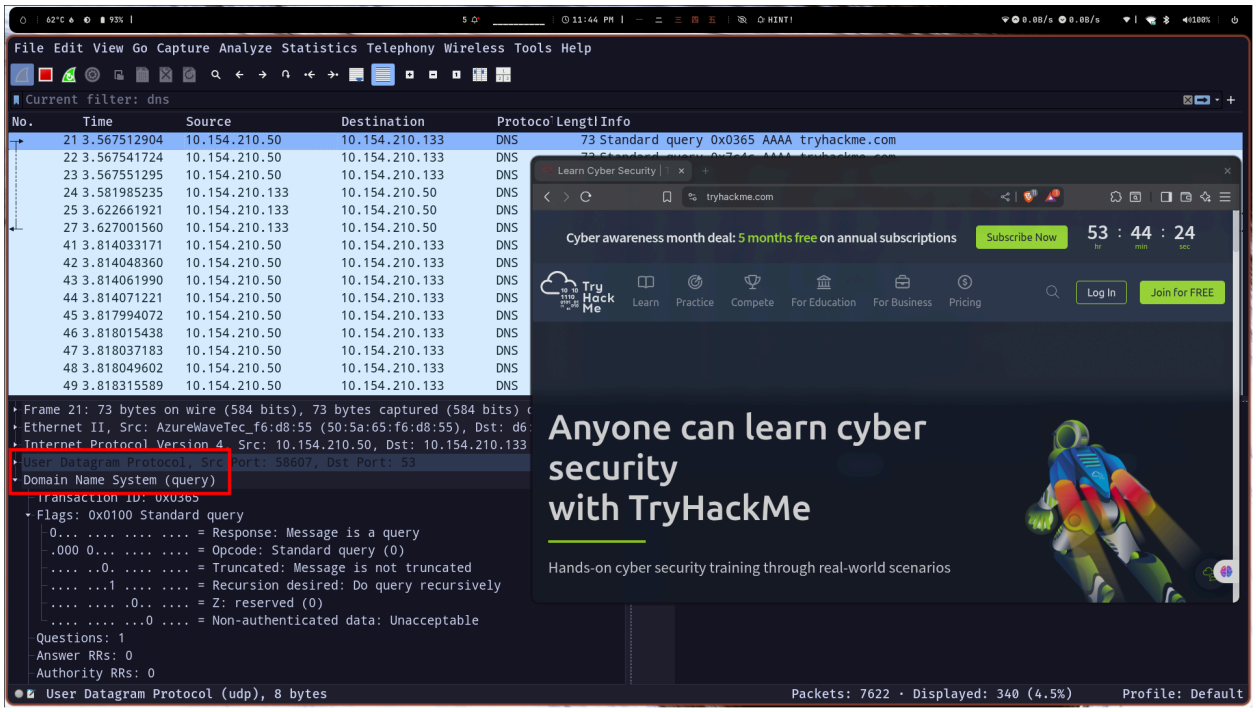
Networking - Assignment 10 - Wireshark

Praneesh R V
CB.SC.U4CYS23036

Part - 1 - DNS Capture

1, I initiated a search query in my browser to access tryhackme.com
Protocols captured: DNS-UDP



