浙江大学

课程名称：	计算机网络与通信
报告题目：	DNS
指导老师：	徐文渊
学　　院：	电气工程学院
专业与班级：	自动化 1703
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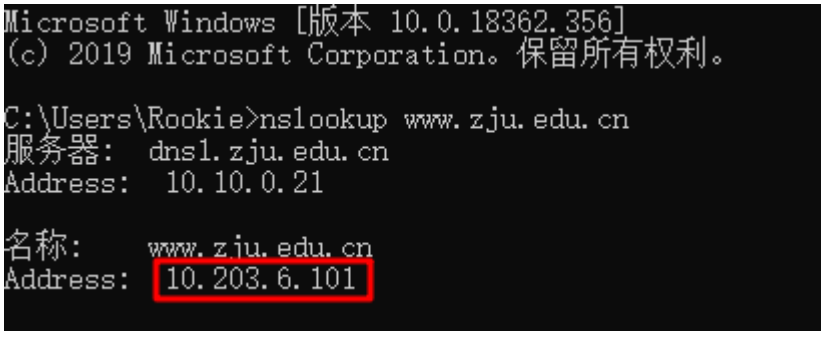
1. Run *nslookup* to obtain the IP address of a Web server in Asia.

For this question, I queried the webpage of Zhejiang university, which is in Asia

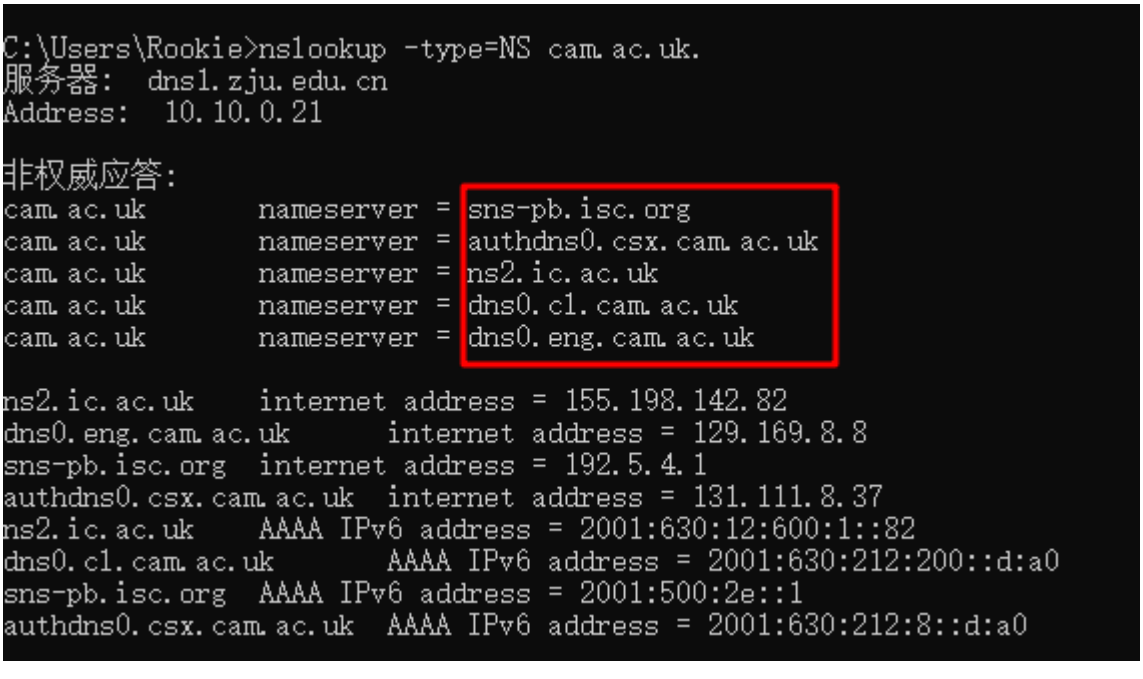
The IP address of www.zju.edu.cn is 10.203.6.101



