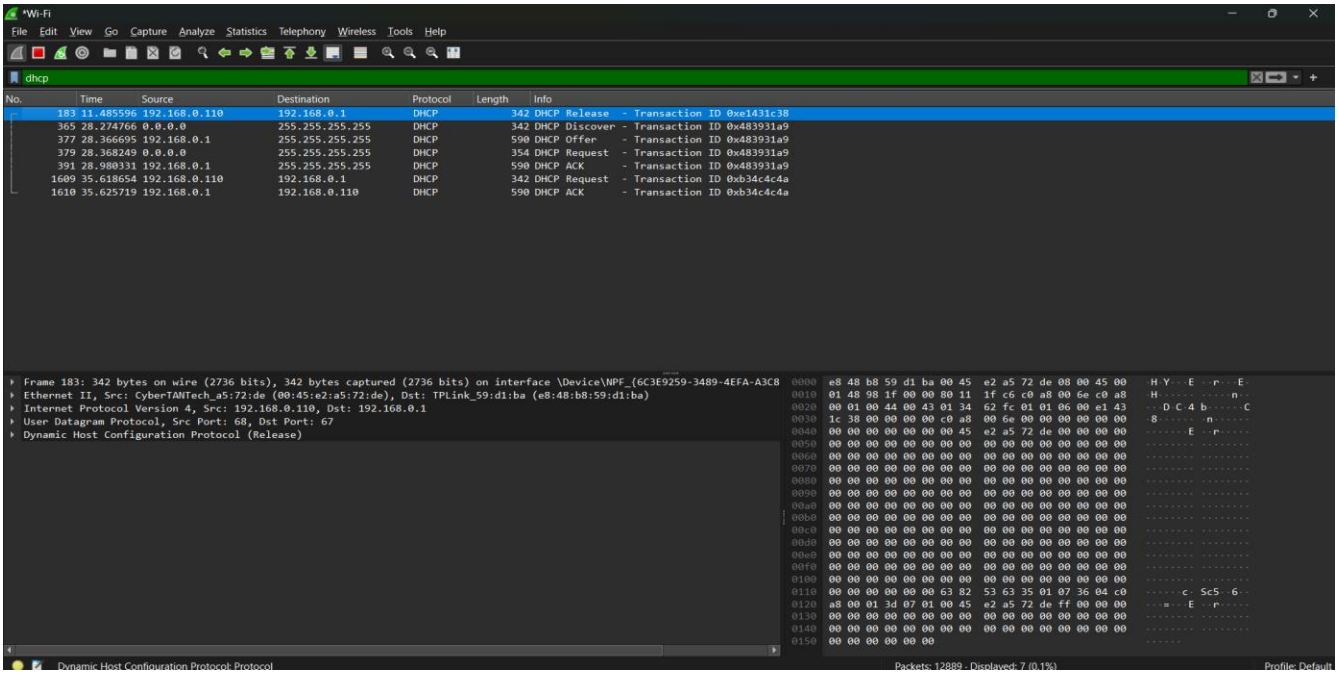
Assignment 3rd
PAS078BEI047

Q. Simulate DHCP server on packet tracer also track DHCP packets on your local network using Wireshark
Ans: I ran Command prompt and applied these commands to get DHCP packets:
ipconfig/release
ipconfig/renew

