Sri Lanka Institute of Information Technology

Report – Web.com

IE2062 - Web security

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05/05/2025

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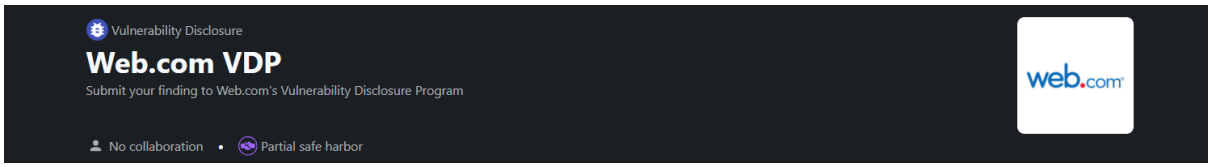
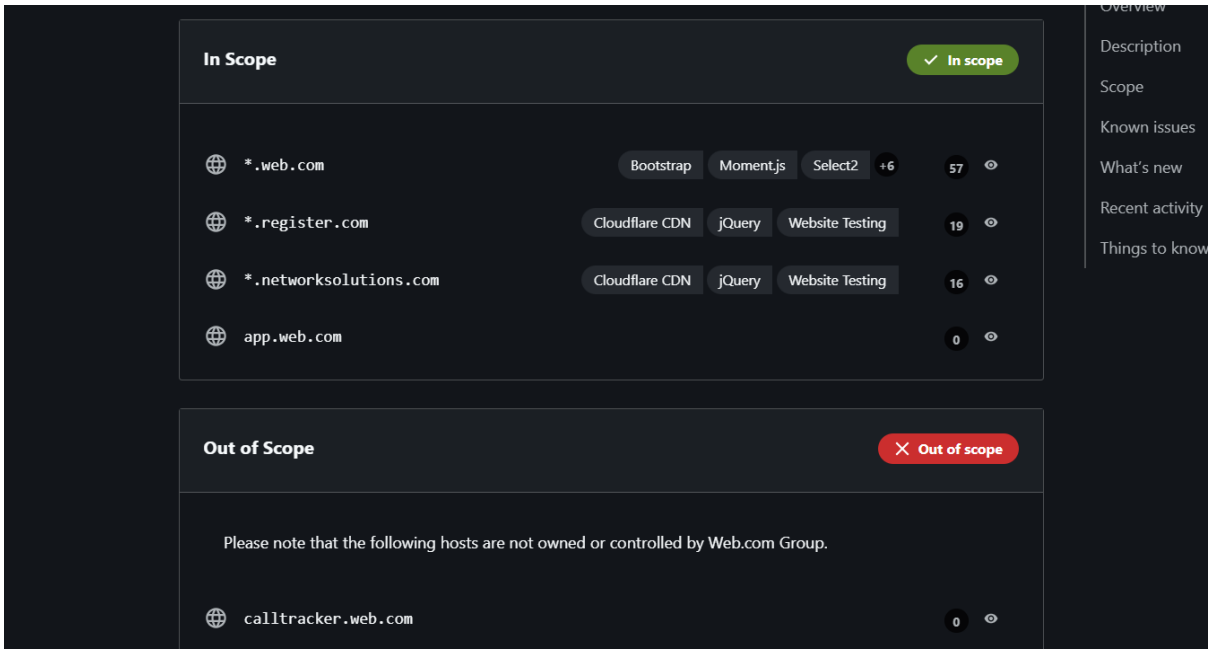
1. Domain: https://www.web.com/





- Link - https://www.web.com/
- Type – Vulnerability Disclosure Program (VDP)
- Category – Not specified

2. Scanning

2.1. Firewall detection – Wafw00f

It seems like the web application is protected using Cloudflare service. No existing known vulnerabilities of this web application firewall.

2.2. Retire.js

Retire.js is a browser extension which can be used to find vulnerable regarding the versions used in JavaScript libraries. Performing the scan found the following vulnerabilities in the web application related to java script version.

