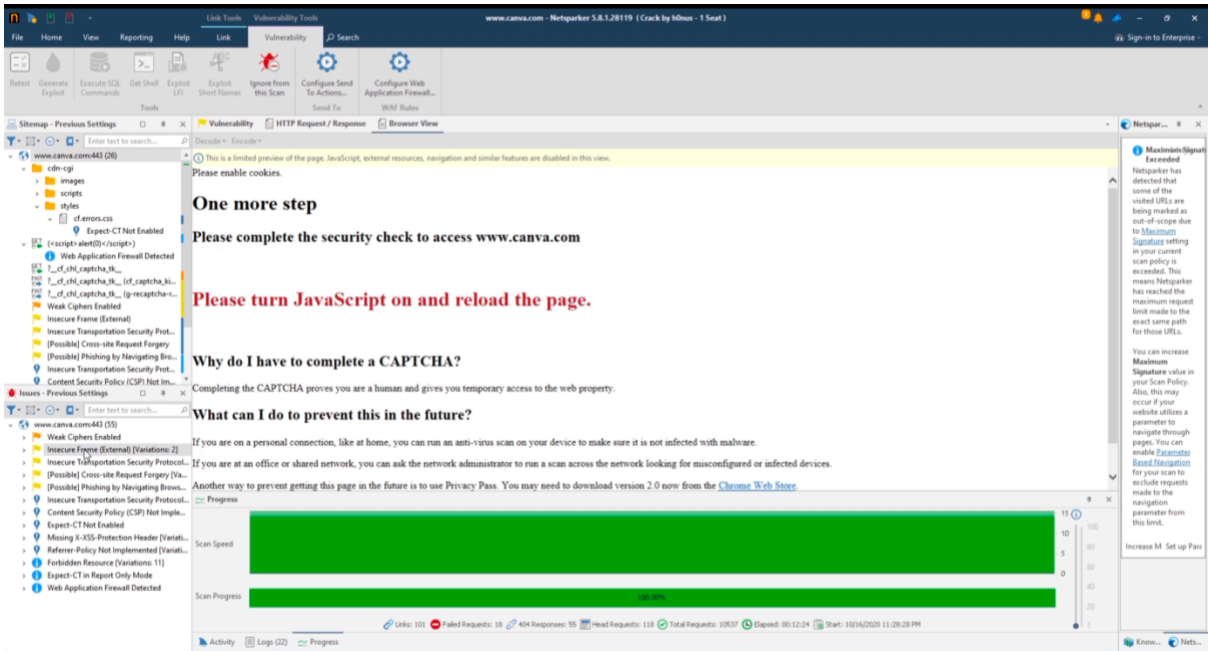

canva / Plugin #11219
Back to Vulnerabilities
Configure
Audit Trail
Launch
Report
Export
My Scans
All Scans
Trash
Policies
Plugin Rules
Scanners
Community
Research
Hosts 1
Vulnerabilities 2
History 1
INFO
Nessus SYN scanner
Description
This plugin is a SYN 'half-open' port scanner. It shall be reasonably quick even against a firewalled target.
Note that SYN scans are less intrusive than TCP (full connect) scans against broken services, but they might cause problems for less robust firewalls and also leave unclosed connections on the remote target, if the network is loaded.
Solution
Protect your target with an IP filter.
Output
Port 80/tcp was found to be open
Port
Hosts
80 / tcp
104.18.216.67
Port 443/tcp was found to be open
Port
Hosts
443 / tcp
104.18.216.67
Port 2652/tcp was found to be open
Plugin Details
Severity: Info
ID: 11219
Version: $Revision: 1.34 $
Type: remote
Family: Port scanners
Published: February 4, 2009
Modified: September 14, 2020
Risk Information
Risk Factor: None
Tenable News
CVE-2020-5135: Critical SonicWall VPN Portal Stack...
Read More