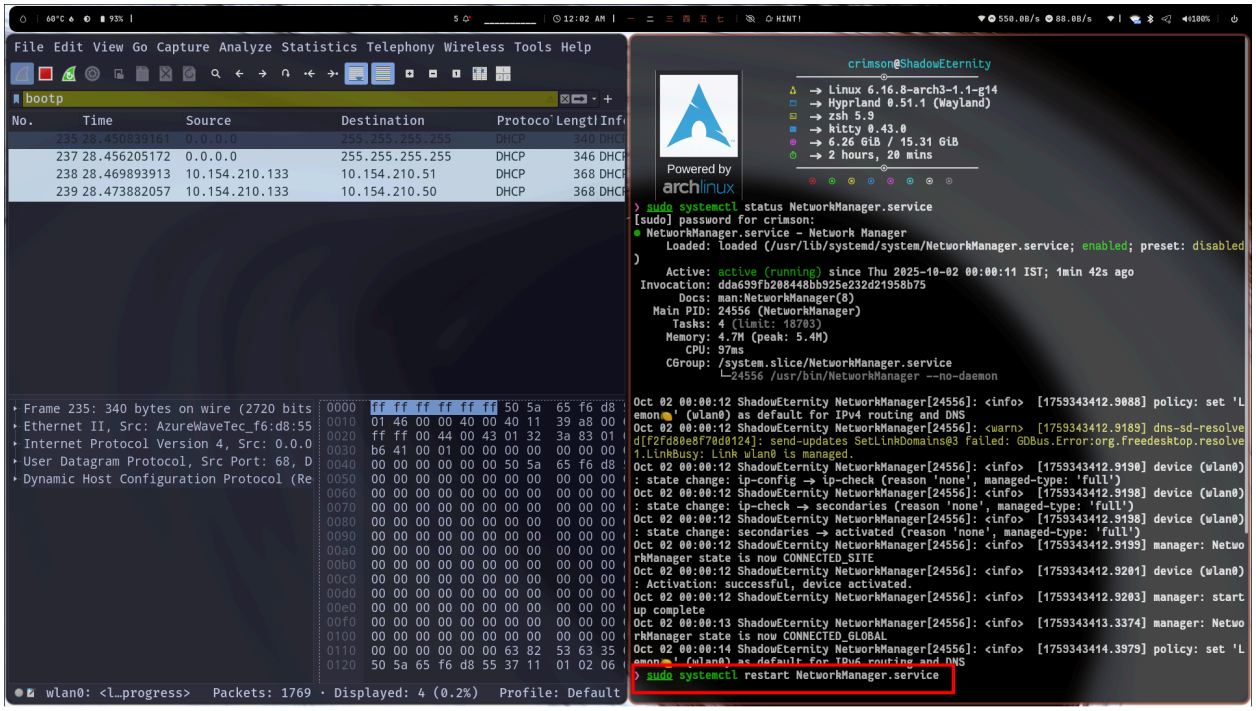
2, **Source IP:** 10.154.210.50
Destination IP: 10.154.210.133
DNS Query made: tryhackme.com
Response time for DNS Resolution: 3.56 seconds

```
Domain Name System (query)
    Transaction ID: 0x0365
  ▸ Flags: 0x0100 Standard query
    Questions: 1
    Answer RRs: 0
    Authority RRs: 0
    Additional RRs: 0
  ▾ Queries
    ▾ tryhackme.com: type AAAA, class IN
        Name: tryhackme.com
```