2. Run *nslookup* to determine the authoritative DNS servers for a university in Europe.

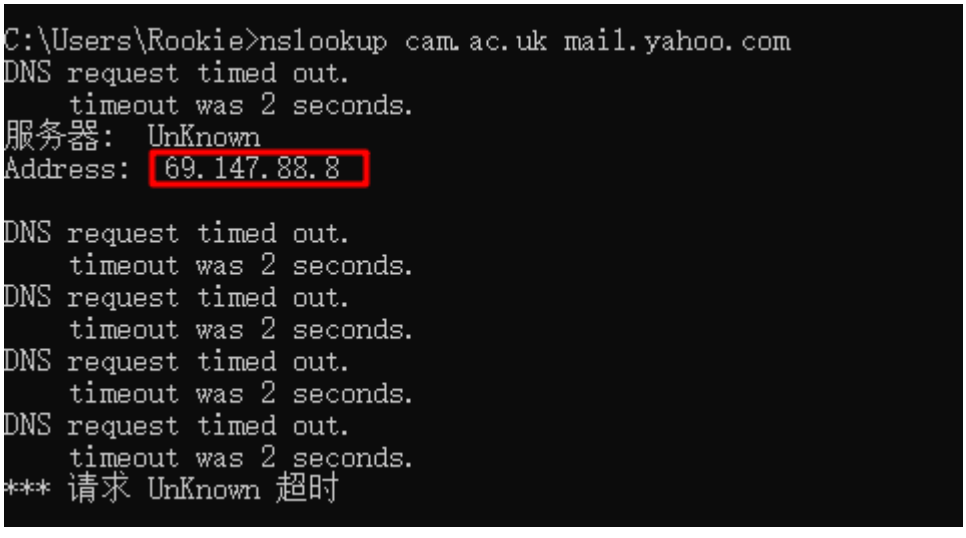
I queried the webpage of Cambridge. There are five authoritative DNS servers for Cambridge as listed below:

- sns-pb.isc.org
- authdns0.csx.cam.ac.uk
- ns2.ic.ac.uk
- dns0.cl.cam.ac.uk
- dns0.eng.cam.ac.uk



3. Run *nslookup* so that one of the DNS servers obtained in Question 2 is queried for the mail servers for Yahoo! mail.

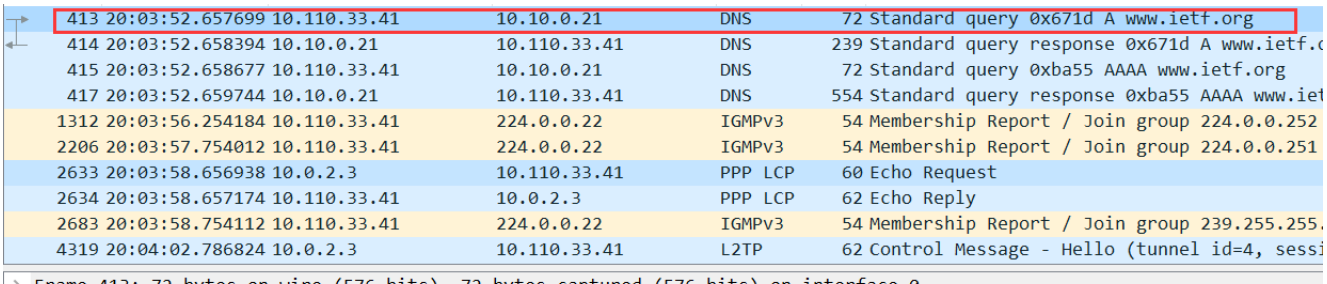
The IP addreess for the DNS server if queried for the Yahoo! mail server is 69.147.88.8

