Incognito 2.0 CTF

CHALLENGES' WRITE-UPS

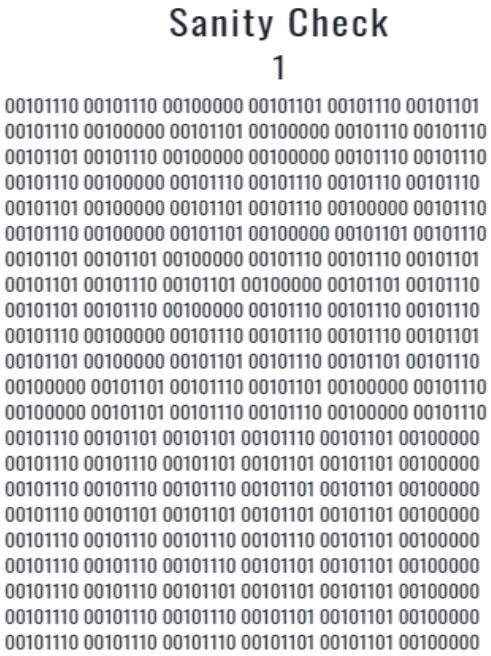
17-18 APRIL 2021

Team Kali Billi

Contents

EASY

Sanity Check



Steps:

- You will find these binary digits in the question.

```
00101110 00101110 00100000 00101101 00101110 00101101 00101110 00100000
00101101 00100000 00101110 00101110 00101101 00101110 00100000 00100000
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00101110 00101110 00101110 00101101 00101101 00100000 00101110 00101110
00101110 00101101 00101101 00100000
```

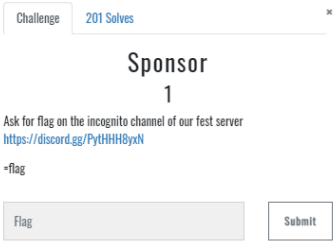
- Convert them and you will find a morse code like this:

```
.. -.-. - ..-.  ... ....- -. .. - -.-- ..--.- -.-. .... ...-- -.-. -.- .
-.. ..--.- ..--- ...-- .---- ....- ...-- ..--- ...-- ...--
```

- After converting this morse code into text from any online converter you will get your flag.

Flag: `ICTF{s4nity_ch3cked_23143233}`

Sponsor

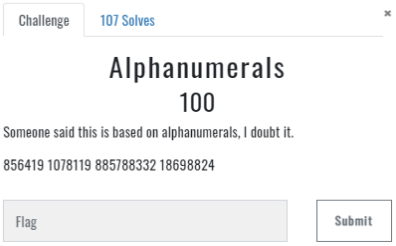


Steps:

- Join the discord channel given in the description of the challenge.
- Go to the `#incognito` channel and type `=flag`.
- The bot will dm you the flag.

Flag = `ICTF{Fl4g_F0und_0n_Di5c0rd}`

Alphanumerals



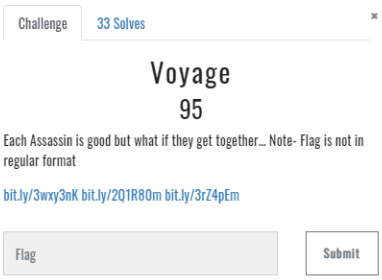
Steps:

- Alphanumerals means an encoding based on alphabets and numbers.
- The given alphanumeric string is a `Base36 string`, so we found an online base36 decoder.
- After decoding this string, we found our flag.

Flag = `ICTF{n3vr_ending_b4s3s}`

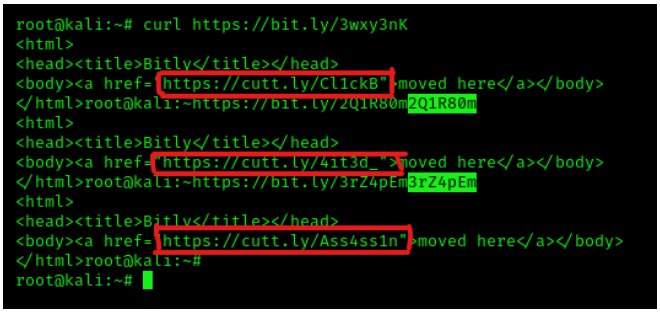
(We had first blood in this)

Voyage



Steps:

- There are 3 bit.ly links given, so let's try to visit them.
- When we visit those 3 links, it redirected us to some website with wallpapers. So, no luck with visiting those links directly.
- Then after using `curl` command with those links and we found something.