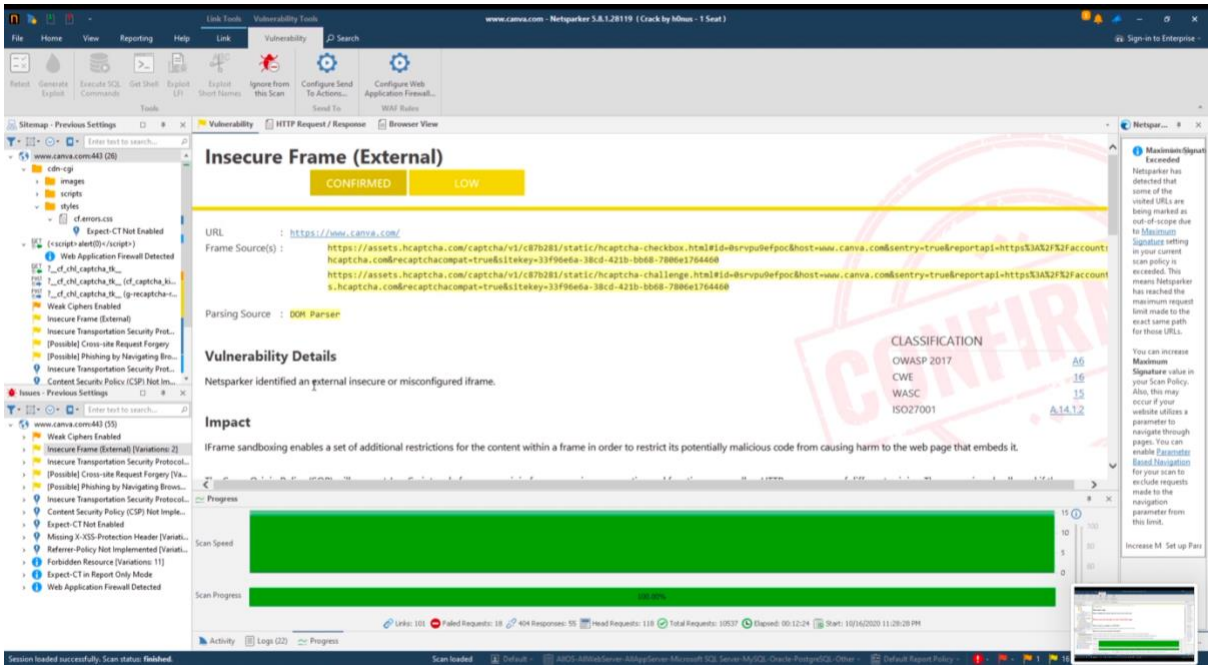


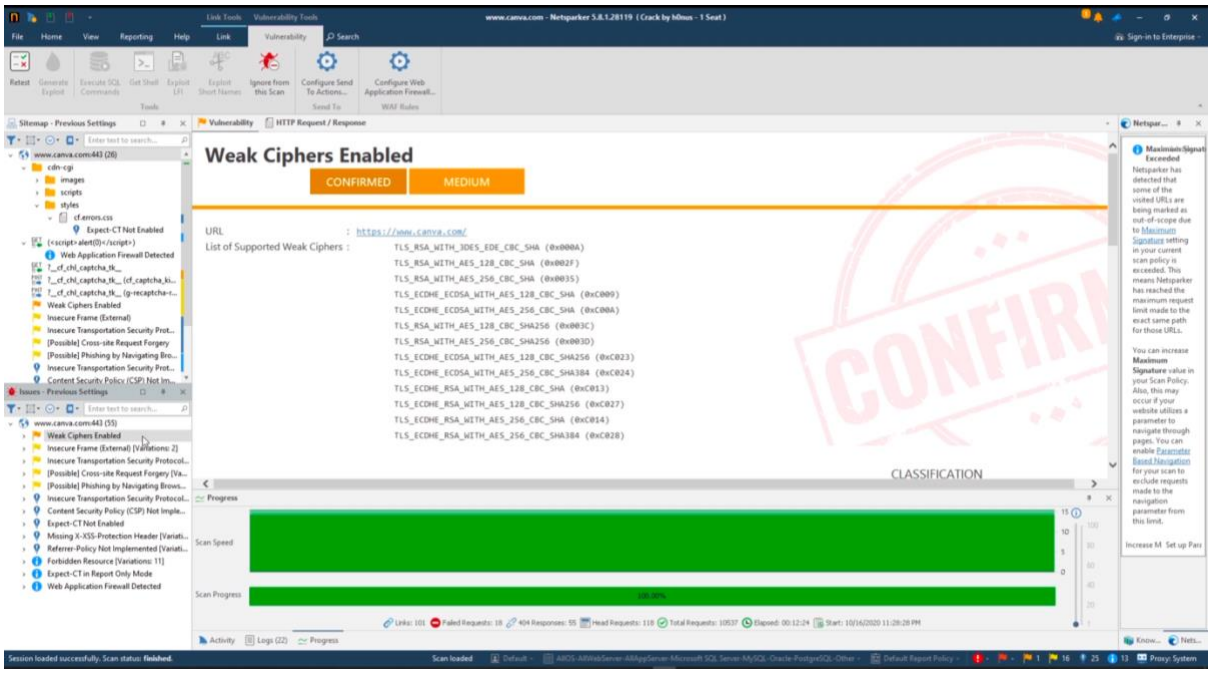
report by nessus as a result, the nessuss scan was not successful because I did not receive any high or critical vulnerabilities.

