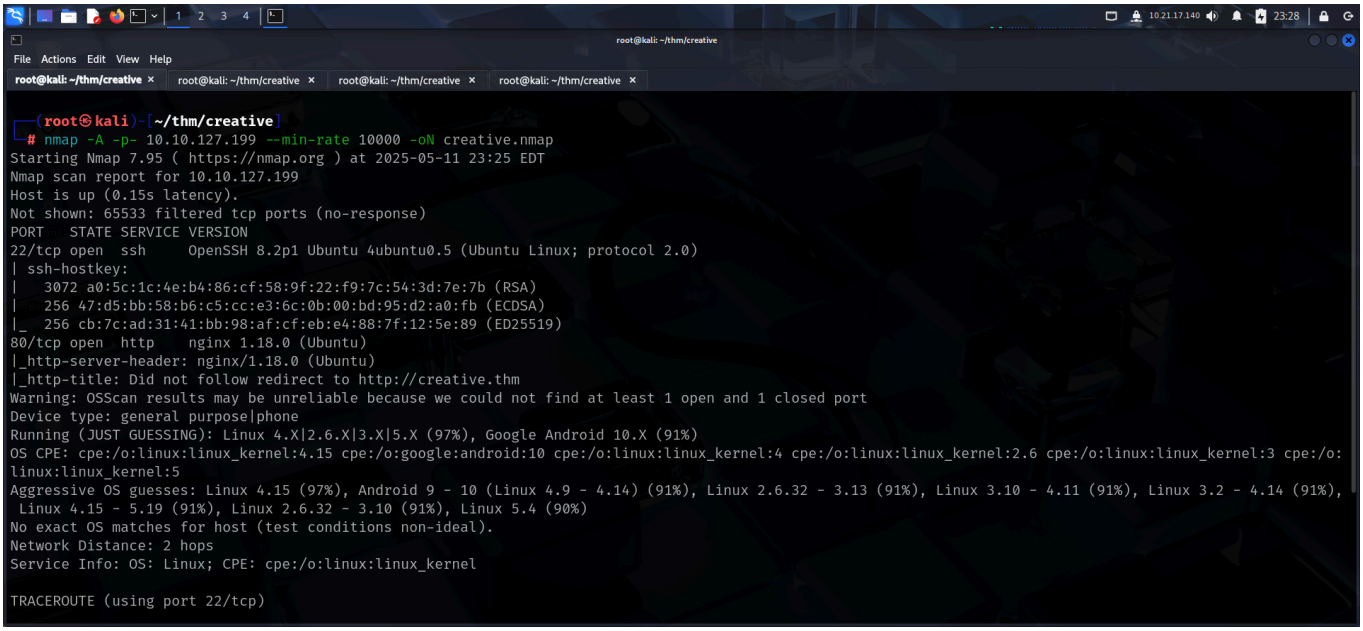
CREATIVE

To access the machine, click on the link given below:
https://tryhackme.com/room/creative

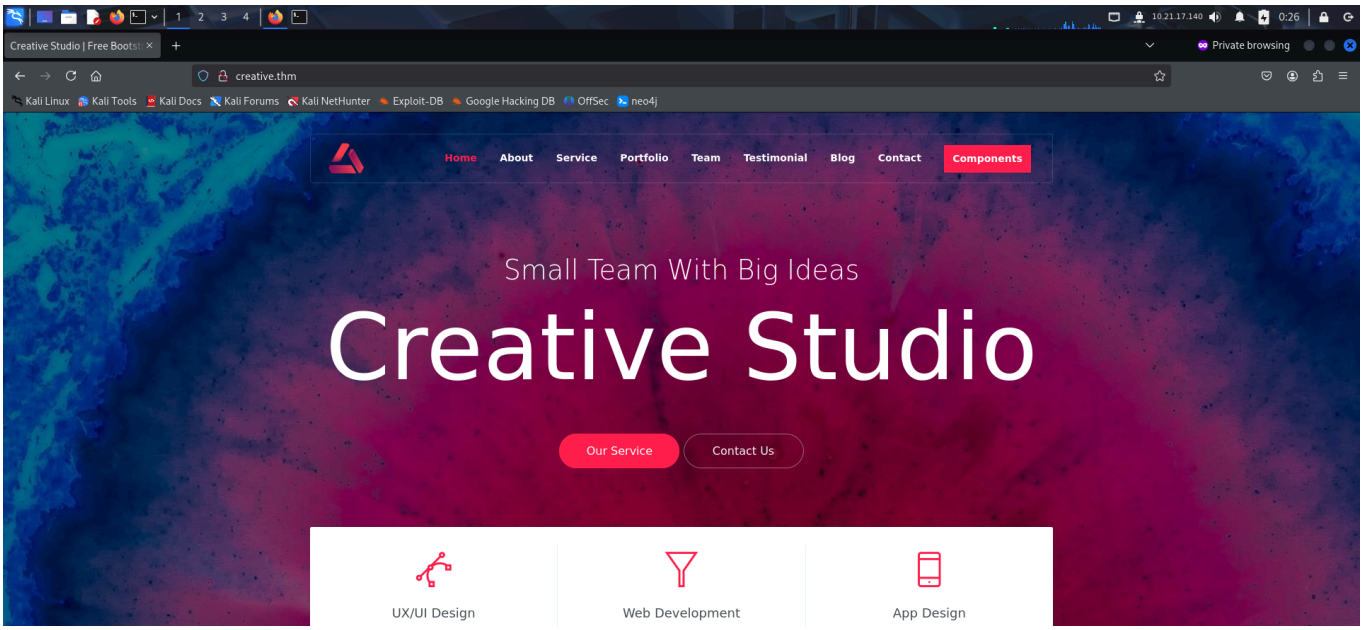
SCANNING

I performed an **nmap** aggressive scan on the target to identify open ports and the services running on them.

