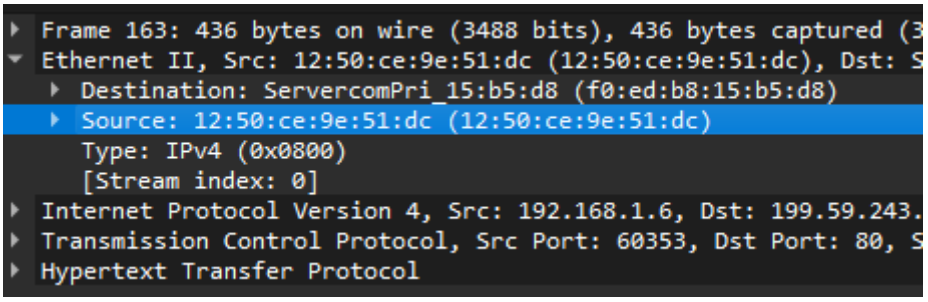
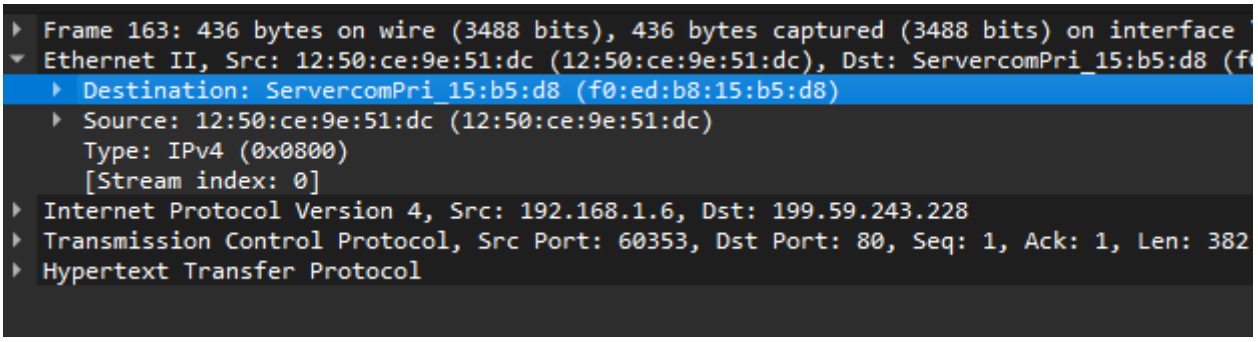
Assignment Ethernet Wireshark

Scenario_1 Answer the following questions, based on the contents of the Ethernet frame containing the HTTP GET message respected to testing-ground.scraping.pro web page:

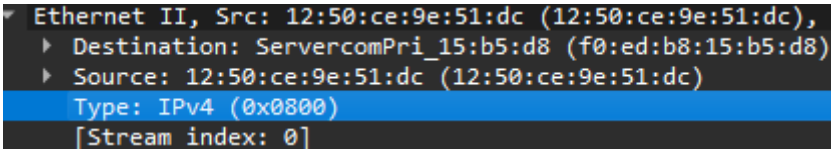
Q1. What is the 48-bit Ethernet address of your computer?
Ans- `12:50:ce:9e:51:dc` is the MAC address of my WiFi NIC.



Q2. What is the 48-bit destination address in the Ethernet frame? Is this the Ethernet address of http://testing-ground.scraping.pro/login?. What device has this as its Ethernet address?
Ans- The 48 bit destination address in the Ethernet frame is `f0:ed:b8:15:b5:d8`. No this is not the ethernet address of the destination website rather this the MAC address of my network's gateway router.