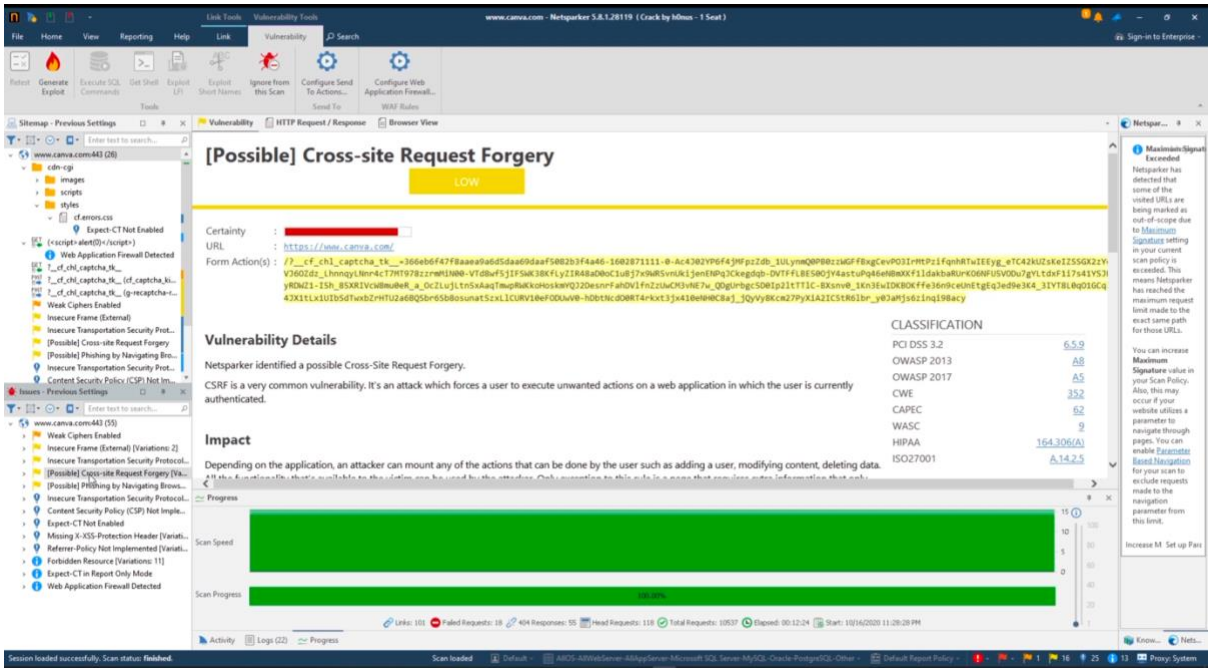
Netspaker is automated web application security scanner that allows you to scan websites, web apps, and web services for security issues while remaining fully customisable. Netsparker can scan any web application, independent of the platform or programming language used to create it. Netsparker is the only online web application security scanner that exploits discovered vulnerabilities in a read-only and secure manner to confirm concerns. It also provides evidence of the vulnerability, so you don't have to waste time manually validating it. For example, if a SQL injection vulnerability is found, the database name will be displayed as proof of exploit.