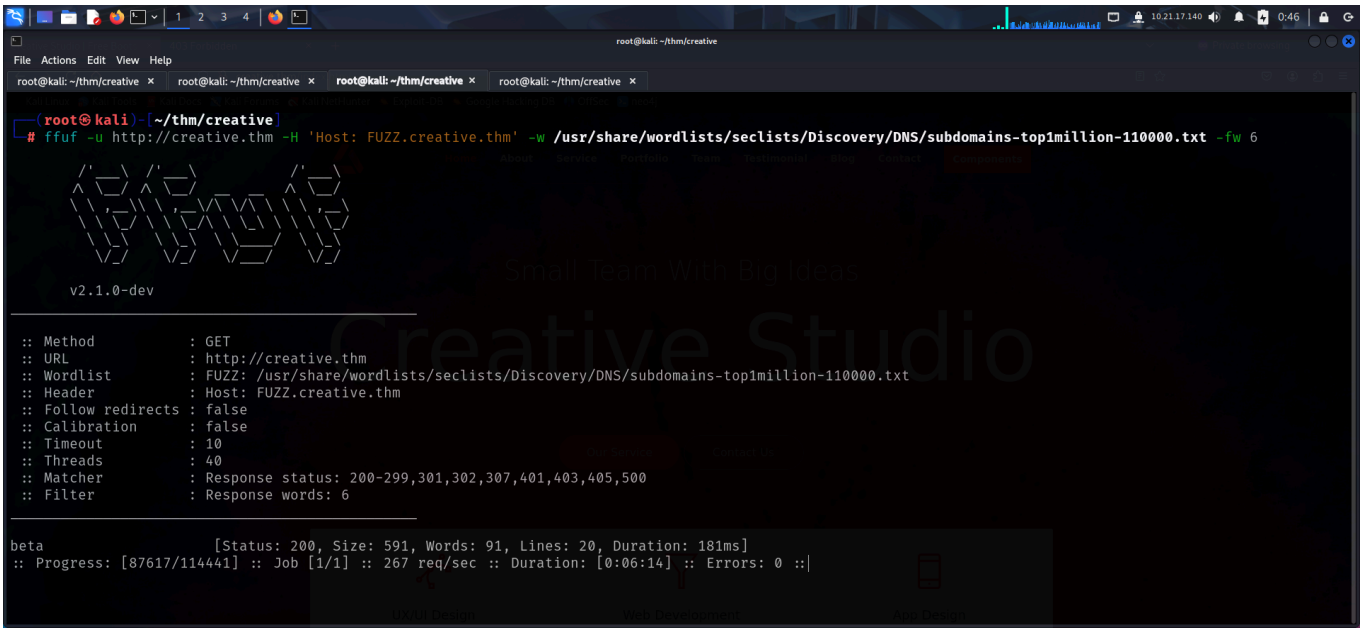


FOOTHOLD

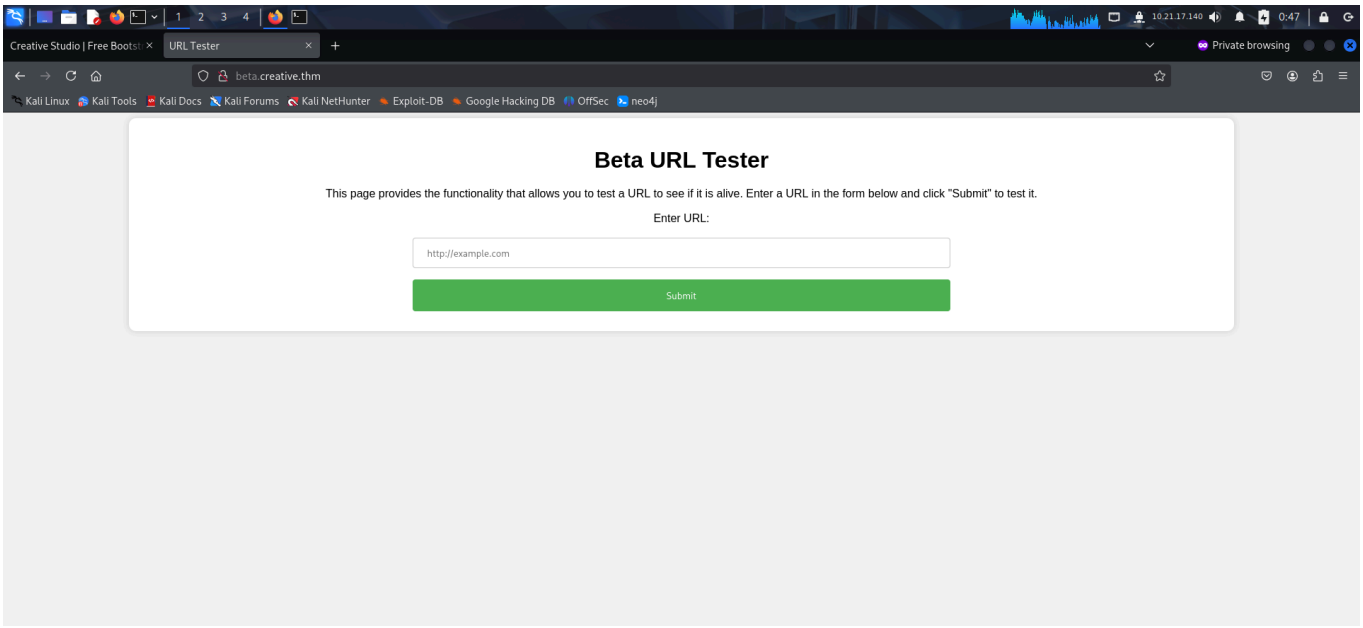
I was able to discover a web server running so I added the IP in my `/etc/hosts` file and accessed the web server through my browser.



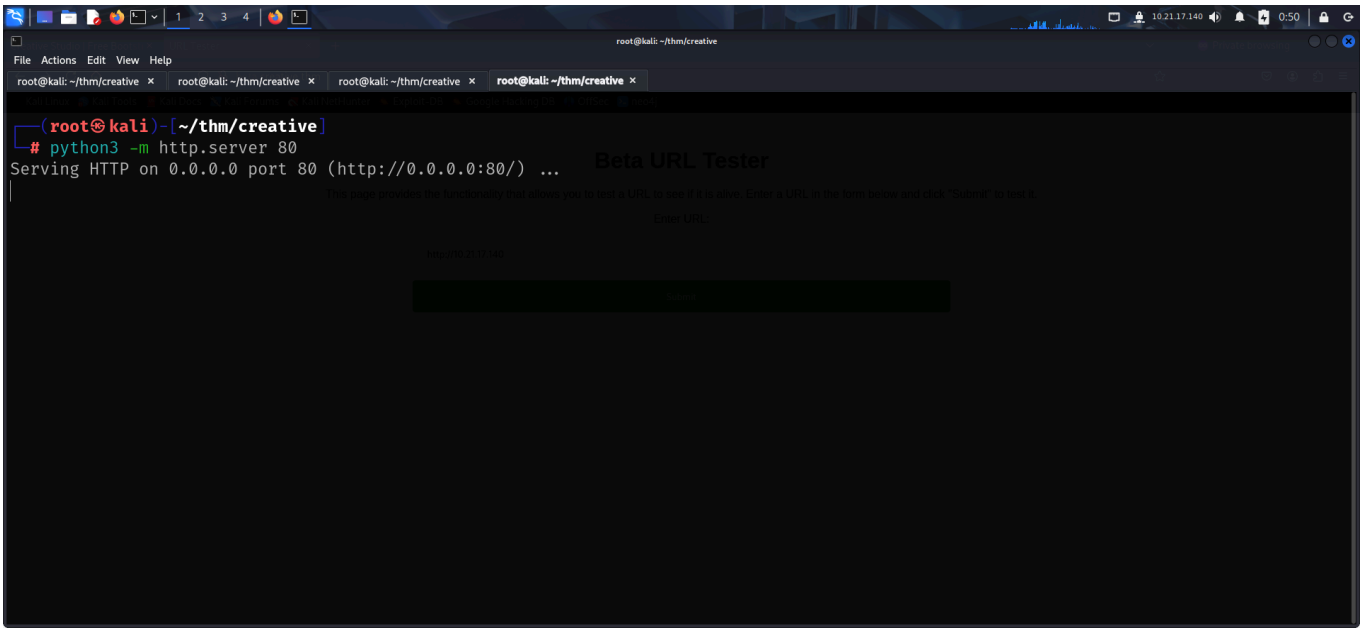
I tried looking for files, directories but found nothing. I then enumerated subdomains and found 1.