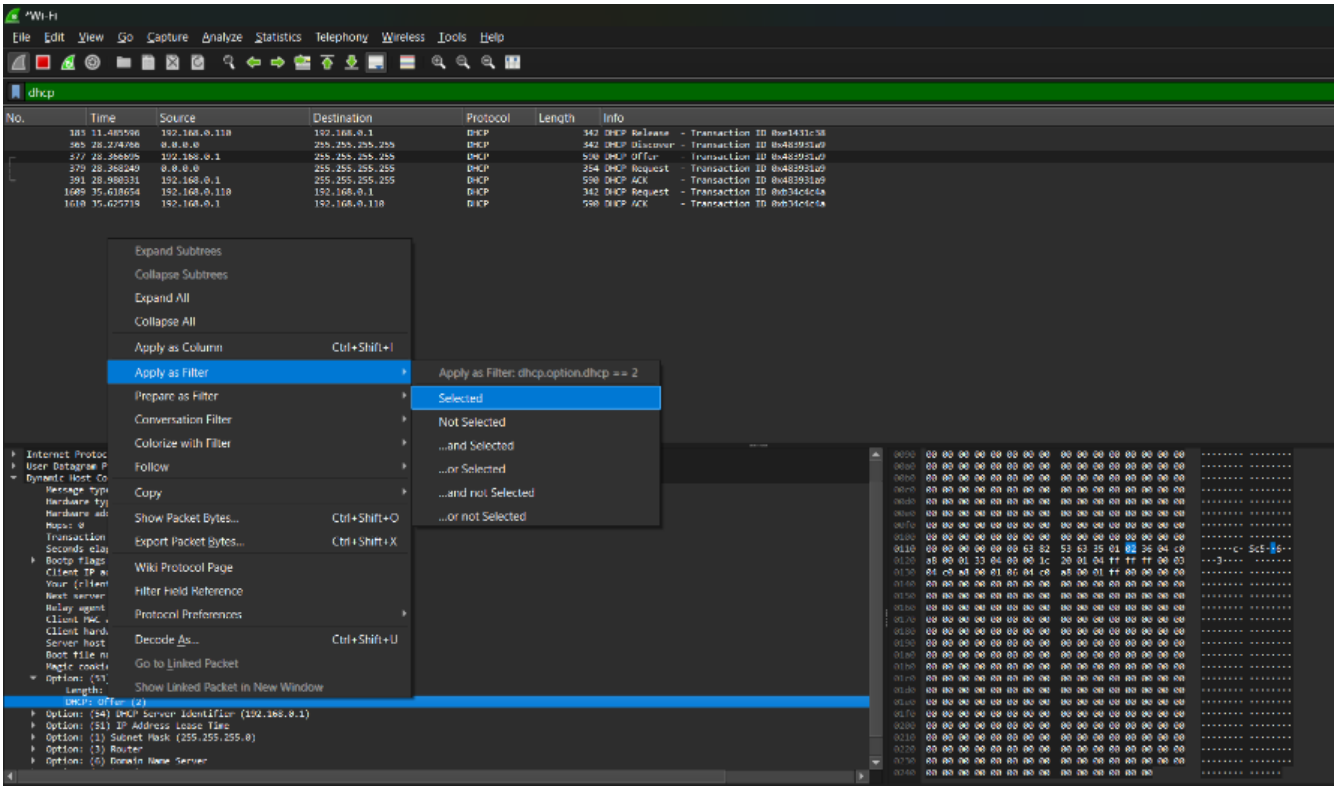
```
C:\Users\Utkarsha Gupta>ipconfig/release

Windows IP Configuration

No operation can be performed on Local Area Connection* 3 while it has its media disconnected.
No operation can be performed on Bluetooth Network Connection while it has its media disconnected.

Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::2f7b:f56a:72b2:3714%8
   IPv4 Address. . . . . . . . . . . : 192.168.56.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :

Wireless LAN adapter Local Area Connection* 3:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::9570:f481:3097:1fc7%9
   Default Gateway . . . . . . . . . :

Ethernet adapter Bluetooth Network Connection:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

C:\Users\Utkarsha Gupta>ipconfig/release

Windows IP Configuration

No operation can be performed on Local Area Connection* 3 while it has its media disconnected.
No operation can be performed on Bluetooth Network Connection while it has its media disconnected.

Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::2f7b:f56a:72b2:3714%8
```

```
C:\Users\Utkarsha Gupta>ipconfig/renew

Windows IP Configuration

No operation can be performed on Local Area Connection* 3 while it has its media disconnected.
No operation can be performed on Bluetooth Network Connection while it has its media disconnected.

Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::2f7b:f56a:72b2:3714%8
   IPv4 Address. . . . . . . . . . . : 192.168.56.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :

Wireless LAN adapter Local Area Connection* 3:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::9570:f481:3097:1fc7%9
   IPv4 Address. . . . . . . . . . . : 192.168.0.110
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.0.1

Ethernet adapter Bluetooth Network Connection:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

C:\Users\Utkarsha Gupta>
```