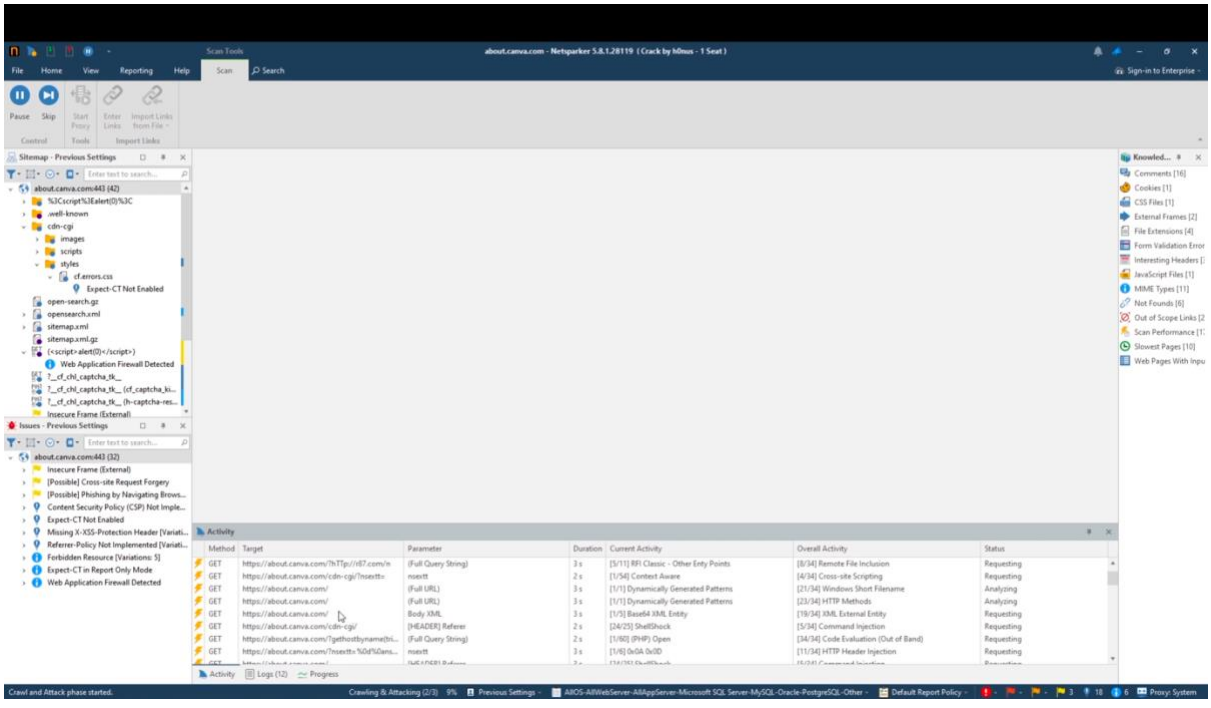





www.canva.com - Netsparker 5.8.1.28119 (Crack by hOnus - 1 Seat)
Insecure Frame (External)
CONFIRMED
LOW
URL : https://www.canva.com/
Frame Source(s) :
https://assets.hcaptcha.com/captcha/v1/c87b281/static/hcaptcha-checkbox.html#id=0srvpu9efpoc&host=www.canva.com&sentry=true&reportapi=https%3A%2F%2Faccounts.hcaptcha.com&recaptchacompat=true&sitekey=33f96e6a-38cd-421b-bb68-7806e1764460
https://assets.hcaptcha.com/captcha/v1/c87b281/static/hcaptcha-challenge.html#id=0srvpu9efpoc&host=www.canva.com&sentry=true&reportapi=https%3A%2F%2Faccounts.hcaptcha.com&recaptchacompat=true&sitekey=33f96e6a-38cd-421b-bb68-7806e1764460
Parsing Source : DOM Parser
Vulnerability Details
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.
CLASSIFICATION
OWASP 2017 A6
CWE 16
WASC 15
ISO27001 A14.1.2


www.canva.com - Netsparker 5.8.1.28119 (Crack by hOnus - 1 Seat)
Weak Ciphers Enabled
CONFIRMED
MEDIUM
URL : https://www.canva.com/
List of Supported Weak Ciphers :
TLS_RSA_WITH_3DES_EDE_CBC_SHA (0x000A)
TLS_RSA_WITH_AES_128_CBC_SHA (0x002F)
TLS_RSA_WITH_AES_256_CBC_SHA (0x0035)
TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA (0xC009)
TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA (0xC00A)
TLS_RSA_WITH_AES_128_CBC_SHA256 (0x003C)
TLS_RSA_WITH_AES_256_CBC_SHA256 (0x003D)
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_128_CBC_SHA256 (0xC027)
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA (0xC014)
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 (0xC028)
CLASSIFICATION


[Possible] Cross-site Request Forgery
LOW
Certainty :
URL : https://www.canva.com/
Form Action(s) :
Vulnerability Details
Netsparker identified a possible Cross-Site Request Forgery.
CSRF is a very common vulnerability. It's an attack which forces a user to execute unwanted actions on a web application in which the user is currently authenticated.
Impact
Depending on the application, an attacker can mount any of the actions that can be done by the user such as adding a user, modifying content, deleting data.
CLASSIFICATION
PCI DSS 3.2 6.5.9
OWASP 2013 A8
OWASP 2017 A5
CWE 352
CAPEC 62
WASC 9
HIPAA 164.306(A)
ISO27001 A.14.2.5



Conclusion

To do my site audit, I employed a variety of technologies , Sublist3r, Nmap, Nikto, Nessuss, and Netsparker are the tools in question. However, none of the above scans revealed any high, critical, or impactful vulnerabilities in the canva.com domain. As a result, in my opinion, canva.com is a significantly more secure web application.