OLD DOMINION UNIVERSITY
CYSE 301 CYBERSECURITY TECHNIQUES AND OPERATIONS

ASSIGNMENT #2 – TRAFFIC TRACING AND SNIFFING

Name: Anna Mae Boubacar

UIN: 01242988

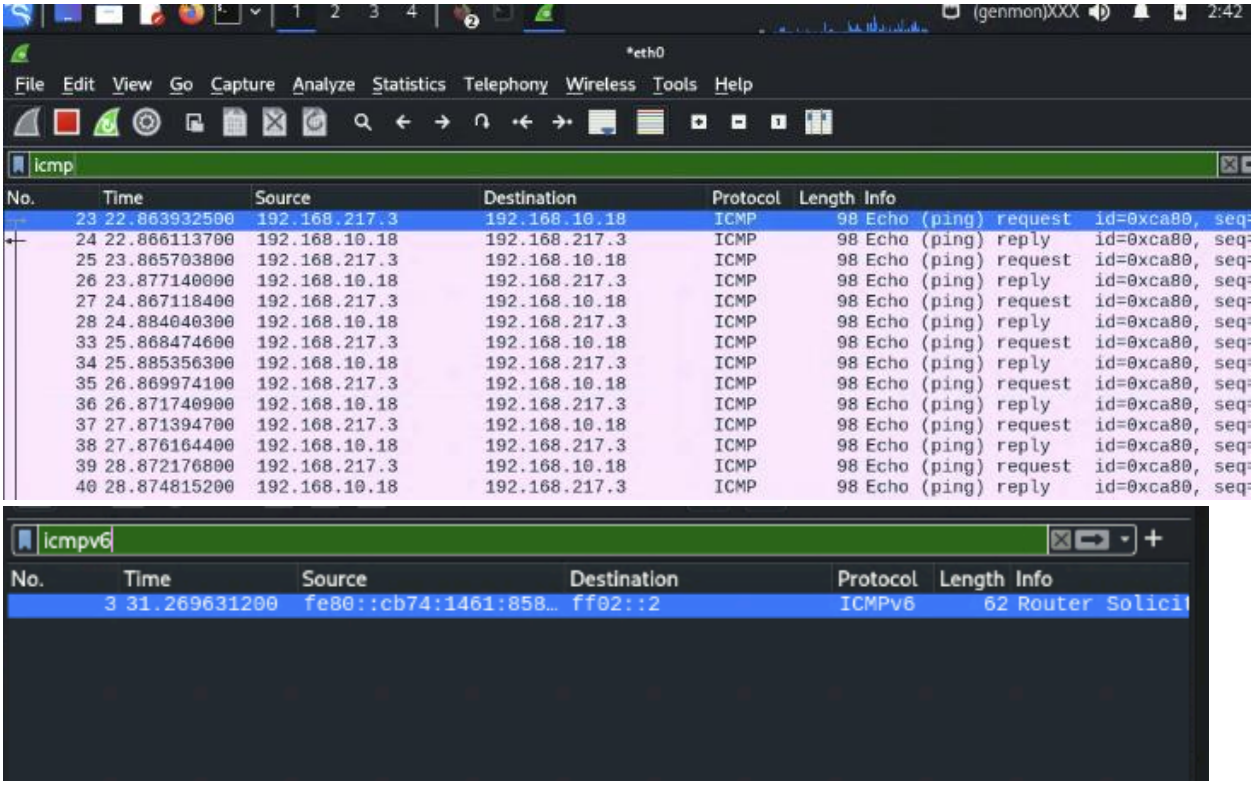
Course #: CYSE301_14735

Q1. How many packets are captured in total? How many packets are displayed?

96

Measurement	Captured	Displayed
Packets	96	96 (100.0%)
Time span, s	75.213	75.213
Average pps	1.3	1.3

Q2. Apply “ICMP” as a display filter in Wireshark. Then repeat the previous question (Q1).



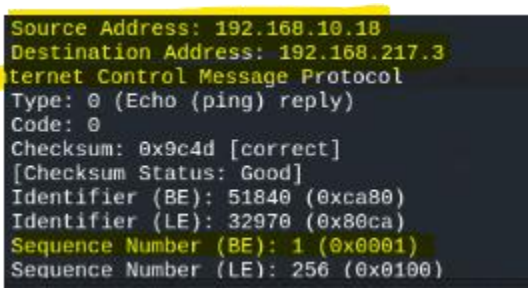
Q3. Select an Echo (reply) message from the list. What are the source and destination IPs of this packet? What are the sequence number and the size of the data? What is the response time?