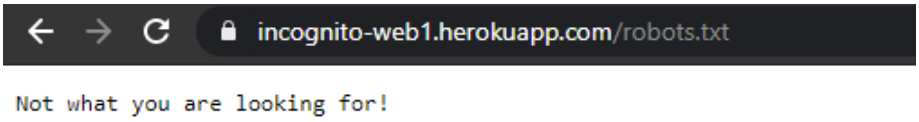
- After looking closely, you can see that those links were redirected from cutt.ly links. After concatenating those 3 redirected links we found our flag.

Flag = `ICTF{Cl1ckB4it3d_Ass4ss1n}`

Not Common

Steps:

- After visiting the link mentioned in the challenge, all you can see is an image of a robot.
- As the challenge mentions that it is a most common practice that people need to do it and we see a robot, so we decided to check for `/robots.txt`.
- But it was a rabbit hole.



- We are back to square one. Now we did a directory scan on the given site in the hope to find some admin panel or something.
- After some seconds of scan on `dirbuster` tool in Linux, we found a `/security.txt` file.
- After visiting the `https://incognito-web1.herokuapp.com/security.txt` we found the flag.

Flag = `ICTF{F0R_Bug_Hunt3rs}`

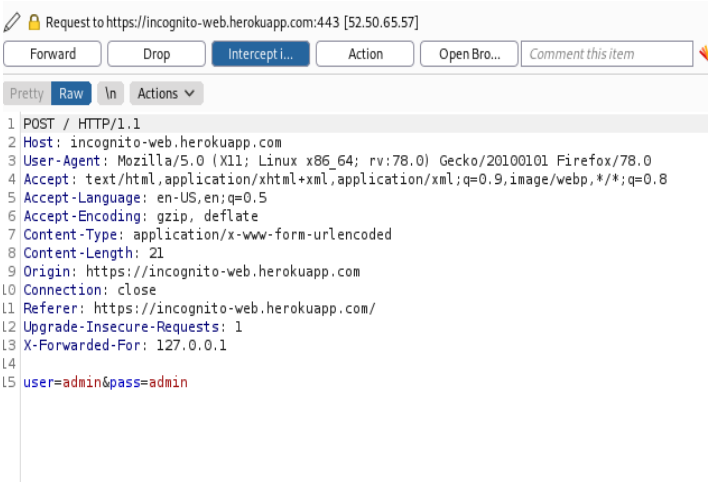
Simple Login

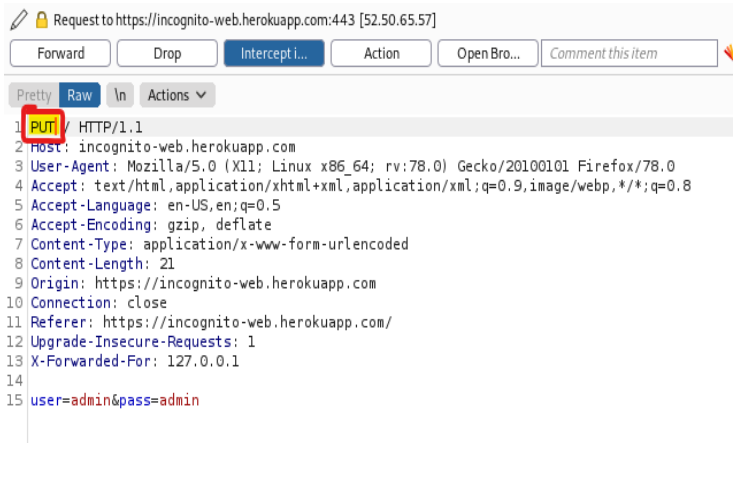
Steps:

- After visiting the link given in the challenge we see a login page so we try the most common username and password that is `admin:admin`.
- It throws this message:

> **You are not who you say to be, bcz he has put some extra measures to prevent this scenario**

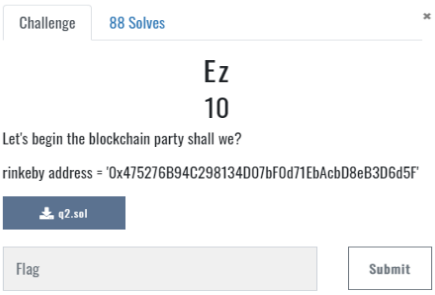
- Now there is a hint in this statement, the keyword like `"PUT"` so we tried to capture the request on `burpsuite` and see a POST request being sent.
- Using the hint from the keyword `"Put"`, we try to change the header of the request from `post to put` and we get the flag.