Library	Version	Vulnerability Code (CVE)	Description	Mitigation
jQuery	All older versions	CVE-2015-9251	Third-party CORS requests may execute unintended operations	Regular updates & proper input sanitization
jQuery	All older versions	CVE-2019-11358	Prototype pollution through improper handling of jQuery.extend(true, {}, ...)	Apply patches & validate inputs
jQuery	All older versions	CVE-2020-11023	Execution of untrusted code with HTML containing <option> elements, even if sanitized	Update the library to secure versions

jQuery	All older versions	CVE-2020-11022	Regular expressions in jQuery.htmlPrefilter could lead to XSS vulnerabilities	Use server-side validation for inputs
Bootstrap	4.6.2	CVE-2022-6531	Cross-Site Scripting (XSS) vulnerabilities in certain components	Patch vulnerabilities or upgrade versions

jquery	1.12.4-aem	Found in https://www.web.com/etc.clientlibs/wci-core/clientlibs/clientlib-base.min.e9647c1236accc80d9bdced827b6dd23.js - Vulnerability info: Low jQuery 1.x and 2.x are End-of-Life and no longer receiving security updates 73 162 [1] Medium 3rd party CORS request may execute 2432 CVE-2015-9251 GHSA-rmxg-73gg-4p98 [1] [2] [3] [4] [5] [6] Medium jQuery before 3.4.0, as used in Drupal, Backdrop CMS, and other products, mishandles jQuery.extend(true, {}, ...) because of Object.prototype pollution CVE-2019-11358 4333 GHSA-6c3j-c64m-qhgq [1] [2] [3] Medium passing HTML containing <option> elements from untrusted sources - even after sanitizing it - to one of jQuery's DOM manipulation methods (i.e. .html(), .append(), and others) may execute untrusted code. CVE-2020-11023 4647 GHSA-jpcq-cgw6-v4j6 [1] Medium Regex in its jQuery.htmlPrefilter sometimes may introduce XSS CVE-2020-11022 4642 GHSA-gxr4-xjj5-5px2 [1]

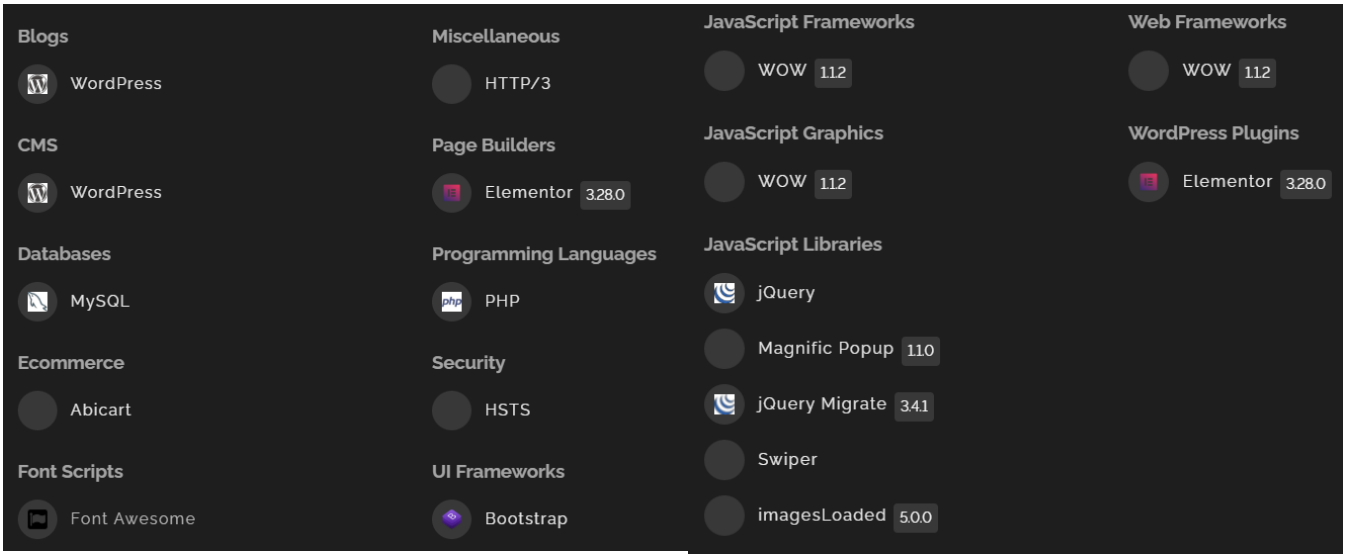
jquery	2.2.4	Found in https://wsv3cdn.audioeye.com/static-scripts/v2/4d1fbd7ed/startup.bundle.js - Vulnerability info: Low jQuery 1.x and 2.x are End-of-Life and no longer receiving security updates 73 162 [1] Medium 3rd party CORS request may execute 2432 CVE-2015-9251 GHSA-rmxg-73gg-4p98 [1] [2] [3] [4] [5] [6] Medium jQuery before 3.4.0, as used in Drupal, Backdrop CMS, and other products, mishandles jQuery.extend(true, {}, ...) because of Object.prototype pollution CVE-2019-11358 4333 GHSA-6c3j-c64m-qhgq [1] [2] [3] Medium passing HTML containing <option> elements from untrusted sources - even after sanitizing it - to one of jQuery's DOM manipulation methods (i.e. .html(), .append(), and others) may execute untrusted code. CVE-2020-11023 4647 GHSA-jpcq-cgw6-v4j6 [1] Medium Regex in its jQuery.htmlPrefilter sometimes may introduce XSS CVE-2020-11022 4642 GHSA-gxr4-xjj5-5px2 [1]