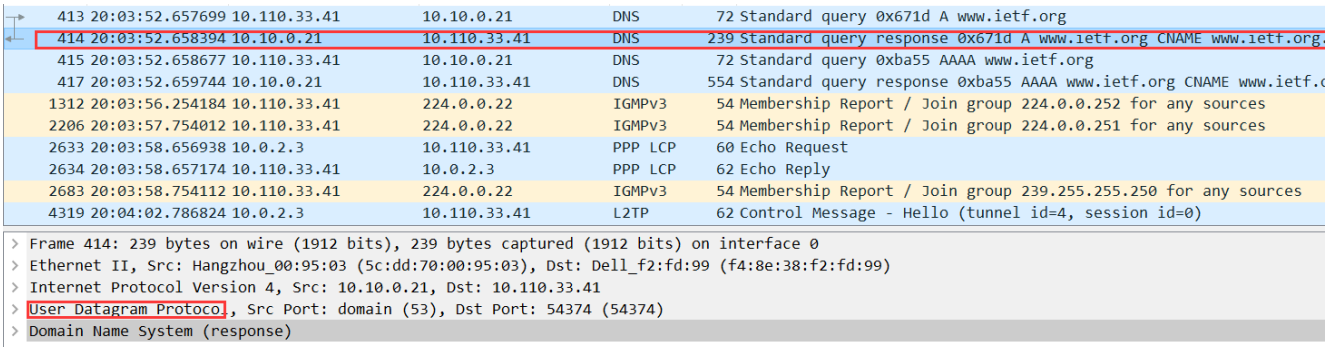


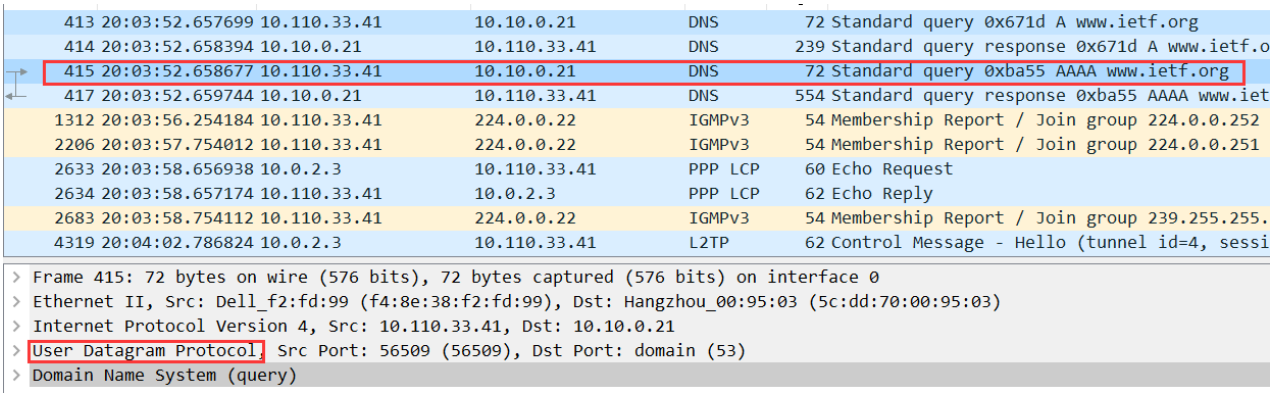
4. Locate the DNS query and response messages. Are they sent over UDP or TCP?

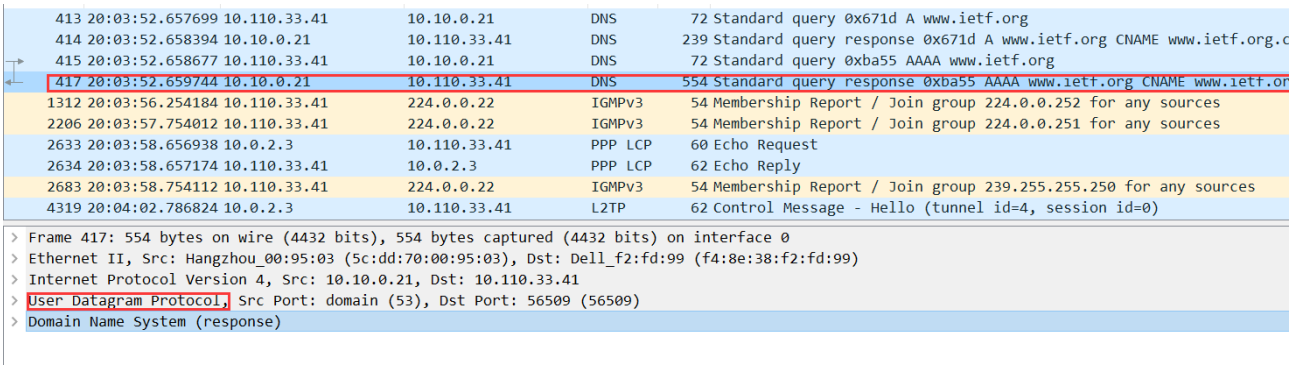
There are four DNS query and response messages shown below.