Part 2 - DHCP Capture

1, by restarting my network manager, i captured my DHCP traffic

Protocols used - DHCP on UDP



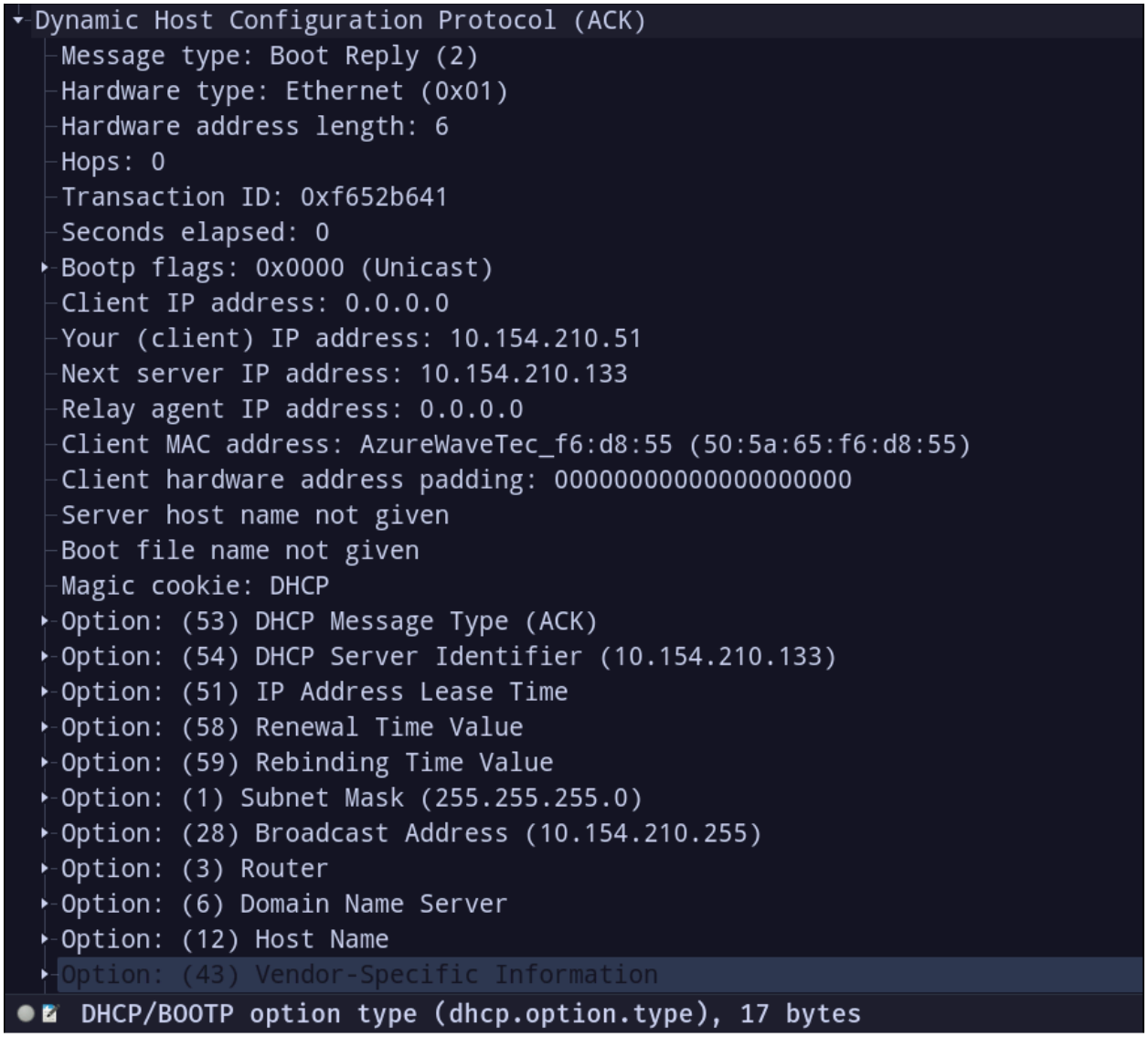
2,DHCP Discover Message: Boot Request

DHCP Offer has message type, IP Address, DHCP server identifier, broadcast address, client mac address, Lease time

DHCP requests for an IP, subnet mask, DNS and broadcast address

DHCP ACK message contains Server identifier, IP address Lease Time, Router, Domain Name

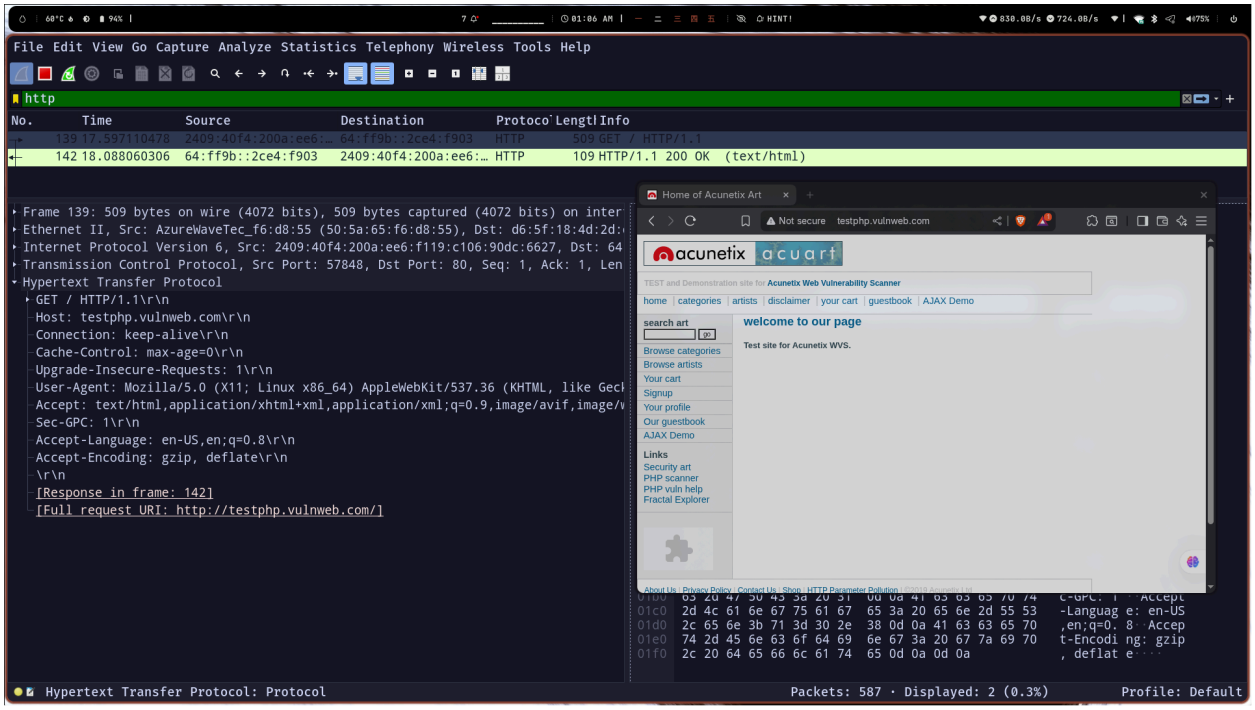
IP Assigned to client: 10.154.210.51



Part 3 HTTP Capture

I set the filter to http, and opened http://testphp.vulnweb.com/ in browser and captured the packet