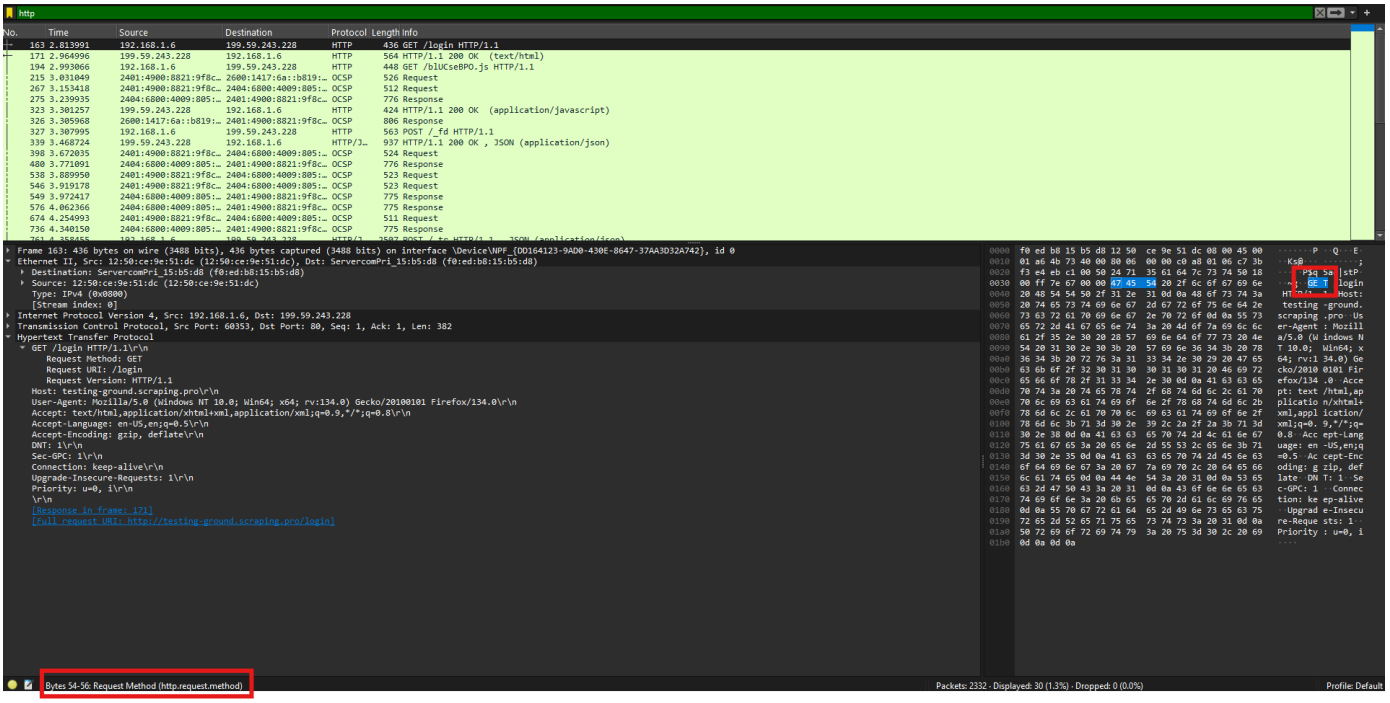


Q3. Give the hexadecimal value for the two-byte Frame type field. What upper layer protocol does this correspond to?
Ans- Hexadecimal value for the two-byte Frame type field is `0x0800` which corresponds to upper layer IPv4 protocol.



Q4. How many bytes from the very start of the Ethernet frame does the ASCII “G” in “GET” appear in the Ethernet frame?
Ans- After `54 bytes` from the very start of the Ethernet frame the ASCII “G” in “GET” appears. Below is the screen shot proof from wireshark, results are marked in red boxes. Also we can verify this by simple addition that the ethernet header is of 14 bytes + 20 bytes of IP header + 20 bytes of TCP header = 54

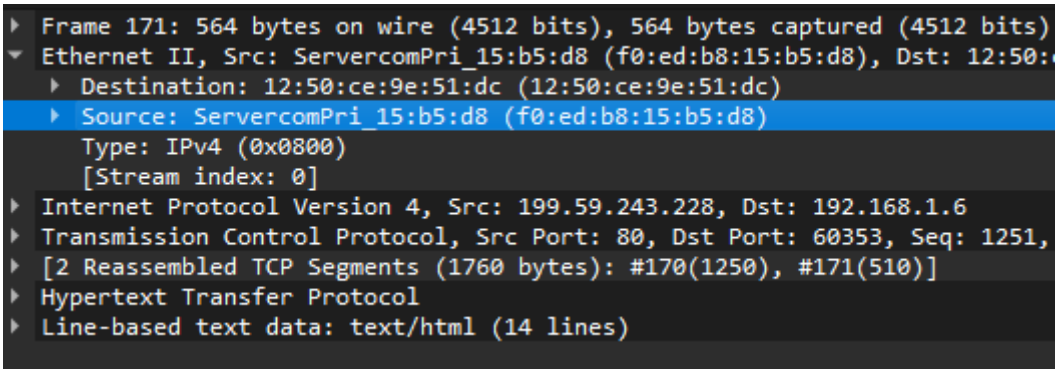
bytes.



Scenario_2 Answer the following questions, based on the contents of the Ethernet frame containing the first byte of the HTTP response message:

Q5. What is the value of the Ethernet source address? Is this the address of your computer, or http://testing-ground.scraping.pro/login? What device has this as its Ethernet address?

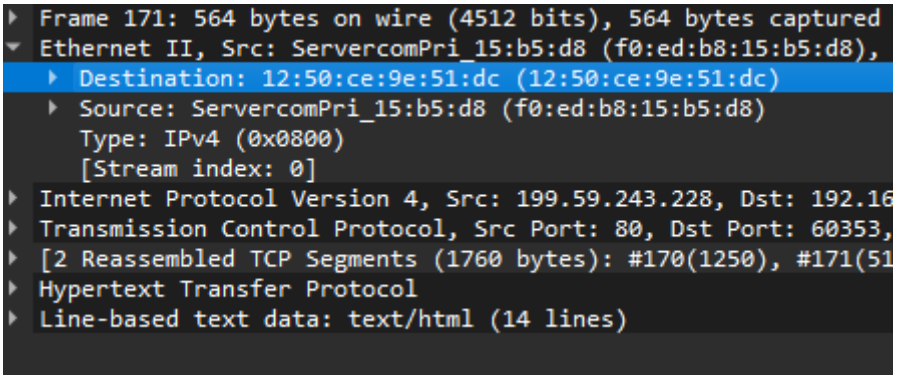
Ans- The value of the Ethernet source address is `f0:ed:b8:15:b5:d8`. This address neither belong to my computer NIC card nor to the website's NIC rather this address belongs to the MAC address of my network's gateway router.



Q6. What is the destination address in the Ethernet frame? Is this the Ethernet address of your computer?

Ans- Destination address in the Ethernet frame is `12:50:ce:9e:51:dc`. Yes this is the ethernet

address of my computer's WiFi NIC.



Q7. Give the hexadecimal value for the two-byte Frame type field. What upper layer protocol does this correspond to?

Ans- Hexadecimal value for the two-byte Frame type field is `0x0800` which corresponds to upper layer IPv4 protocol.

Q8. How many bytes from the very start of the Ethernet frame does the ASCII “O” in “OK” (i.e., the HTTP response code) appear in the Ethernet frame?

Ans- After `54 bytes` from the very start of the Ethernet frame the ASCII “O” in “OK” appears. we can verify this by simple addition that the ethernet header is of 14 bytes + 20 bytes of IP header + 20 bytes of TCP header = 54 bytes.