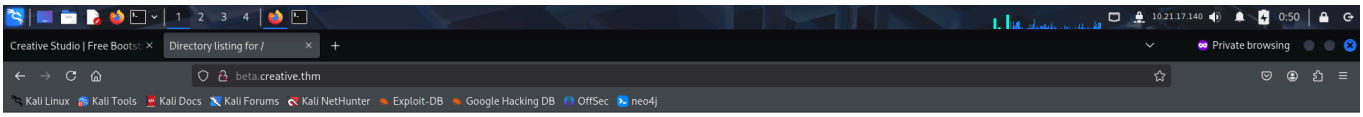


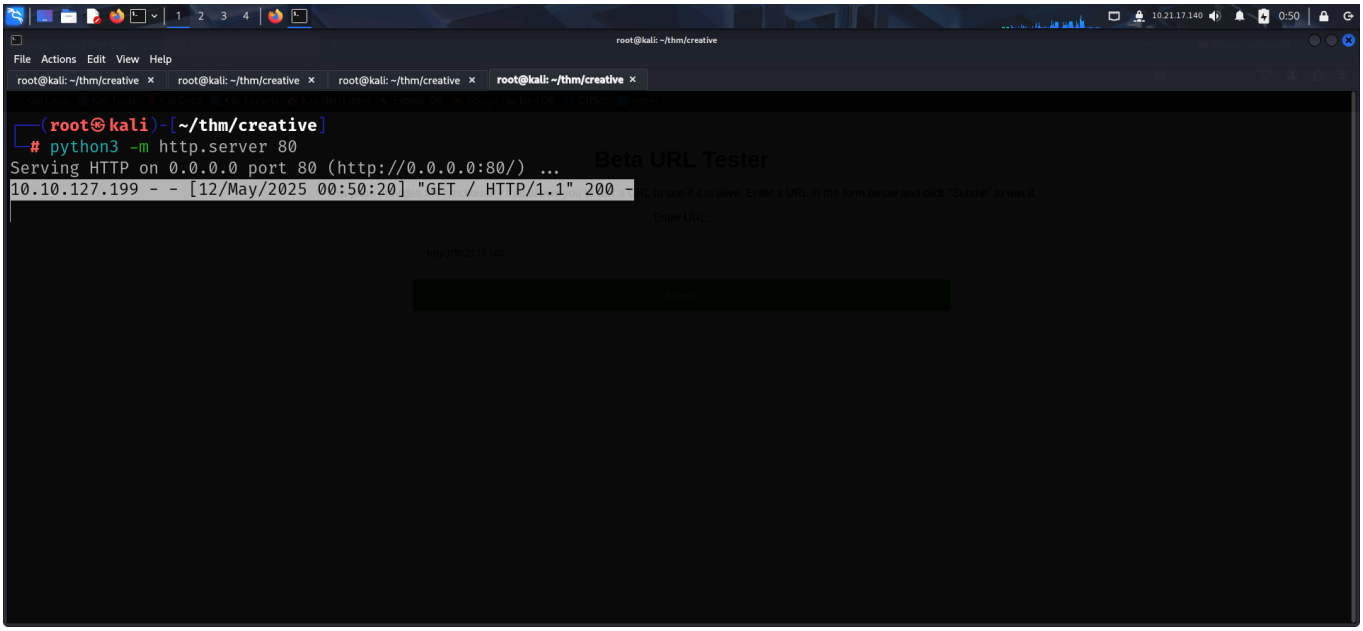
After adding the subdomain in the `hosts` file, I accessed it and found an interesting feature. It allowed us to send request to a website to see if it is active.



I started an **http** server on my local system and tried accessing it through the application.