Protocols used: HTTP - TCP



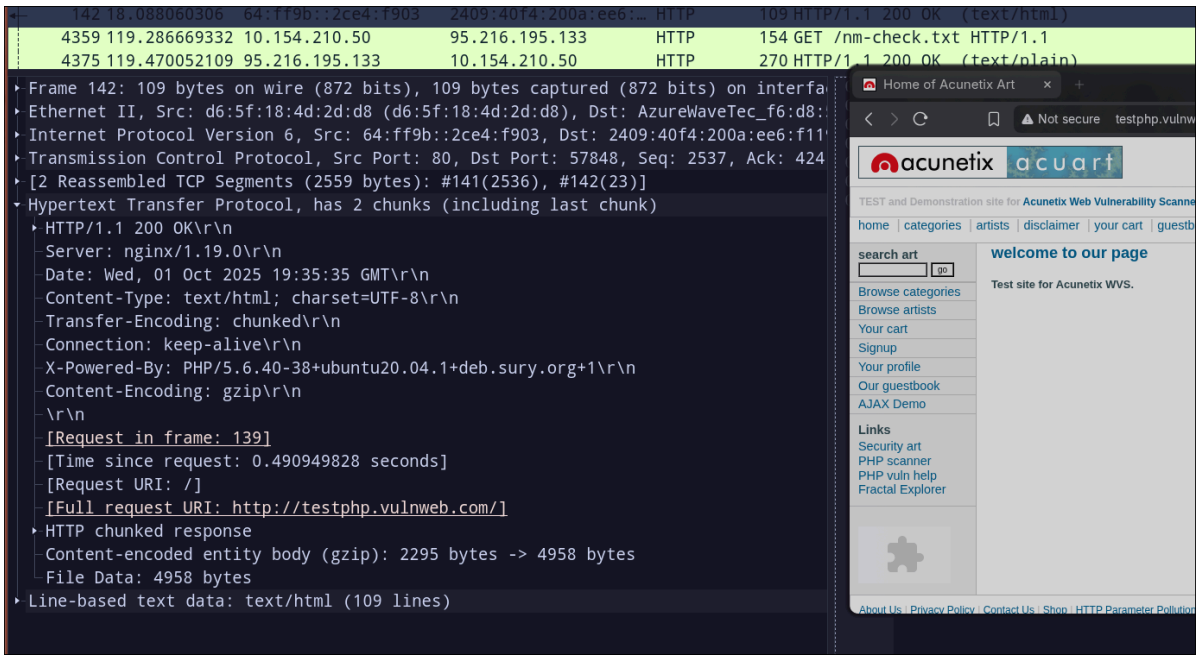
Captured details

Method - GET

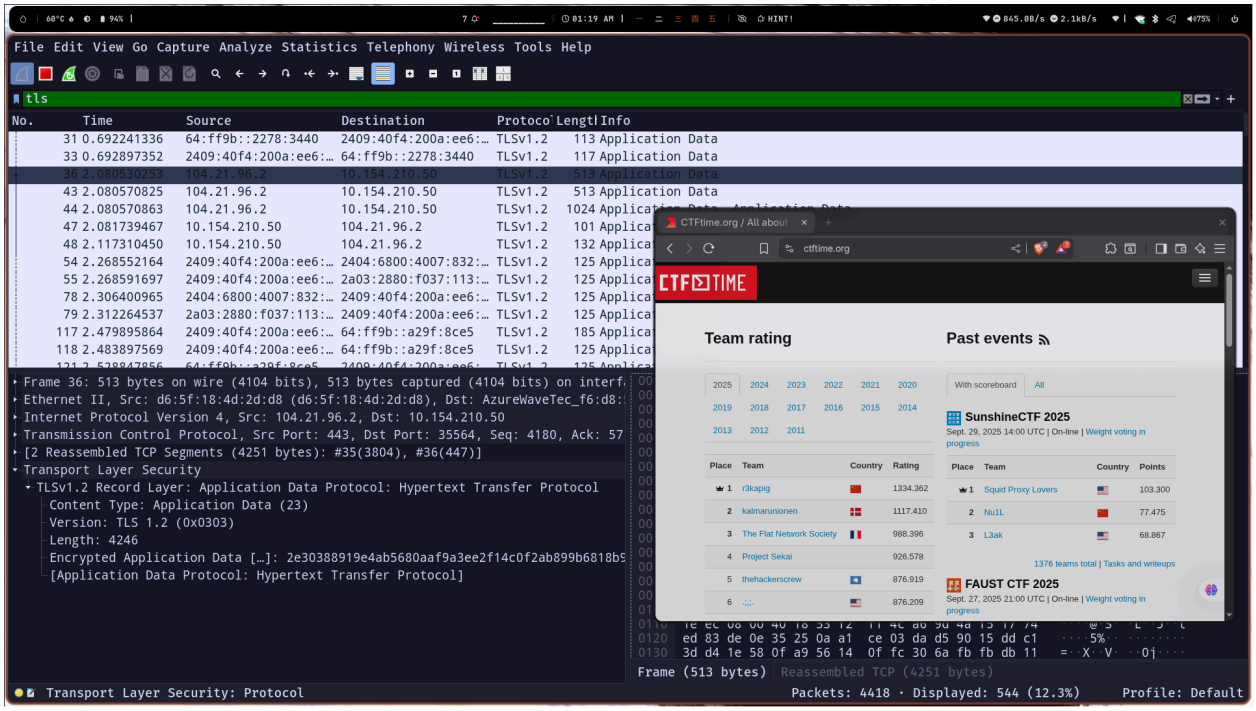
Status code - 200-OK

Response content - text/html

Content length - 109 lines



Part 4 HTTPS Capture



1,I opened https://ctftime.org in my browser, and put the TLS filter to capture https
Protocols HTTPS(TLS) and TCP