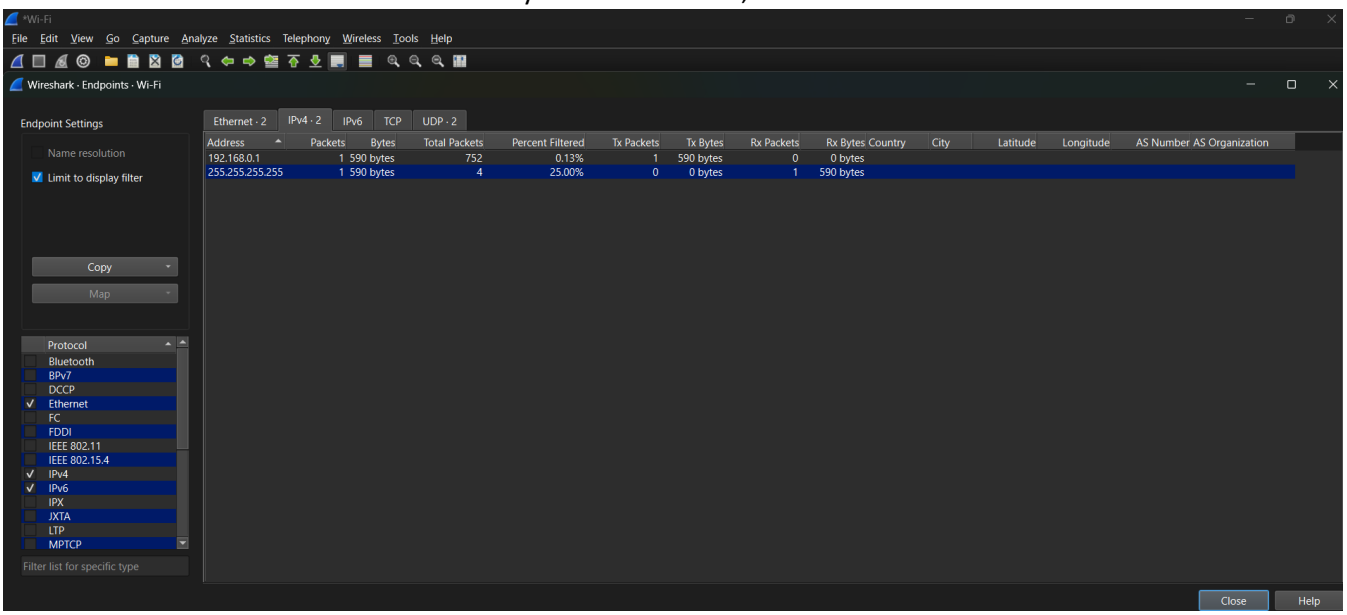
Now I filter DCHP packets in Wireshark,



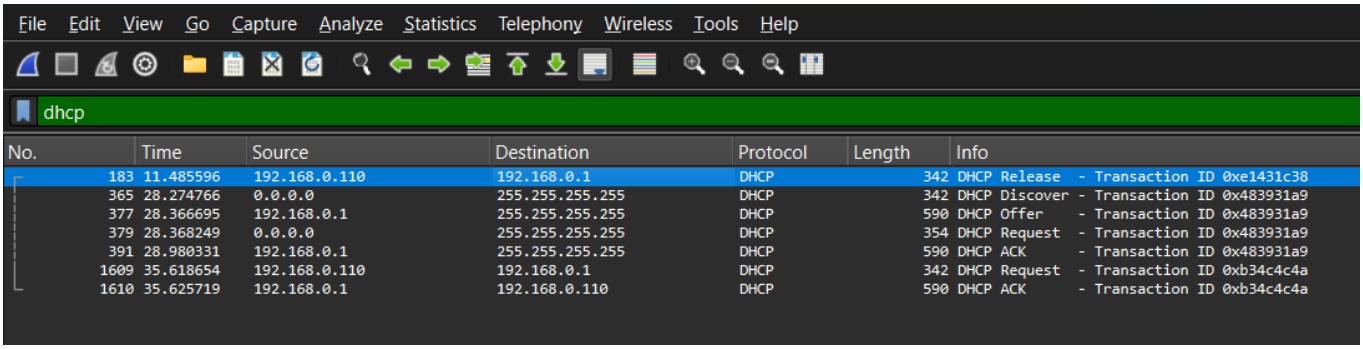
So now to track the server we select the DHCP packets that is offered by server.
And select the DHCP message in packet details in application layer,



In statistics we visit endpoints to see the Server IP,
We can see the real DHCP server IP i.e. in my case 192.168.0.1,



Also, we can see it directly when offer is released by the source to the destination where destination is DHCP server.



Q. What happens when you type *facebook.com* and enter?

Ans:
1. You enter a URL into a web browser.
2. Browser looks up DNS server for the IP address for a given domain name (i.e. *facebook.com* to IP address translation).
3. Browser sends Http request to the server.
4. Server sends Http response to the browser.
5. Browser begins rendering the html.
6. Browser sends requests for additional objects embedded in html (Images, CSS, JavaScript) and repeat steps 3-5.

Once the page is loaded the browser sends further async requests as needed.