Source: 192.168.10.18

Destination: 192.168.217.3

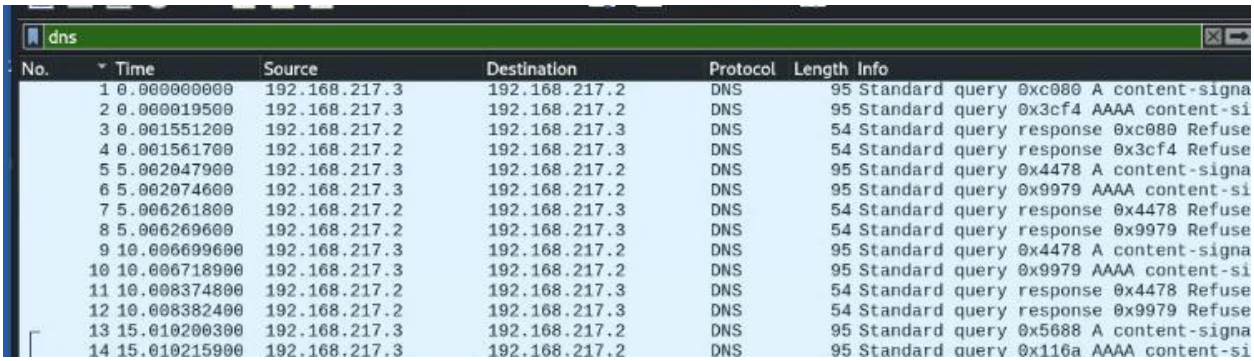
Sequence number: 1

Response time: 2.181 ms



Q4. Apply "DNS" as a display filter in Wireshark. How many packets are displayed?

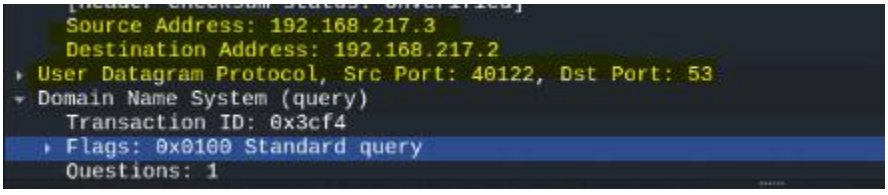
295



Q5. Find a DNS query packet. What is the domain name this host is trying to resolve? What is the source IP and port number, destination IP and port number? Please express in the format: IP:port.

Source IP: 192.168.217.3/port: 40122

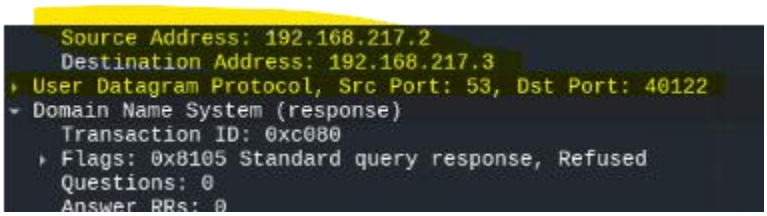
Destination: 192.168.217.2/port: 53



Q6. Find the corresponding DNS response to the query you selected at the previous step, and what is the source IP and port number, destination IP and port number? What is the message replied from the DNS server?