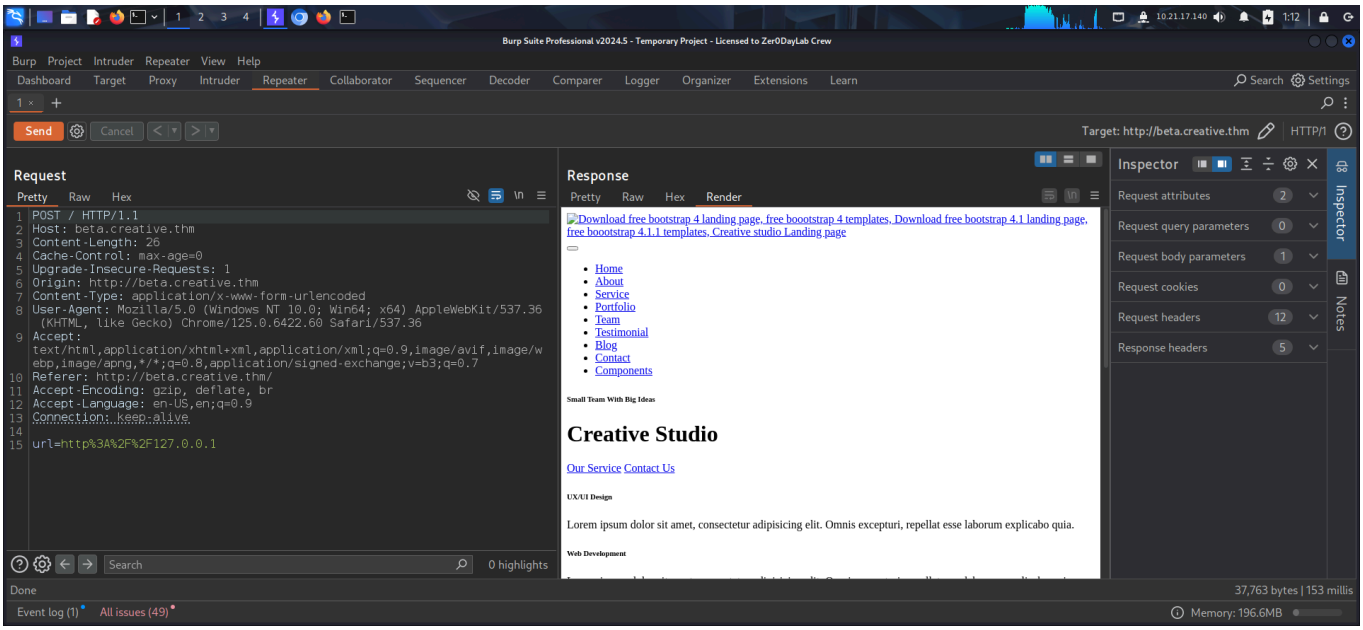




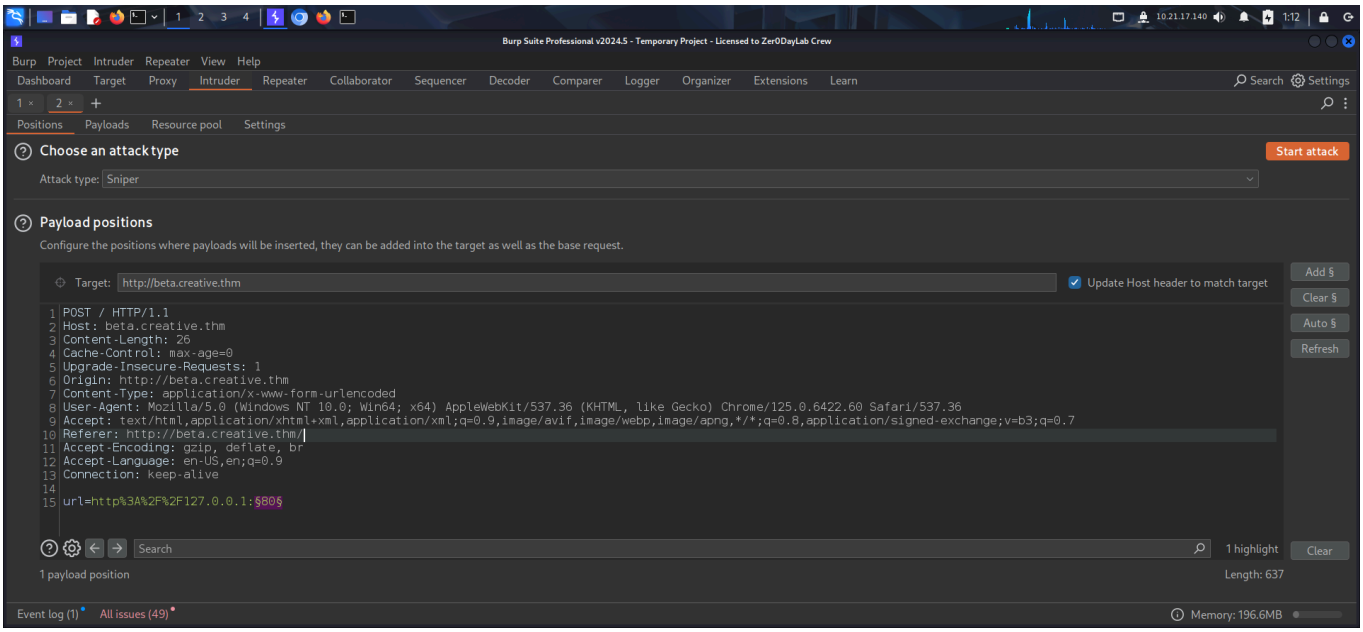


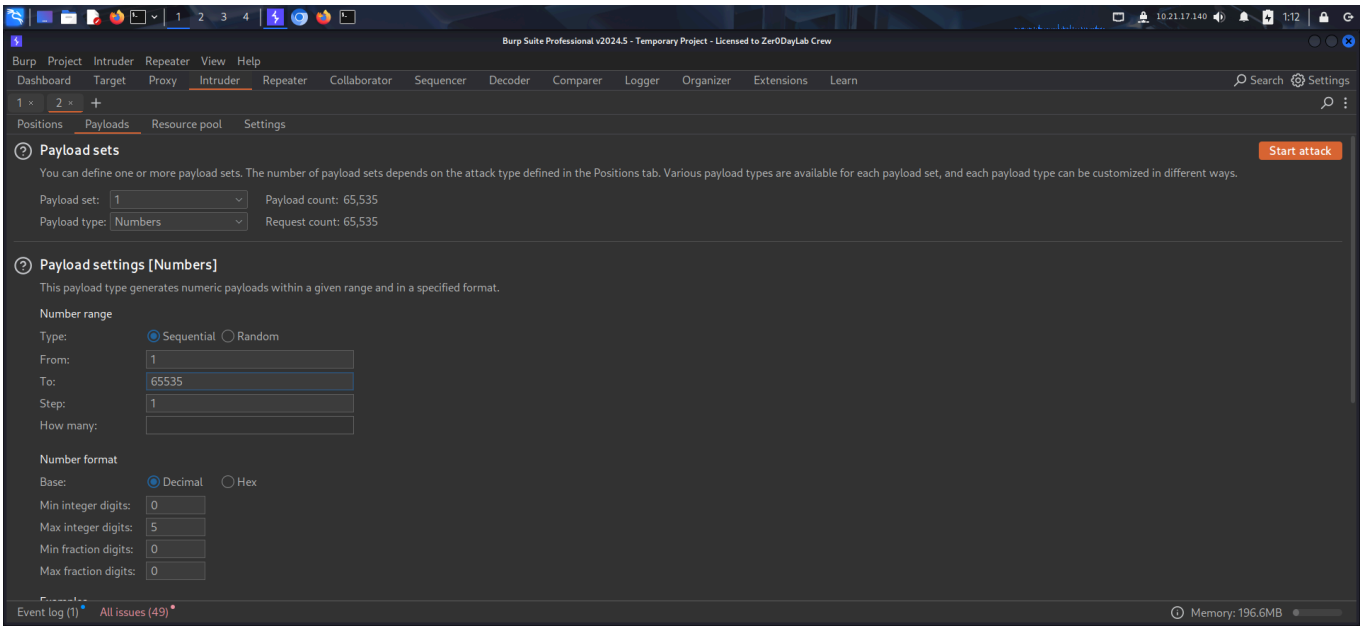
Since I was able to make the server send requests, I tried using it to execute php, js, python payloads but none of them seemed to work. The application simply displayed the contents of the files. Out of curiosity, I tried accessing the localhost and found the rendered html of the domain.