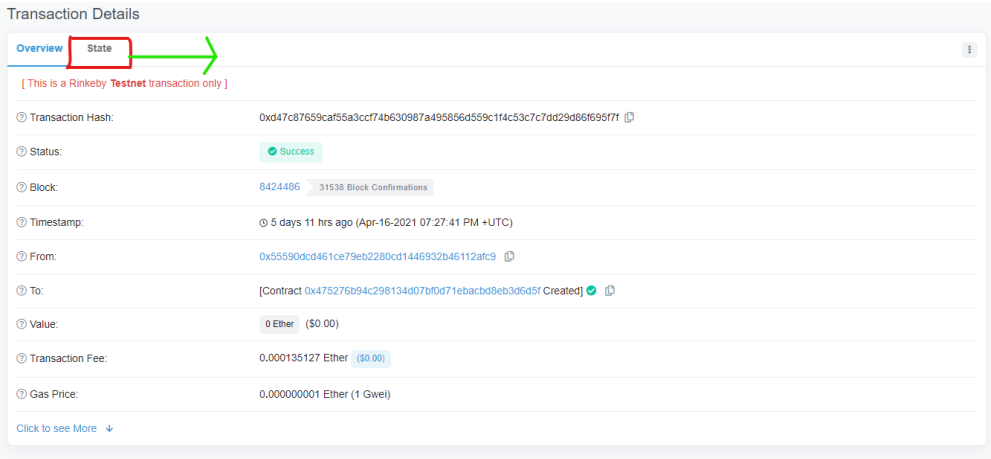
Flag = `ICTF{N0T_S0_S3Cur3d_853541}`

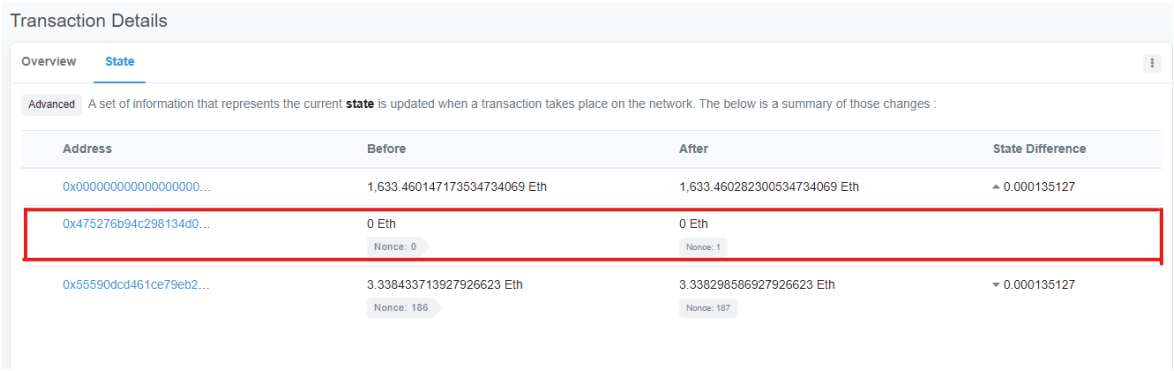
EZ



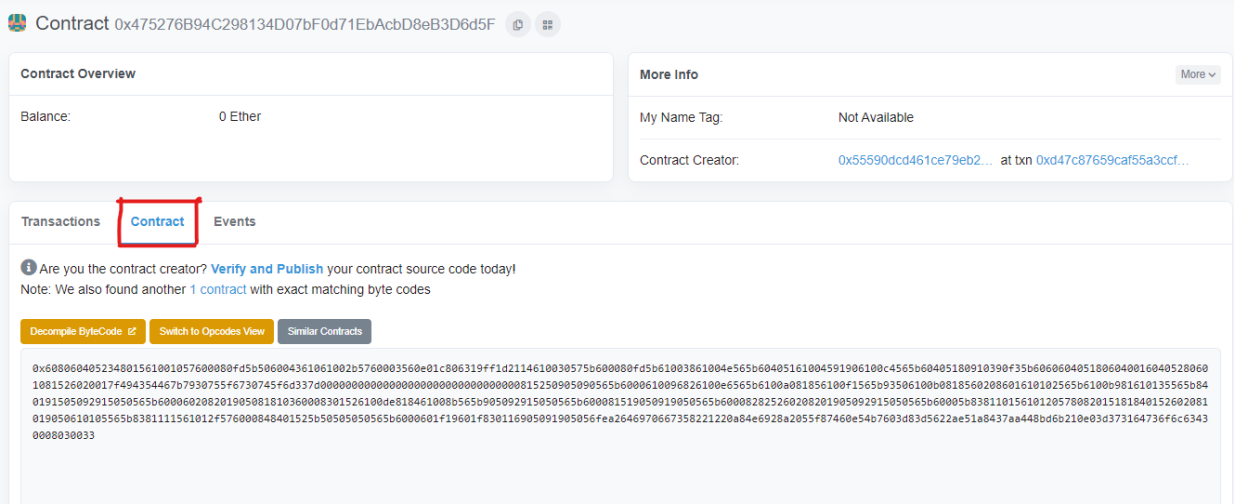
Steps:

- This challenge is based on crypto currency. Here we are given a rinkeby address = `'0x475276B94C298134D07bF0d71EbAcbD8eB3D6d5F'`
- Now after learning about rinkeby and contracts in cryptocurrencies, we can across a website which gave us information about contracts and transactions by using the address given above.
- Using https://rinkeby.etherscan.io/ we searched for this address and found a transaction detail.
- View those details and go to the `"State"` section.





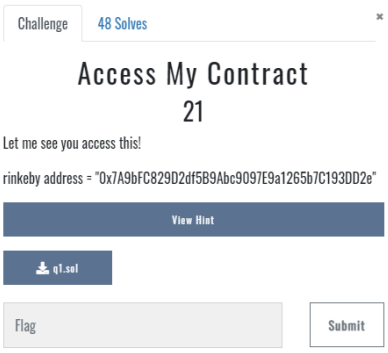
- Now visit the second contract in the `"State"` section and then open the contract part in that.



- You will see a `contract ByteCode`, now click on the `Decompile ByteCode` and then the ByteCode will be decompiled, and you will see the flag in the decompiled section.

Flag = `ICTF{y0u_g0t_m3}`

Access My Contract



Steps:

- Just like the last Challenge "EZ" we were given a Rinkeby Address = '0x7A9bFC829D2df5B9Abc9097E9a1265b7C193DD2e'
- Following all the steps of the above challenge we come up to ByteCode Decompiler and after decompiling we get a huge code.
- We try to google some of the lines of code to find out what that is and when we google `revert with 'NH{q', 34`, we find a website with the same code and a flag in it.

  Flag = `ICTF{Crypt0_is_Fun}`

Library

Steps:

- This challenge was a boot2root challenge hosted on TryHackMe.
- We needed to find 2 files from this machine. User.txt and the other was Root.txt.
- So, first we did a basic `nmap` scan, but we found nothing but only 1 open http port which indicated to visit the website on that port.
- There was a login page. We tried some common usernames and passwords and then we tried to perform a sql injection and this worked and gave us a successful login.
  `username: admin and password: admin' or '1'='1`
- So, now we are logged in as an admin so we can make changes. There are some names of the books given and we can add more books to it.
- We add a new book but instead of uploading an image as book cover, we try to upload `a php reverse shell` and to our luck it gets uploaded.
- Now we run a `dirbuster` scan to find out some directories where we can find our reverse shell and we find it on `$ip/assets/img/reverseshell.php.`
- Getting a successful reverse shell using netcat command by `nc -nvp <port>`
- We are now logged in as `www-data` and we see that there was a user named `'cirius'` so we try to login into that with some common passwords.
- The password used to login into `cirius` was **`password.`**
- Visiting the `/home/cirius` directory we see a `user.txt` file and when we open it, we found the first check point.
- After checking permissions of this user by `sudo -l`, we get to know that we have permission to run all commands on this system.
- So, we change the user to root by using `sudo su -` and then we are root.
- We find the root.txt file into `/root directory`. The hash in root.txt was the flag.