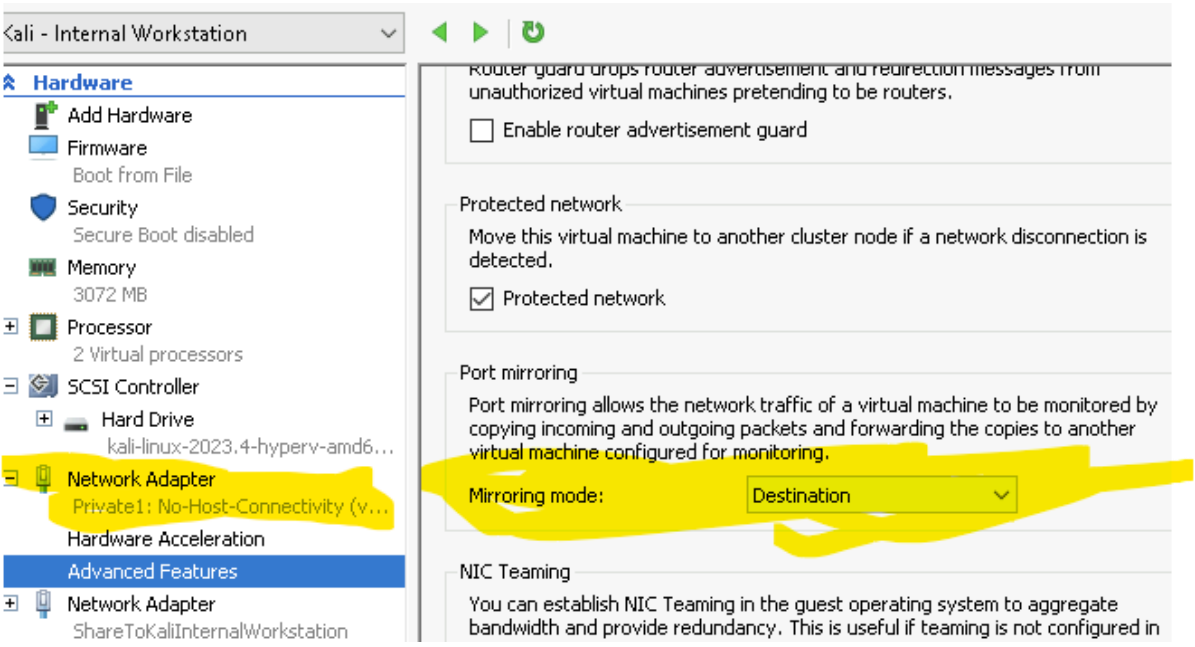
Source IP: 192.168.217.2/port: 53

Destination: 192.168.217.3/port: 40122

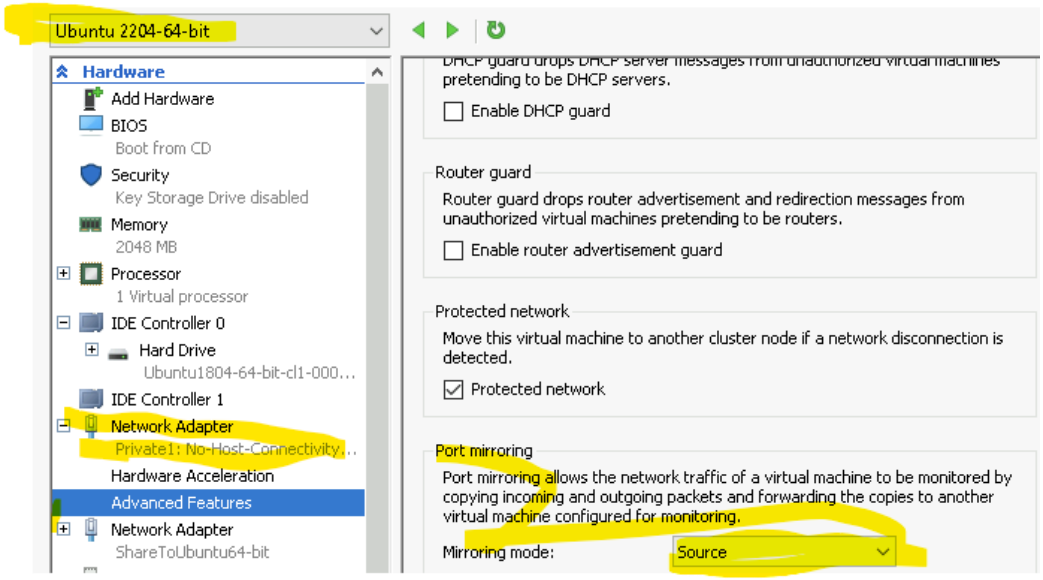


Task B: Sniff LAN traffic

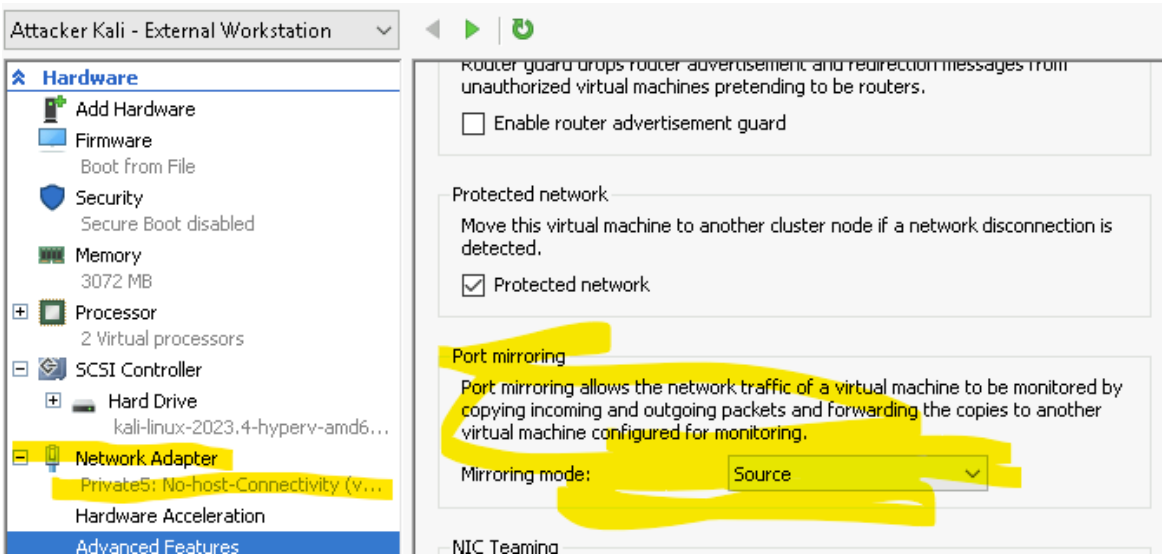