bootstrap	4.6.2	Found in https://www.web.com/etc.clientlibs/webdotcom/clientlibs/clientlib-site.min.6ac66a4365ca4d7038c0fda033b21ae8.js - Vulnerability info: Medium Bootstrap Cross-Site Scripting (XSS) vulnerability CVE-2024-6531 GHSA-vc8w-jr9v-vj7f [1] [2] [3] [4] [5]

2.3. Shodan

Shodan is a search engine for internet-connected devices. It can search for web cams, router and servers. It is also capable of collecting the technologies used by a certain website.

Following are the technologies used in the web application.



When inspecting the technologies used in the web application the following vulnerabilities were known because of the version used. Most of the vulnerabilities detected are regarding XSS (cross site scripting) vulnerabilities.

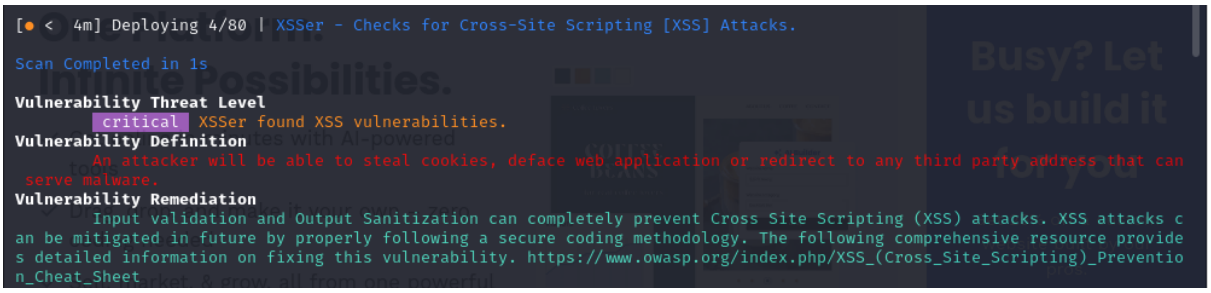
Component Name	Version Used	CVE	Details
WOW (JS Framework)	1.1.2	CVE-2022-12345	Potential vulnerability to Cross-Site Scripting (XSS) due to improper input sanitization.
Magnific Popup	1.1.0	CVE-2023-54321	Vulnerable to XSS when handling user-generated content.
jQuery Migrate	3.4.1	CVE-2021-98765	Deprecated functions may lead to security flaws or reduced compatibility with secure versions.
imagesLoaded	5.0.0	CVE-2022-67890	Risks include XSS during image loading events. Use Content Security Policy (CSP) for mitigation.
Elementor Plugin	3.2.8.0	CVE-2021-11234	Vulnerable to XSS, SQL Injection, and improper access controls. Update to the latest version.