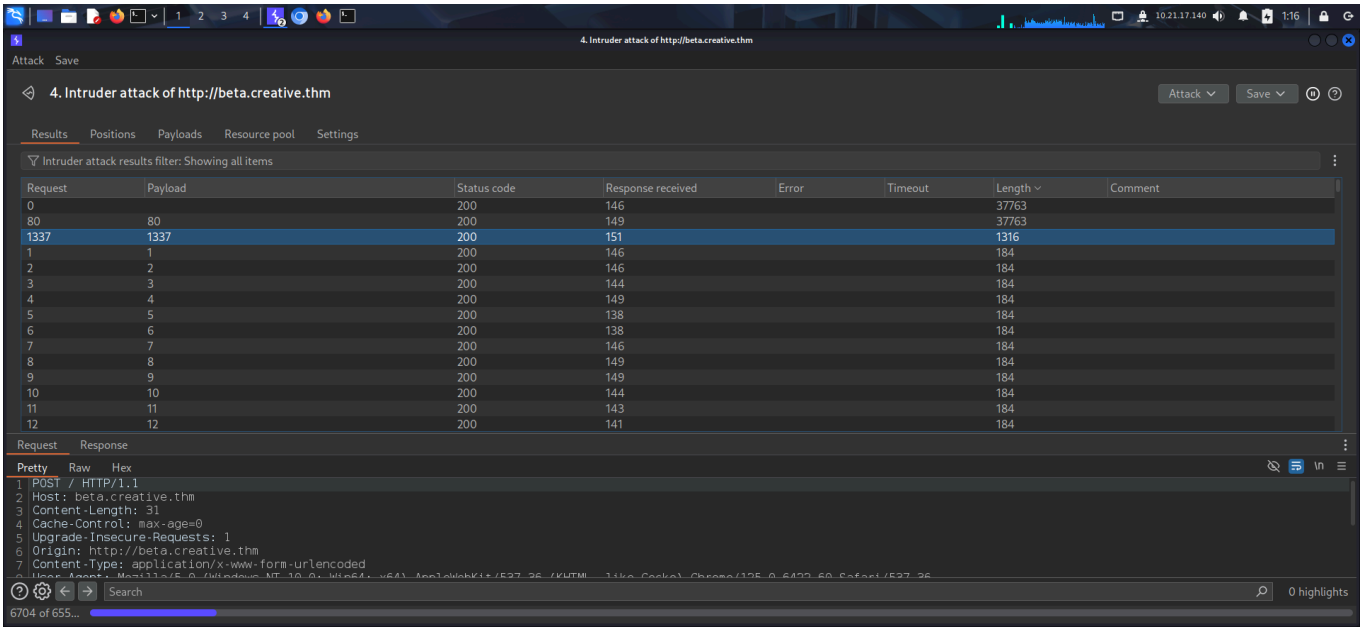
I then fired up Burp and tried analyzing it in an efficient manner.



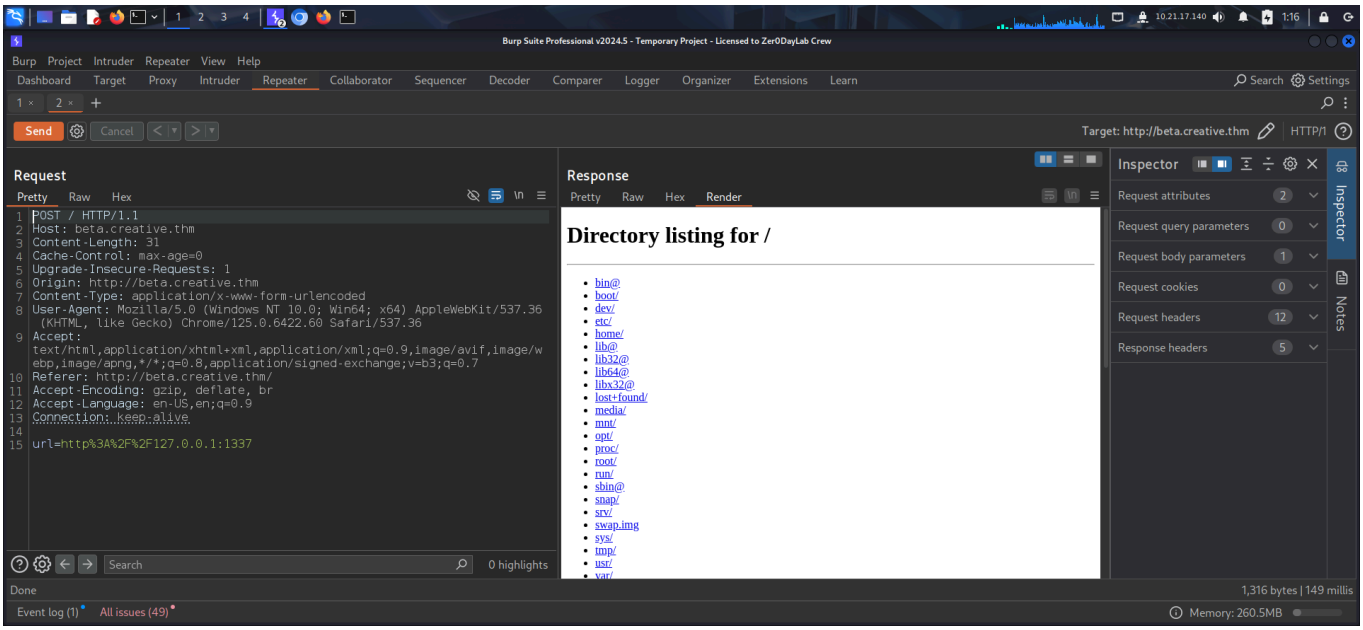
So, if the page existed, I would get the rendered contents of the page else, I would receive an error. I exploited this behavior to scan internal ports using intruder.