• Internal Kali: Set Mirroring mode to “Destination” in the “Port Mirroring”



• Ubuntu Kali: Set Mirroring mode to “Source” in the “Port Mirroring”

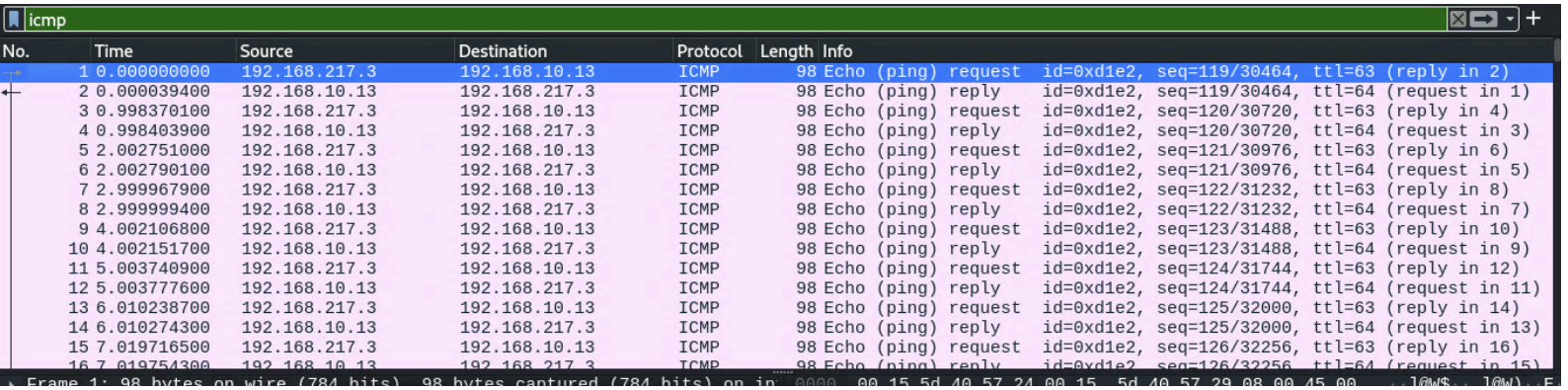


• External Kali: Set Mirroring mode to “Source” in the “Port Mirroring”