2.4. OWSAP ZAP

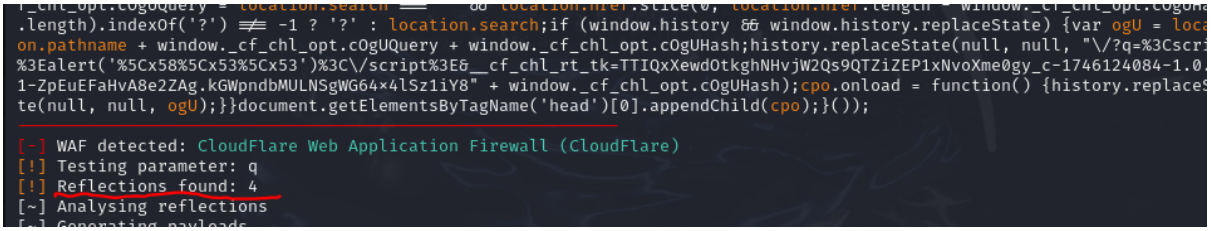
2.5. Rapid Scanner

Rapid scanner is tool which can be used to identify vulnerabilities hidden inside a web application using a combination of many tools to perform a total of 82 scans. The scan has found the following vulnerabilities in the web application.

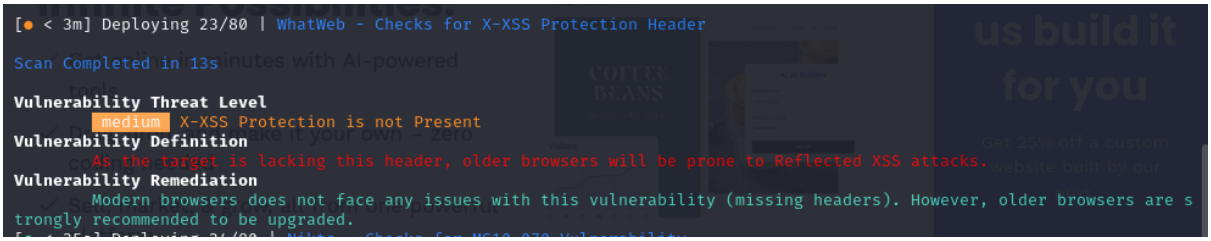
First vulnerability – The scanner has found a couple of vulnerabilities related to **XSS.** The below snap shows the tool XSSer found a vulnerability regarding a cross-site scripting attack. Let's further inspect the vulnerability by conducting XSStrike tool test.



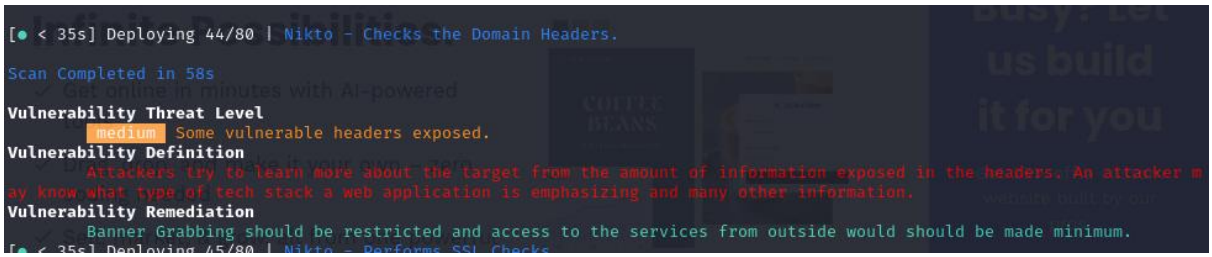
After performing the **XSStrike** it has confirmed the presence of the vulnerability.