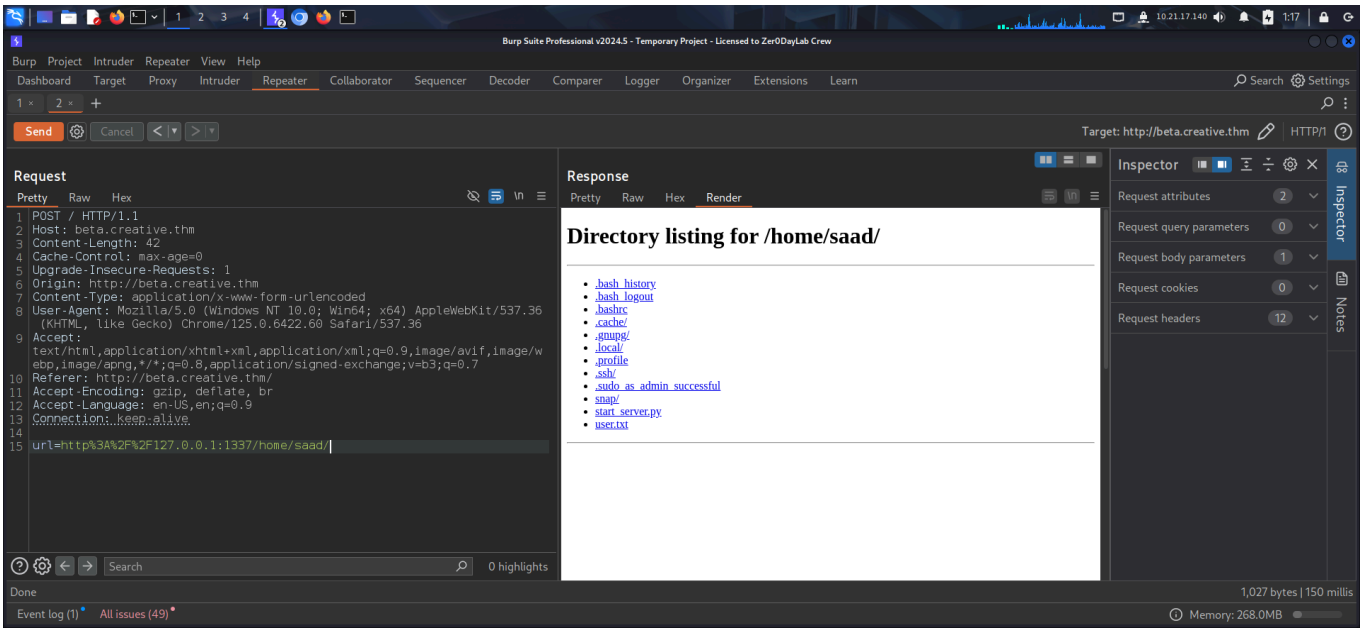


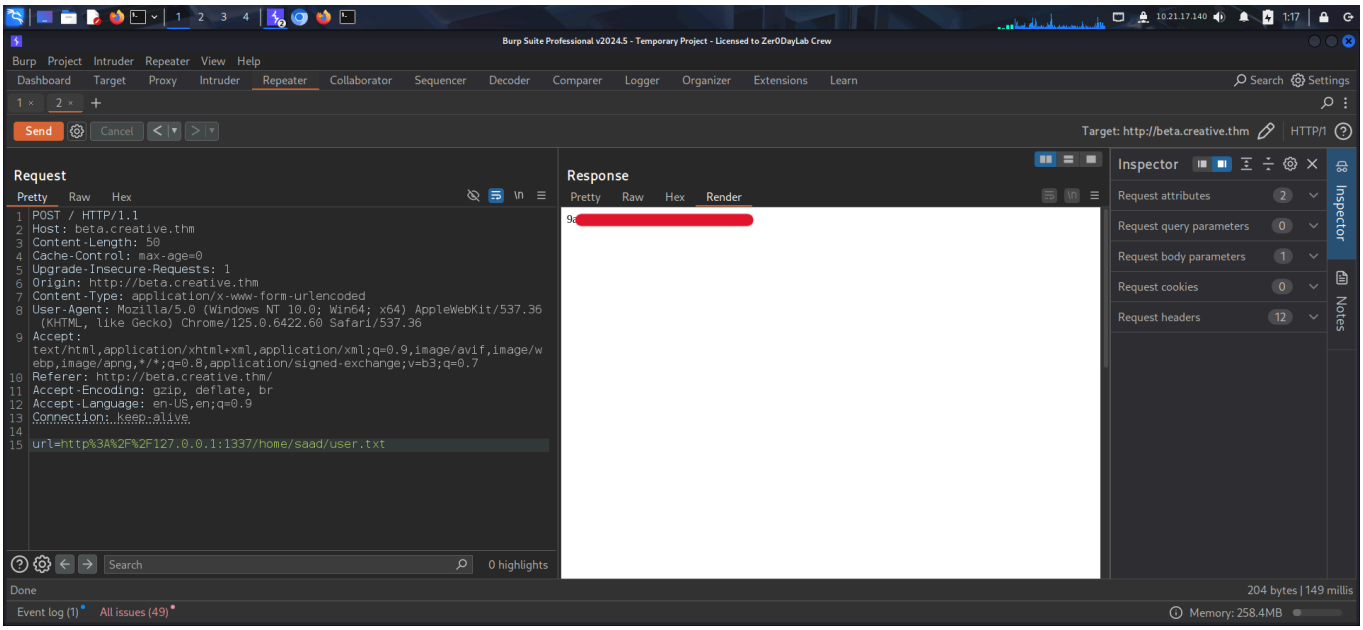


I found port 1337 to be hosting the root directory.

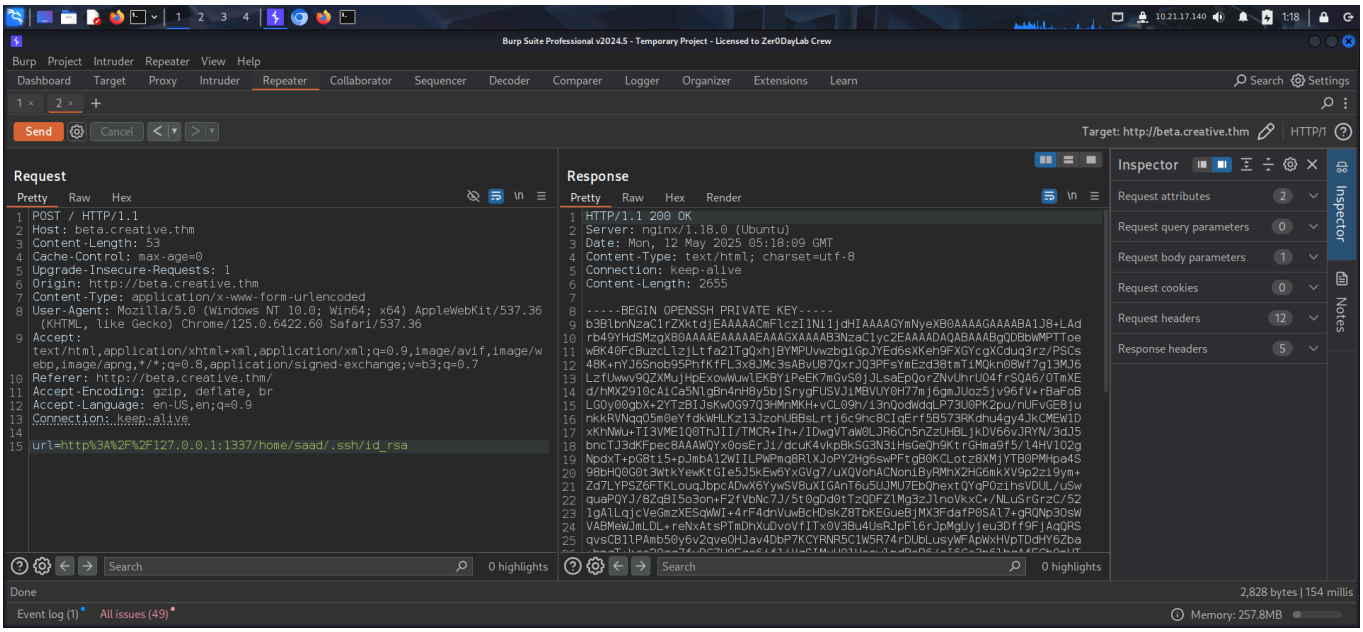


I was then able to access the user flag from *saad*'s home directory.