  Flag = `ICTF{d9539e12946736ee8d1e6e0a18f2596c}`

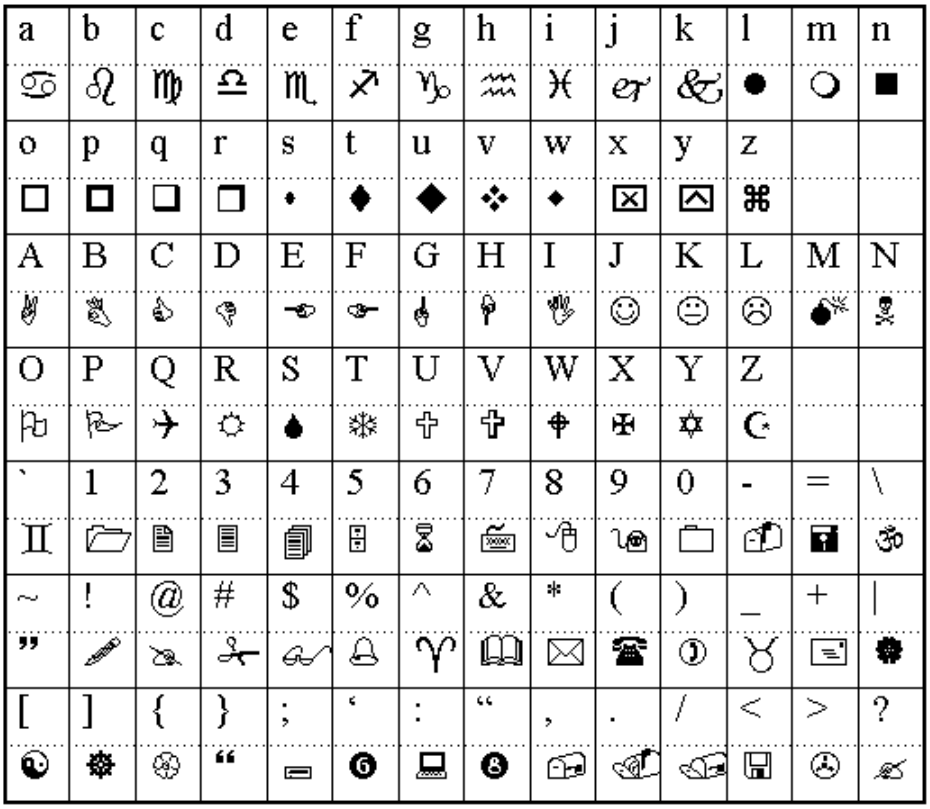
MEDIUM

RedBull Gives You ...

Steps:

- The image given in the question is this.

- After searching on google about `"Wingdings Characters"` (because Redbull gives you **wings**) we get the characters mapped with those symbols.

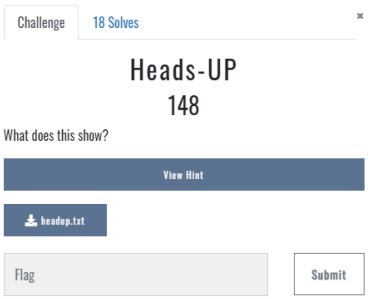


a	b	c	d	e	f	g	h	i	j	k	l	m	n
♋	♌	♍	♎	♏	♐	♑	♒	♓	🙵	🙶	●	❍	■
o	p	q	r	s	t	u	v	w	x	y	z		
□	❑	❑	❒	⬩	⧫	◆	❖	⬩	⊠	⊡	⌘		
A	B	C	D	E	F	G	H	I	J	K	L	M	N
✌	🤘	👌	👎	👈	👉	👆	👆	🖐	☺	😐	☹	💣	☠
O	P	Q	R	S	T	U	V	W	X	Y	Z		
🏳	🏴	✈	☼	💧	❄	✞	✞	✠	✠	✡	☪		
`	1	2	3	4	5	6	7	8	9	0	-	=	\
♊	🗁	🗎	🗏	🗐	🗄	🖴	🖮	🖰	🖲	🗀	🗃	🖬	🕉
~	!	@	#	$	%	^	&	*	(	)	_	+	|
”	🖉	✒	✂	🖋	🕭	♈	🕮	🖂	☎	✆	♉	🖹	✿
[	]	{	}	;	‘	:	“	,	.	/	<	>	?
☯	☸	❁	“	▭	❻	💻	❽	🖃	🖃	🖃	🖫	🕸	🖉

- After mapping the correct sequence of symbols with respective character we get the flag.