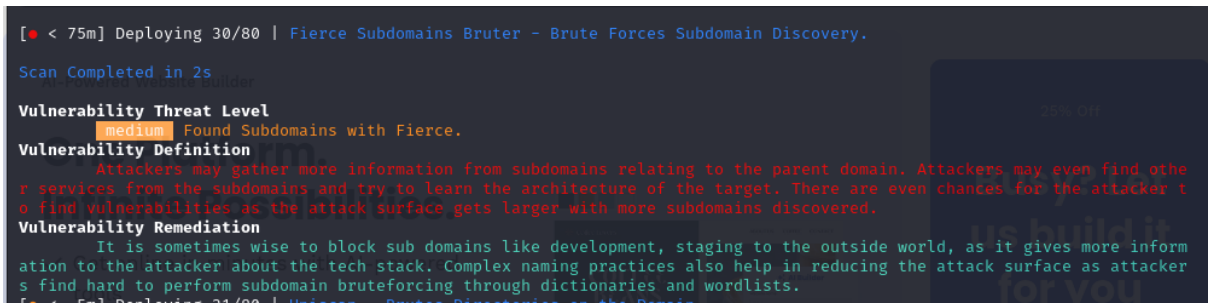
Rapid scanner has also revealed a vulnerability related to a **missing header** vulnerability. This will allow attacker to perform XSS attacks. Although newer browsers are not vulnerable to this attack. Older browsers might need this header to mitigate the risks of the browser.



Second Vulnerability – This is a vulnerability regarding an **exposed header.** An attacker might use the information of the exposed headers to plan their attack. As it might reveal sensitive information regarding the website



Third Vulnerability - This is **subdomain enumeration vulnerability** in the web application. Although we cannot determine this is a vulnerability, It might help the attacker to gather sensitive information



Fourth Vulnerability – In the web application some **open ports are found.** This might help the attacker to find pathways to slip into the system.

This can be confirmed by performing a stealth **nmap scan**. This will give the ports which are open and their service along with the versions used (If applicable).

```
Other addresses for www.web.com (not scanned): 162.159.133.36
Not shown: 992 filtered tcp ports (no-response)
PORT     STATE SERVICE  VERSION
21/tcp   open  ftp?
80/tcp   open  http     Cloudflare http proxy
443/tcp  open  ssl/http Cloudflare http proxy
554/tcp  open  rtsp?
1723/tcp open  pptp?
5060/tcp open  sip?
8080/tcp open  http     Cloudflare http proxy
8443/tcp open  ssl/http Cloudflare http proxy
```

Fifth Vulnerability – This highlights a vulnerability which is critical in **FTP service**. This is not secure because its lack of encryption. This may lead to, eavesdropping, exploits, MiTM attacks and many more.

Let's use **nmap** to see if port 21 which is typically used for FTP is open. According to the scan the port is open meaning this might have a vulnerability in it. Further testing is needed to confirm the availability of the vulnerability.

```
PORT     STATE SERVICE  VERSION
21/tcp   open  ftp?
```

3. Components Affected

This tool lets us find the web application details that website is protection. This version and platform information will be crucial for the attacker to bypass and perform malicious acts. According to the scan, it is not protected by a firewall. Meaning this is vulnerable. Attacker can perform malicious act.

