CMPE 472 – Computer Networks

Lab 2: DNS (3 points)

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Please fill out this given form for your submissions.

Questions

1. What is an authoritative DNS server? Define it in your own words. Run nslookup to determine the authoritative DNS servers for a web server. Attach appropriate screenshots *(0.75 points).*

   It is the server responsible for all queries for a domain or domain. Recursive DNS nameservers ask authoritative DNS nameservers for information about individual websites' whereabouts. These responses provide crucial data for each domain, such as IP addresses. almandns.unibo.it

```
C:\Users\CP>nslookup -type=NS www.unibo.it
Server:  UnKnown
Address:  172.20.10.1

Non-authoritative answer:
www.unibo.it    canonical name = atrproxy.unibo.it

unibo.it
        primary name server = almadns.unibo.it
        responsible mail addr = postmaster.unibo.it
        serial  = 2022110202
        refresh = 43200 (12 hours)
        retry   = 3600 (1 hour)
        expire  = 2419200 (28 days)
        default TTL = 3600 (1 hour)
```

2. Run three commands below and explain the differences with your own sentences. Attach appropriate screenshots *(0.75 points)*.

-The mission of the NSlookup command is to help query the TCP/IP domain names and addresses of a page. In this way, it can be checked whether a DNS server is working correctly.

-NSlookup -type we can reach the name server if it has that responsible mail addr details.

-nslookup tedu.edu.tr bitsy.mit.edu helps us compare two domains of server and addresses

Nslookup tedu.edu.tr

```
C:\Users\CP>Nslookup tedu.edu.tr
Server:  UnKnown
Address:  172.20.10.1

Non-authoritative answer:
Name:    tedu.edu.tr
Addresses:  95.183.240.10
          95.183.241.87
```

nslookup –type=NS tedu.edu.tr

```
C:\Users\CP>nslookup -type=NS tedu.edu.tr
Server:  UnKnown
Address:  172.20.10.1

Non-authoritative answer:
tedu.edu.tr     nameserver = dns2.tedu.edu.tr
tedu.edu.tr     nameserver = dns3.tedu.edu.tr
```

nslookup tedu.edu.tr bitsy.mit.edu

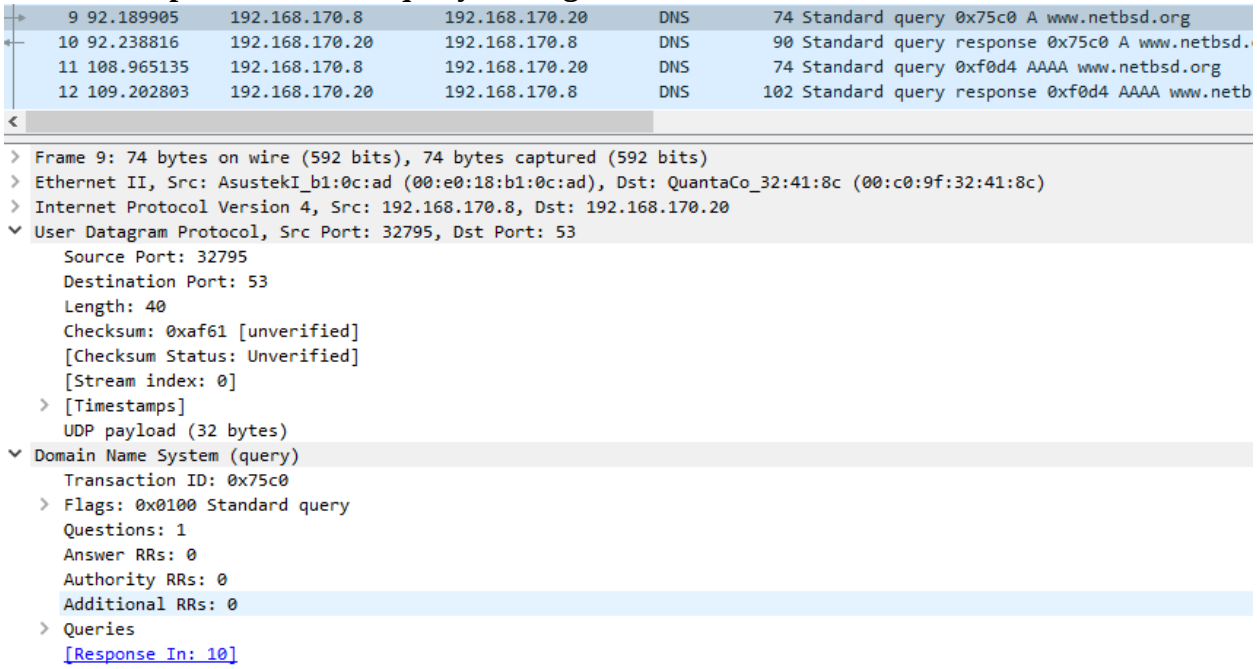
```
C:\Users\CP>nslookup tedu.edu.tr bitsy.mit.edu
Server:  bitsy.mit.edu
Address:  18.0.72.3

Non-authoritative answer:
Name:    tedu.edu.tr
Addresses:  95.183.240.10
          95.183.241.87
```