2, **SSL/TLS handshake:** The handshake is a series of messages exchanged to establish a secure connection.
Steps:

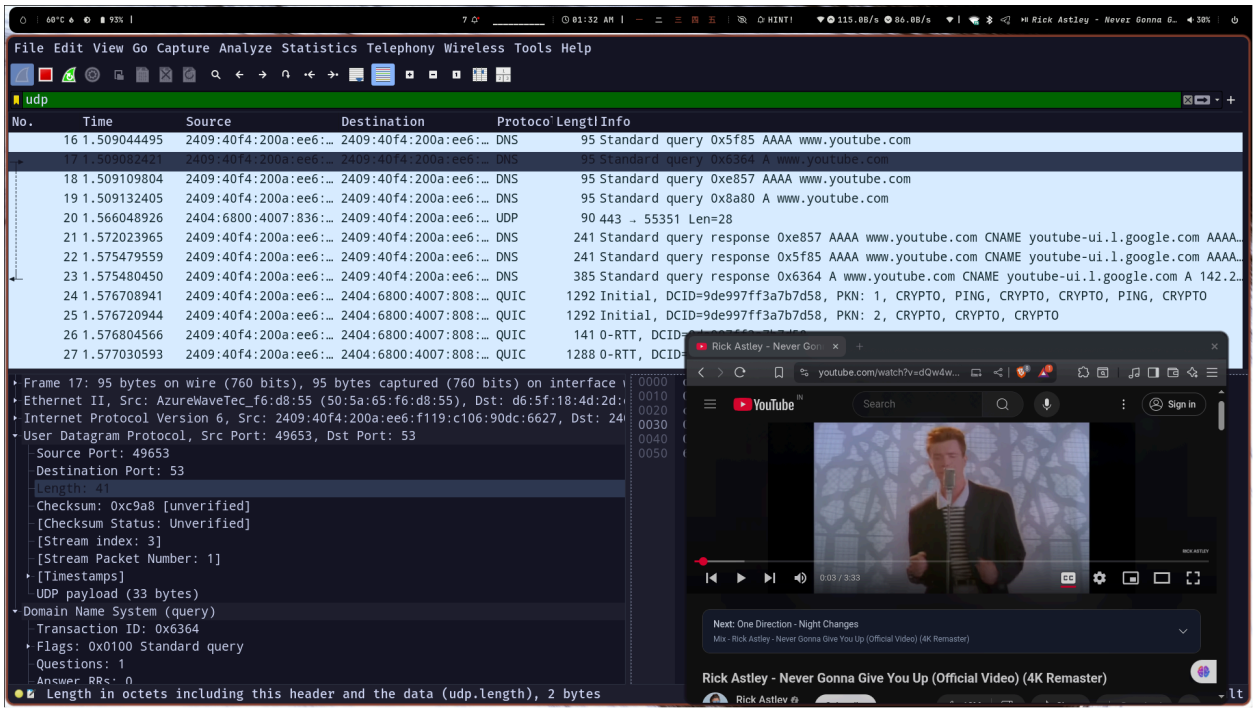
1. Client hello
2. Server hello
3. Certificate, Server Key Exchange, Server Hello Done
4. Client Key Exchange, Change Cipher Spec, Encrypted Handshake Message
5. Application Data