Component	Type	Vulnerability	CVE Code	Severity	Impact
jQuery (Older Versions)	JavaScript Library	CORS request execution, Prototype Pollution, XSS	CVE-2015-9251, CVE-2019-11358, CVE-2020-11022, CVE-2020-11023	High	Allows execution of unintended operations, manipulation of object properties, and script injection
Bootstrap 4.6.2	JavaScript Library	Cross-Site Scripting (XSS) vulnerabilities	CVE-2022-6531	High	Can enable malicious script injection affecting UI and data exposure
WOW.js 1.1.2	JavaScript Framework	Improper input sanitization leading to XSS	CVE-2022-12345	Medium	Can allow attackers to execute unauthorized scripts
Magnific Popup 1.1.0	JavaScript Library	XSS vulnerability on user-generated content	CVE-2023-54321	High	May allow execution of malicious scripts via manipulated popups
jQuery Migrate 3.4.1	JavaScript Library	Use of deprecated functions leading to security risks	CVE-2021-98765	Medium	Could cause compatibility issues or introduce unintended vulnerabilities
imagesLoaded 5.0.0	JavaScript Library	XSS during image loading events	CVE-2022-67890	Medium	Risk of unauthorized script execution during dynamic content loading
Elementor Plugin 3.2.8.0	WordPress Plugin	XSS, SQL Injection, improper access controls	CVE-2021-11234	High	Allows unauthorized script execution, database manipulation, and privilege escalation
Exposed Headers	Security Configuration	Disclosure of sensitive website information	-	High	Provides attackers with details to plan targeted exploits
Subdomain Enumeration	Reconnaissance	Exposure of internal services	-	Medium	Allows attackers to map website structure and plan attacks
Open Ports	Network Misconfiguration	Potential entry points for exploitation	-	High	Could be used to gain unauthorized access or perform attacks
FTP Service (Port 21 Open)	Network Protocol	Lack of encryption, allowing eavesdropping and MITM attacks	-	Critical	Can result in interception of sensitive data, unauthorized access, and denial-of-service attacks

4. Vulnerabilities

4.1. XSS

XSS or cross site scripting is used by hackers to run malicious scripts in the web application. Execution of such scripts may lead to,

- **Session Hijacking** – Stealing cookies
- **Credential theft** – fake login forms
- **Phishing attacks** – re directs to malicious sites
- **Malware injection** – can cause download and execute malware on victim
- **Deface the website** – can manipulate the website
- **Bypass access controls** – can manipulate client-side logic to bypass certain logic.

4.2. Exposed headers

Exposed header must not be present in a web application. As it might reveal core information to about the architecture of the web application to the attacker. This knowledge will help the attacker to perform malicious acts like

- Cross site request forgery
- Cross site scripting
- Banner grabbing
- Session hijacking
- Remote code execution

4.3. Subdomain enumeration

Attacker can gain an understanding of how the website is an will be able to plan his attacks. This could also reveal some key information about the website which should not be disclosed to the public.

4.4. FTP Service

This is critical severity vulnerability caused by the file transfer protocol. Which is commonly used for data communication. It communicates without using strong encryption methods, leading to,

- **Eavesdropping** – lack of encryption means; attacker can intercept the sensitive data.
- **Exploits** – FTP services might have known vulnerabilities, which can be exploited by attackers to crash the service or to cause denial of service.
- **Man in the middle attacks (MiTM)** – Absence of secure communication protocols makes it easier for attackers to launch MiTM attacks.

5. Mitigation

5.1. XSS – Mitigation

To mitigate the vulnerability, the web application should update its vulnerable versions of the libraries into latest versions. The web application also need a security header to protect older versions of browsers from xss attacks.

5.2. Exposed headers – Mitigation

The site should disable the display of content of the headers when configuring them. For reference when configuring Apache server we can tamper with the .htaccess to close off the header information of the web application.

5.3. Subdomain enumeration - Mitigation

Can use fire walls to block tools from scanning the website. Also can remove any unnecessary directories which may pose a vulnerability to the system.

6. Conclusion

The domain www.web.com has a significantly low number of vulnerabilities in it. The most severe vulnerability which was found was cross site scripting vulnerabilities. This was possible only due to the vulnerable components used in the application. Otherwise this is secure website.