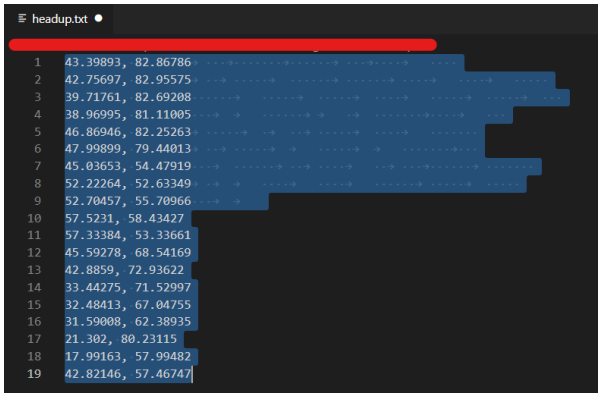
Flag = `ICTF{WIINGS_NOT_WINGS}`

Heads-UP



Steps:

- The headup.txt file given with the challenge contained some co-ordinates/location points given to us.
- But after thorough inspection we found out that it was not the only thing given to us in the text file but there was some whitespace cryptography in that file.

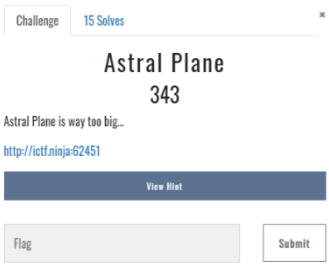


- We knew that we had to use `Stegsnow` tool to decrypt this whitespace, but we also knew that we need a key to do it.
- Plot all the co-ordinates on a map using google earth, it wasn't very clear, but it was forming some image.
- The challenge name said "**Heads-UP**", so we figured out about the constellations and we looked up at google.

- **Orion Belt** had the same structure as those marks on the google map.
- So, the key was `"orion"` now we used `stegsnow` to decrypt the whitespace.
- `stegsnow -C -p orion headup.txt`

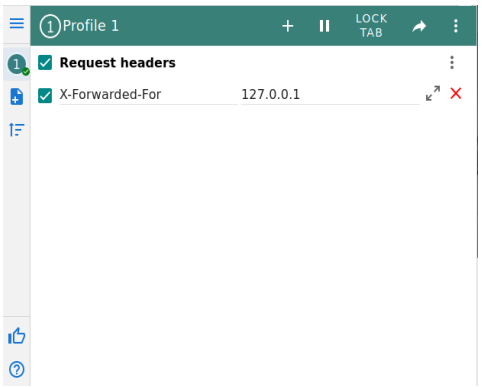
Flag = `ICTF{Fr0m_Out3r_W0RLD}`

Astral Plane



Steps:

- Visiting the link and there was nothing. Source code had nothing in it.
- After doing the Directory scanning, we got an `/admin` page.
- But the admin page was not accessible/forbidden.
- Capturing the request on `burpsuite` and see that there was a `GET` request forwarded to the server.
- Using a `firefox extension` named `"ModHeader"` to forward a `"X-Forwarded-for"` header request to the server using the localhost so that the server thinks of us as the admin or the main user.
- It allowed us to access the `/admin` page and now we are at admin login page.
- When we see the page source of that login page, we find something. It was a path mentioned in the forgot password section.



```
<!DOCTYPE html>
<!--[if lt IE 7 ]> <html lang="en" class="ie6 ielt8"> <![endif]-->
<!--[if IE 7 ]>    <html lang="en" class="ie7 ielt8"> <![endif]-->
<!--[if IE 8 ]>    <html lang="en" class="ie8"> <![endif]-->
<!--[if (gte IE 9)|!(IE)]><!--> <html lang="en"> <!--<![endif]-->
<head>
<meta charset="utf-8">
<title>Paper Stack</title>
<link rel="stylesheet" type="text/css" href="/static/style.css" />
</head>
<div class="login">
  <h1>Login to Web App</h1>
  <form method="post" action="/admin/passd">
    <!--<p><input type="text" name="username" value="" placeholder"Username"></p>-->
    <p><input type="password" name="password" value="" placeholder="Password"></p>
    <p class="remember_me">
      <label>
        <input type="checkbox" name="remember_me" id="remember_me">
        Remember me on this computer
      </label>
    </p>
    <p class="submit"><input type="submit" name="commit" value="Login"></p>
  </form>
</div>

<!--<div class="login-help">
  <p>Forgot your password? <a href="/forgoott">Click here to reset it</a>.</p>
</div>-->
</html>
```