Informations exchanged during handshake: Supported TLS versions, cipher suites, chosen TLS version, server's public certificate, Key-exchange material, Finished messages verifying integrity of handshake.

Yes, the server provided a certificate chain. It contains Subject, Issuer, Validity, Public Key,
Signature Algorithm, Serial number.

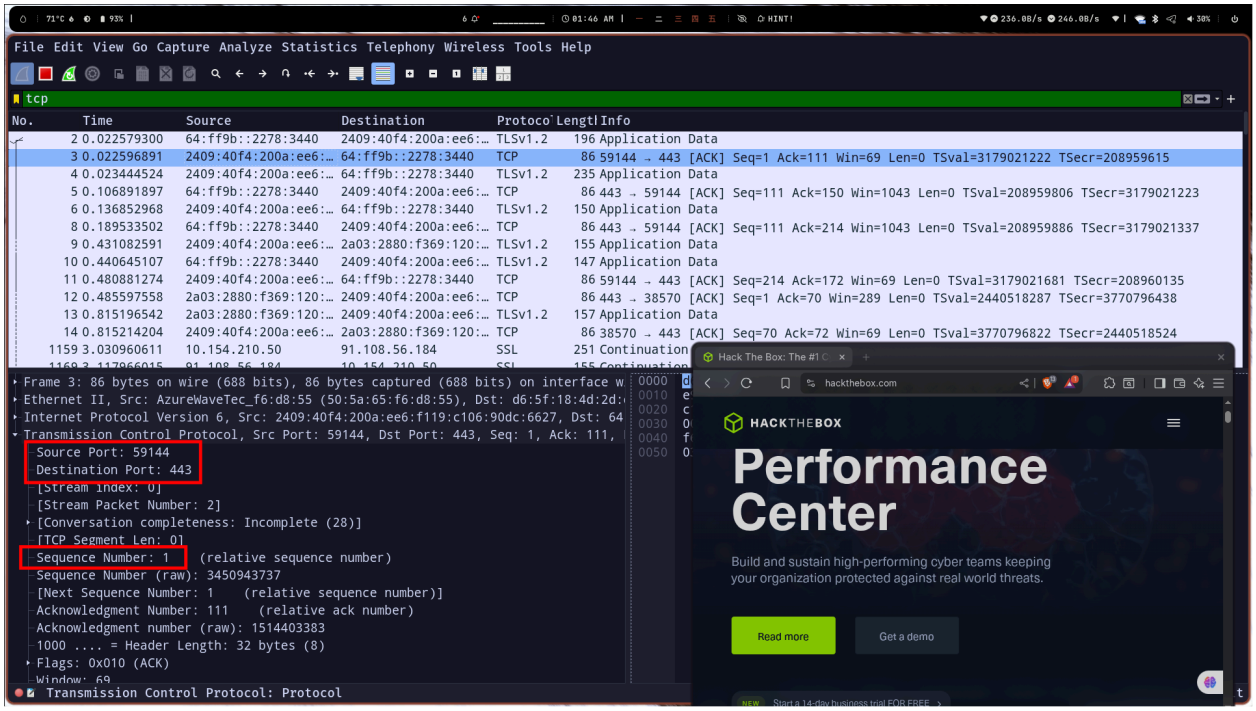
Part 5 - UDP Capture

I played a youtube video on my browser and captured a UDP packet
Protocols captured - UDP, DNS



Source port:49653, Destination port: 53
Payload size: 33 bytes
No retransmission or error occurred

Part 6 - TCP Capture



1.I opened Hackthebox.com website and captured tcp packet in wireshark
Protocol used: TCP
2.
Source Port: 443 , Destination port: 59144

Yes i can spot the 3 way handshake SYN, SYN-ACK and ACK

Sequence Number: 1

TCP uses a sliding window mechanism for flow control. Here window:69