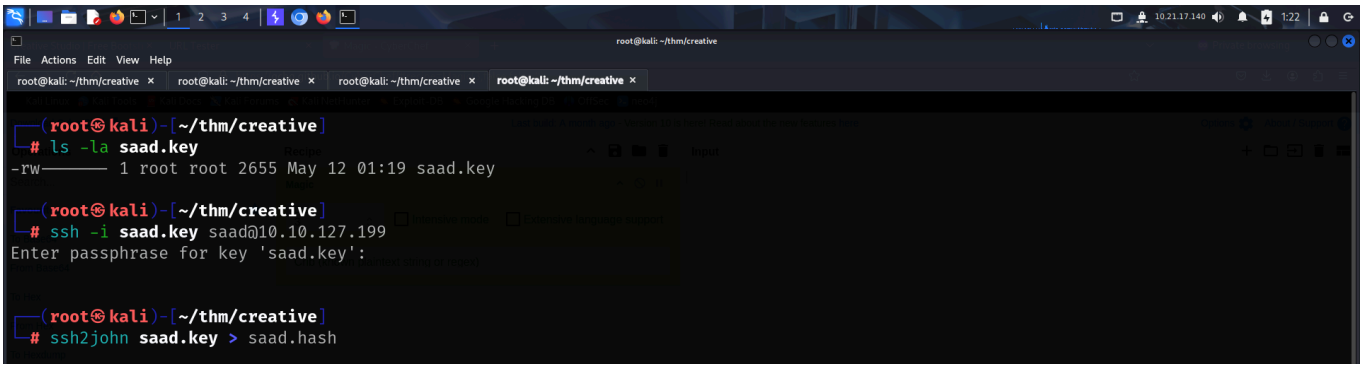


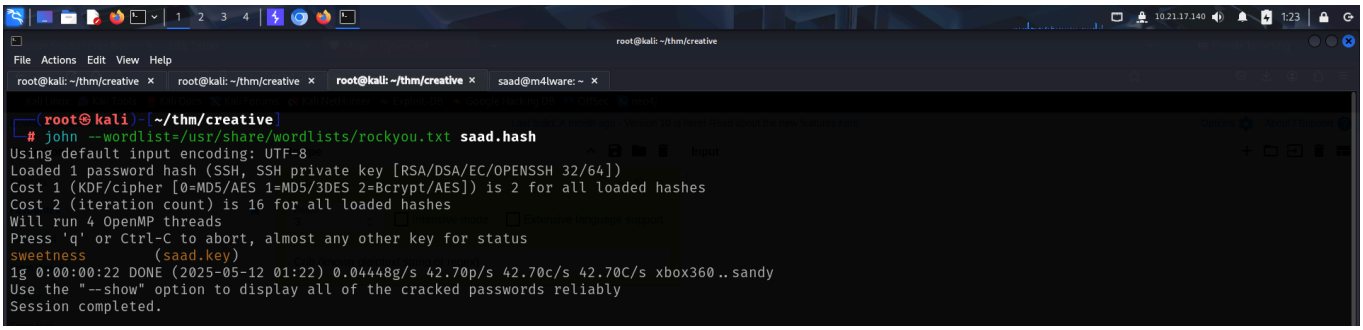


I also found `saad`'s **ssh** keys and copied the private key onto my local system.

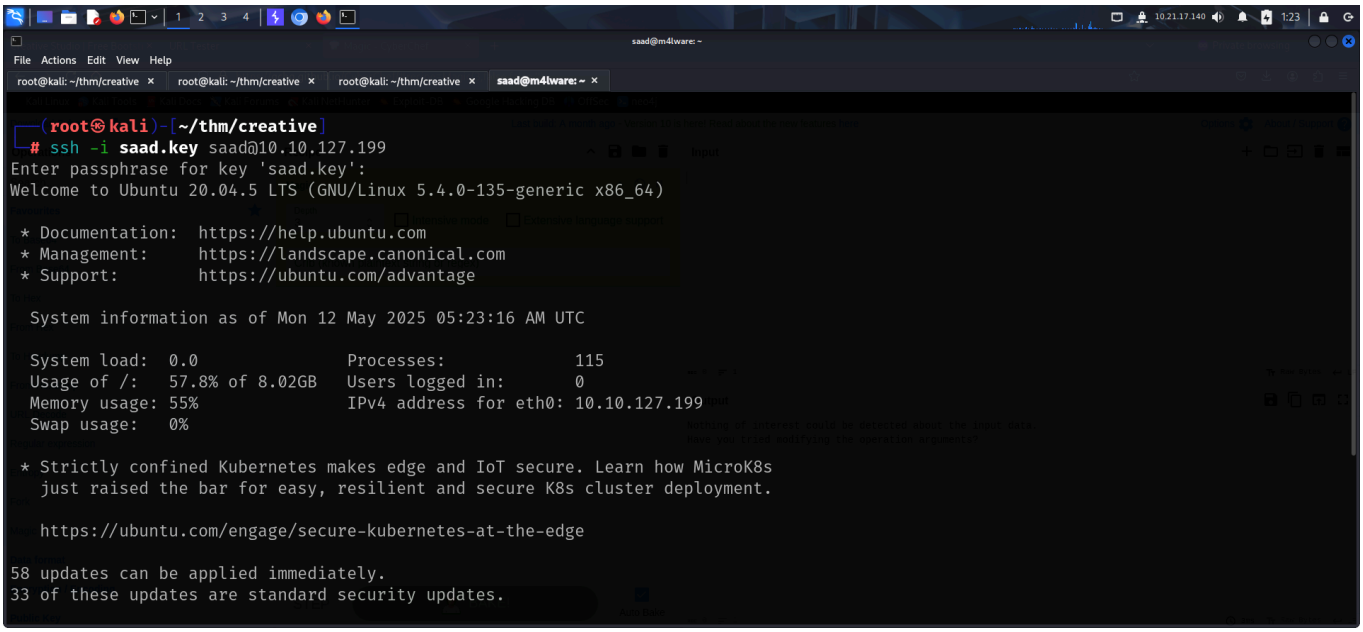


I tried logging in using the private key but was prompted for a passphrase. So, I converted the key to **john** crackable format and cracked it using **john** the ripper.





Finally, I used the passphrase to log in as *saad*.



PRIVILEGE ESCALATION

I examined the contents of *saad*'s home directory and found the **.bash_history** file which could hold command history. I viewed the file and found out *saad*'s password.