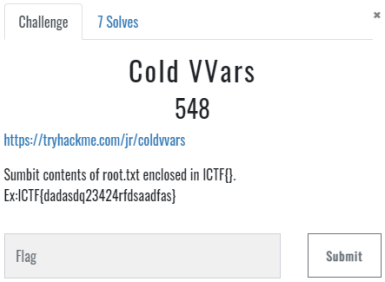
- `/forgoott` was the path mentioned in the page source.
- When visited http://ictf.ninja:62451/forgoott we found an image which displayed some piece of code which said to validate the password if the

```
app.post('/admin/passd',function(req,res){
    if(req.body.password){
        var pass=req.body.password;
        console.log(pass);
        if(pass=='safebanãna'){
```

  password was "safebanãna".
- When we tried to enter this password, it gave us an error of wrong password.
- So now we searched about Unicode and UTF-8 because of that "ã" and why it isn't accepting it.
- We found out that this character has 2 unicode values which is accepted everywhere. So, we tried both the characters from this website. https://fr.wikipedia.org/wiki/%C3%83
- And we got the password as "safebanãna" with the second "ã" in this website.
- After successful login on that admin page we got our flag.

Flag = ICTF{Un1c0d3_FUN_452735}

Cold VVars



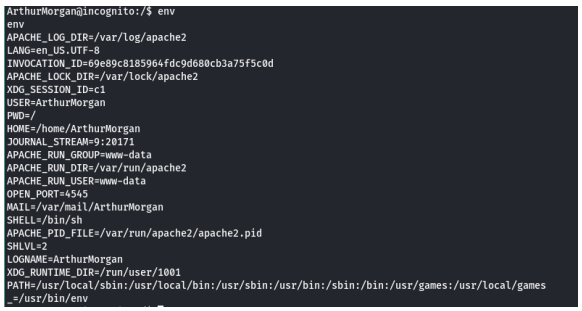
Steps:

- This was another `boot2root` machine which was hosted on `TryHackMe.`
- After booting up the machine we scan for open ports using `nmap.`
- Nmap shows `4` open ports. We found a website hosted on `port 8082` and it was a login page.
- This `website/login` page was vulnerable to `XPath injection.`
- So when we used a query like `" or 1=1 or "` it gave us all the login details of many users.

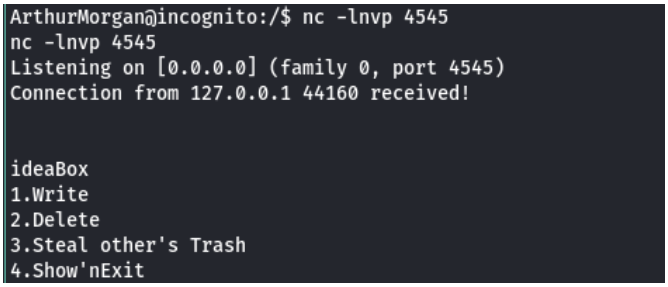
Username Password
Tove Jani
Godzilla KONGistheKING
SuperMan snyderCut
ArthurMorgan DeadEye

- Out of all these, the details of `"ArthurMorgan"` worked.
- We logged in via `smb port` and using AuthurMorgan's username and password.
- We uploaded a `reverse shell on /dev/reverse.php` and got the shell in the smb port.
- We were logged in as `www-data` and we tried to spawn a `tty shell` into it by `python3 -c 'import pty;pty.spawn("/bin/bash")'`
- Now we switched user and used the password of ArthurMorgan to do so.

- Checked the `env` and found an `open port 4545`.



- We used netcat to connect to that port by `nc -lvnp 4545.`



- The 4th option gives us `vi terminal` and we can turn it to shell.
- Then we got a reverse shell on this port.
- Use TMUX session by `tmux attach-session -t 0` and close the tmux window and you will see 1 window with root.
- You will get root.txt file after this and the hash in it will be the flag.

Flag = `ICTF{42f191b937ea71cd2052a06a7a08585a}`