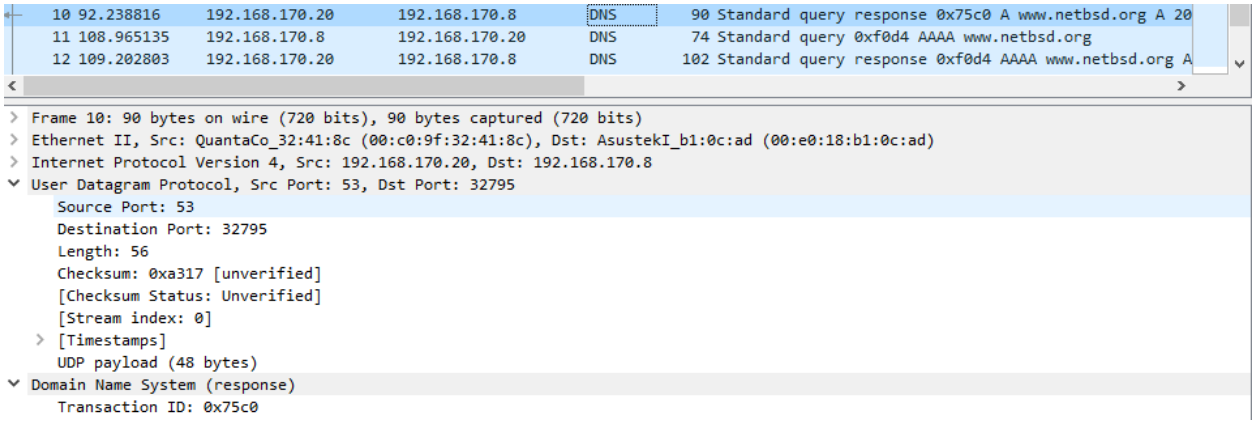
3. Answer questions 5,6 from prelab examining the packet 9 and 10 from dns.cap. Attach appropriate screenshots *(0.75 points)*.

5)What is the destination port for the DNS query message? What is the source port of DNS response message?

Destination port: 53 of DNS query message

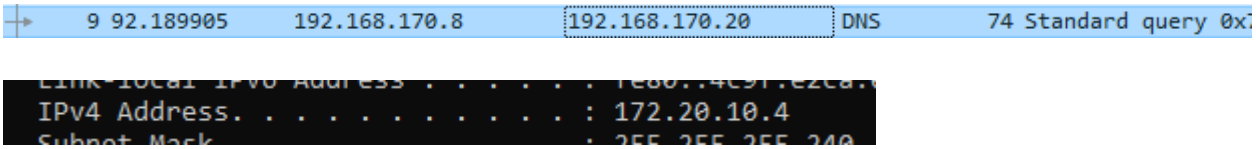


Source port: 53 of DNS response message.



6) *To what IP address is the DNS query message sent? Use ipconfig to determine the IP address of your local DNS server. Are these two IP addresses the same?*

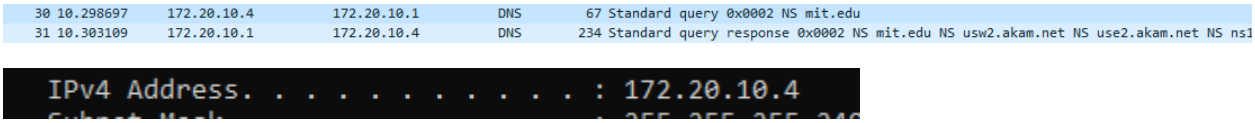
The query is sent to 192.168.170.20 different IP address as that of my default local DNS server.



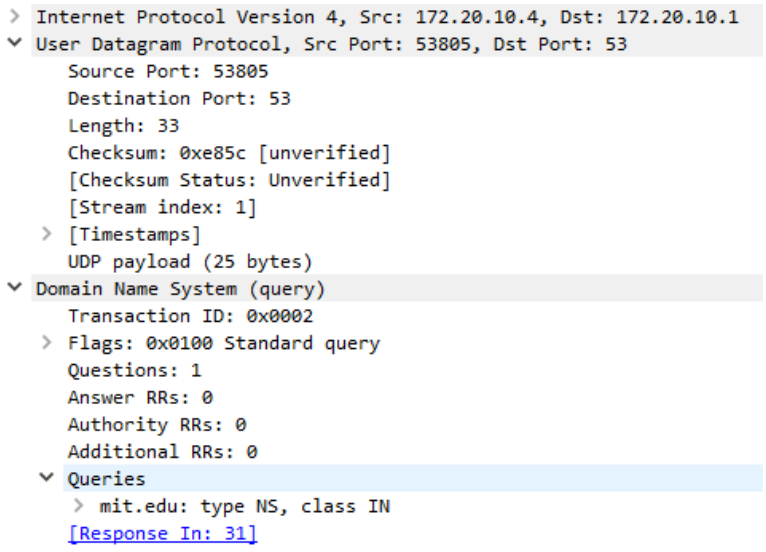
4. Answer questions 20,21,22 from prelab for query nslookup –type=NS mit.edu. Attach appropriate screenshots. *(0.75 points).*

20) To what IP address is the DNS query message sent? Is this the IP address of your default local DNS server? If not, what does the IP address correspond to?

The query is sent to 172.20.10.1 different IP address as that of my default local DNS server.



21) Examine the DNS query message. What "Type" of DNS query is it? Does the query message contain any "answers"?



The DNS query is a type "NS" message including one question. The query message did not contain any answers.

22) Examine the DNS response message. How many "answers" are provided? What does each of these answers contain?

8 Answer containing the name of the host, the type of address, the class, and the IP address. The IP addresses for the nameservers was included under the additional records category sent back as part of the response message