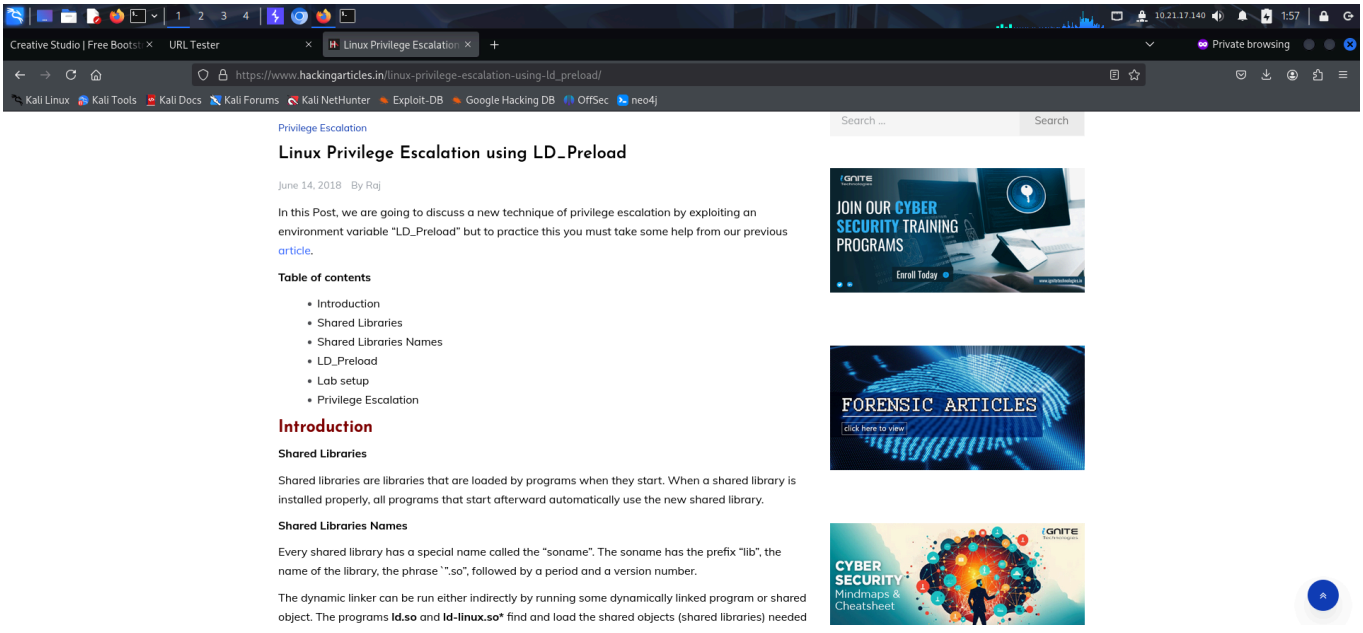
```
saad@m4lware:~$ ls -la
total 52
drwxr-xr-x 7 saad saad 4096 May 12 05:51 .
drwxr-xr-x 3 root root 4096 Jan 20  2023 ..
-rw------- 1 saad saad  362 Jan 21  2023 .bash_history
-rw-r--r-- 1 saad saad  220 Feb 25  2020 .bash_logout
-rw-r--r-- 1 saad saad 3797 Jan 21  2023 .bashrc
drwx------ 2 saad saad 4096 Jan 20  2023 .cache
drwx------ 3 saad saad 4096 Jan 20  2023 .gnupg
drwxrwxr-x 3 saad saad 4096 Jan 20  2023 .local
-rw-r--r-- 1 saad saad  807 Feb 25  2020 .profile
drwx------ 3 saad saad 4096 Jan 20  2023 snap
drwx------ 2 saad saad 4096 Jan 21  2023 .ssh
-rwxr-xr-x 1 root root  150 Jan 20  2023 start_server.py
-rw-r--r-- 1 saad saad    0 Jan 20  2023 .sudo_as_admin_successful
-rw-rw---- 1 saad saad   33 Jan 21  2023 user.txt
saad@m4lware:~$ cat .bash_history
whoami
pwd
ls -al
ls
cd ..
sudo -l
echo "saad:MyStrongestPasswordYet$4291" > creds.txt
rm creds.txt
sudo -l
whomai
```

I then looked for my **sudo** privileges and found the following

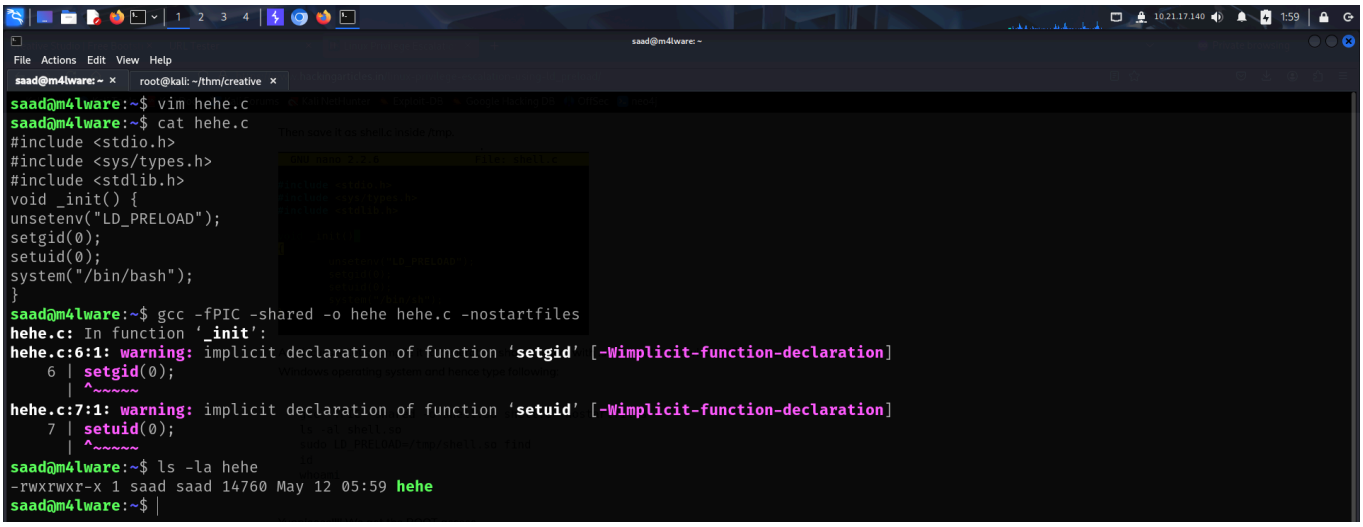
```
saad@m4lware:~$ sudo -l
[sudo] password for saad:
Matching Defaults entries for saad on m4lware:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin, env_keep+=LD_PRELOAD

User saad may run the following commands on m4lware:
    (root) /usr/bin/ping
saad@m4lware:~$
```

The **ping** permission in itself wasn't anything special. However, the environment variable `env_keep+=LD_PRELOAD` was something that could be exploited. I could make the program load a library of my choice before running the `ping` command as sudo.

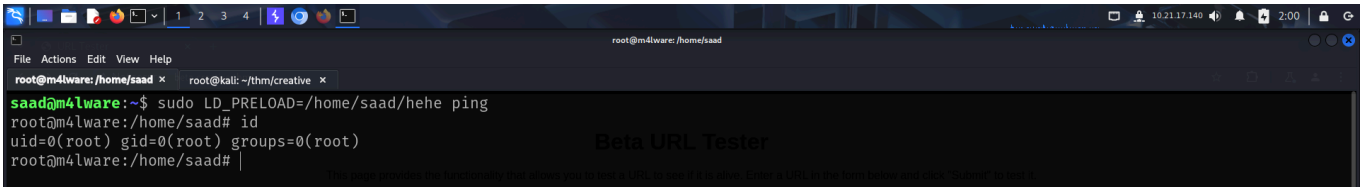
I referred to the below article for reference.



I created a C code to spawn a **bash** shell and converted it into a library.



Finally, I used the environment variable to load my binary before executing the **ping** command as **sudo** and spawned a **bash** shell as **root**.



I then captured the root flag from `/root`