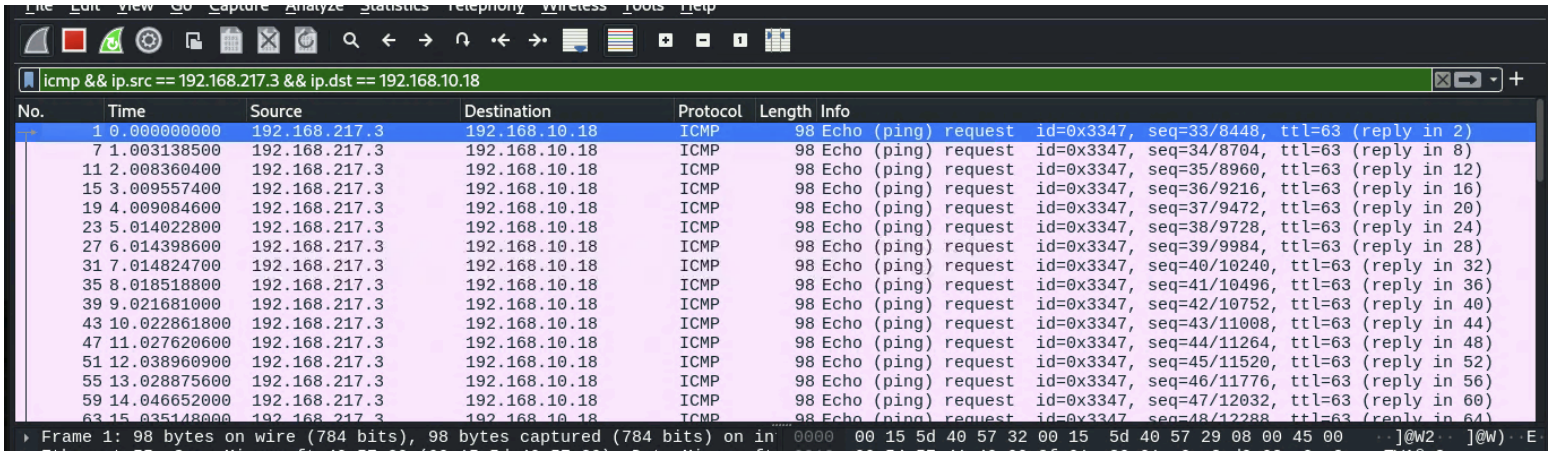


1. **Sniff ICMP traffic (10 + 10 = 20 points)**

a. Apply proper display or capture filter in Wireshark on Internal Kali VM to show active ICMP traffic.



b. Apply a proper display or capture filter on the internal Kali VM that ONLY displays the ICMP request that originated from the external Kali VM and goes to the Ubuntu 64-bit VM.

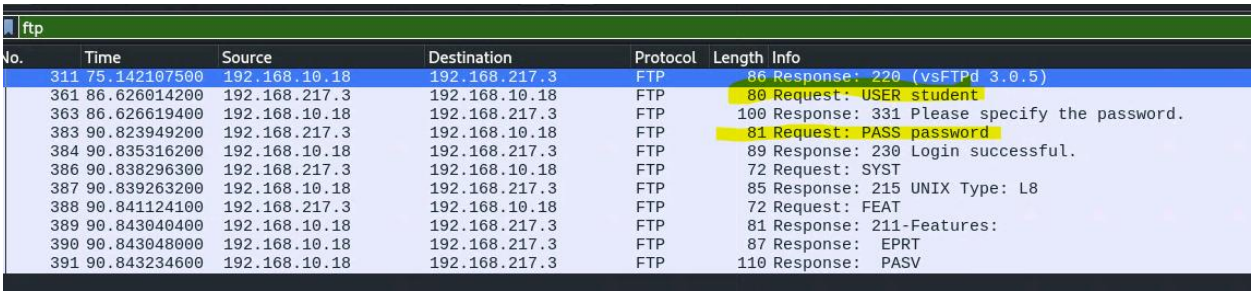


2. Sniff FTP traffic (10 + 15 + 15 = 40 pts points)

a. Ubuntu VM is also serving as an FTP server inside the LAN network. Now, you need to use External Kali to access this FTP server by using the command: ftp [ip_addr of ubuntu VM]. The

username for the FTP server is student, and the password is password. You can follow the steps below to access the FTP server.

b. Unfortunately, Internal Kali, the attacker, is also sniffing into the communication. Therefore, all of your communication is exposed to the attacker. Now, you need to find out the password used by External Kali to access the FTP server from the intercepted traffic on Internal Kali. You need to take a screenshot and explain how you found the password



c. After you successfully find the username & password from the FTP traffic, repeat the previous step (2.a), and use your MIDAS ID as the username and UIN as the password to re-access the FTP server from External Kali. Although External Kali may not access the FTP server, you need to intercept the packets containing these "secrets" from the attacker VM, which is Internal Kali.