As is shown in the following pictures, they are all sent over UDP



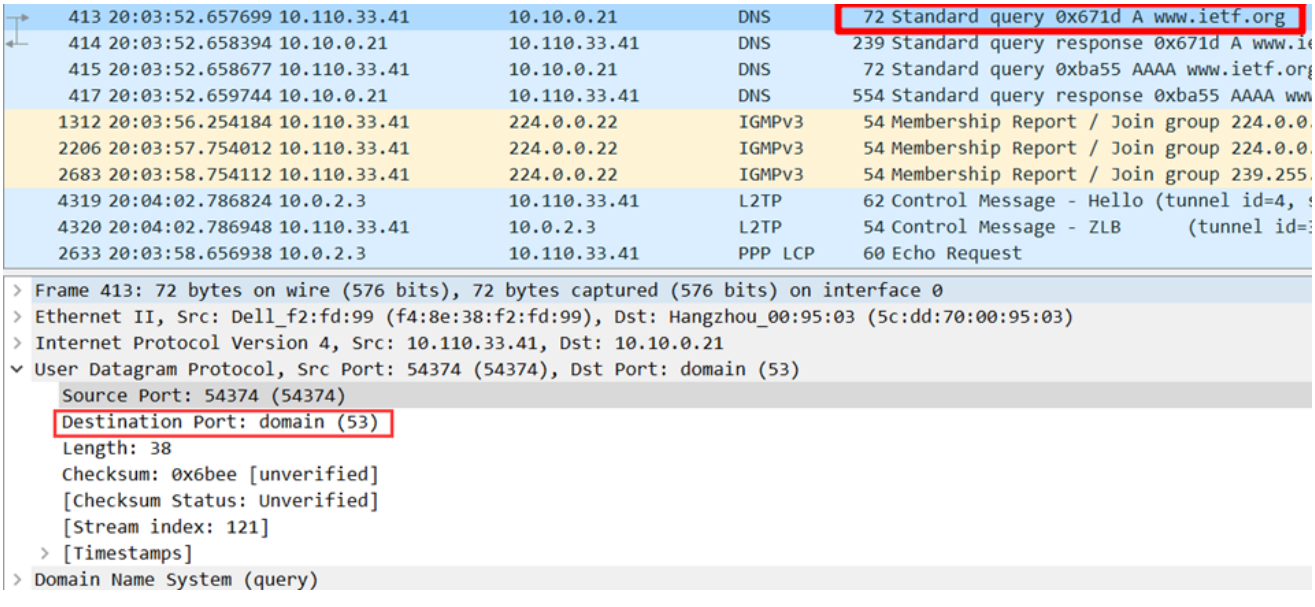


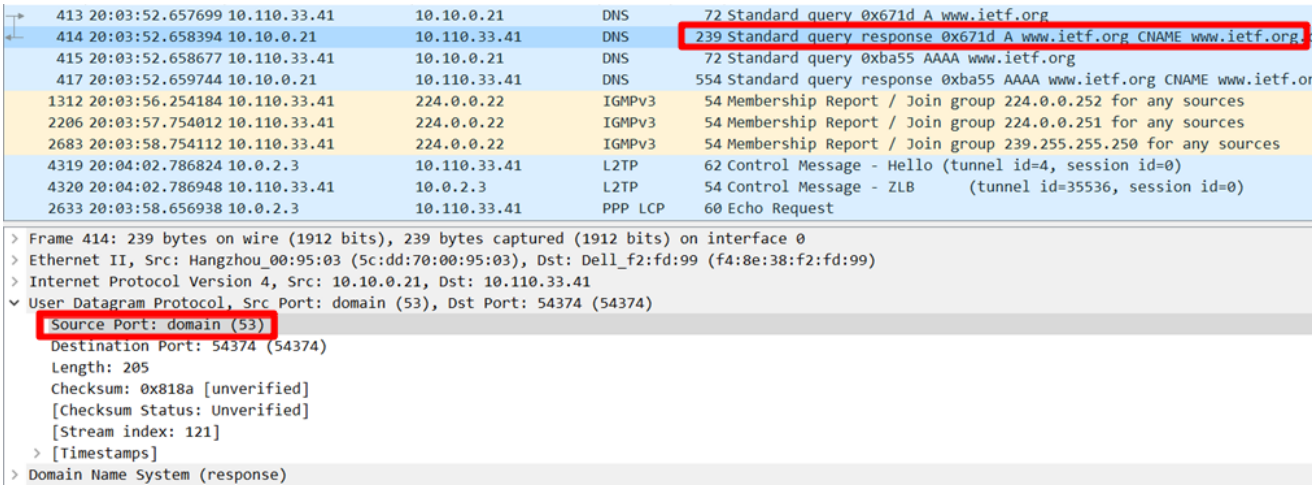




5. What is the destination port for the DNS query message? What is the source port of DNS response message?

As is shown in the following pictures, the destination port for the DNS query message and the source port of DNS response message are all 53. They are all the same, which is correspondence to the text book.



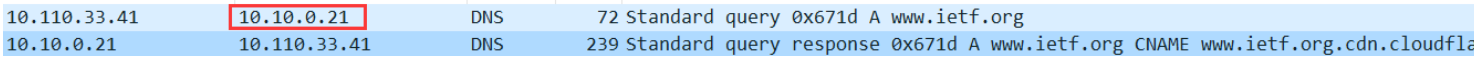


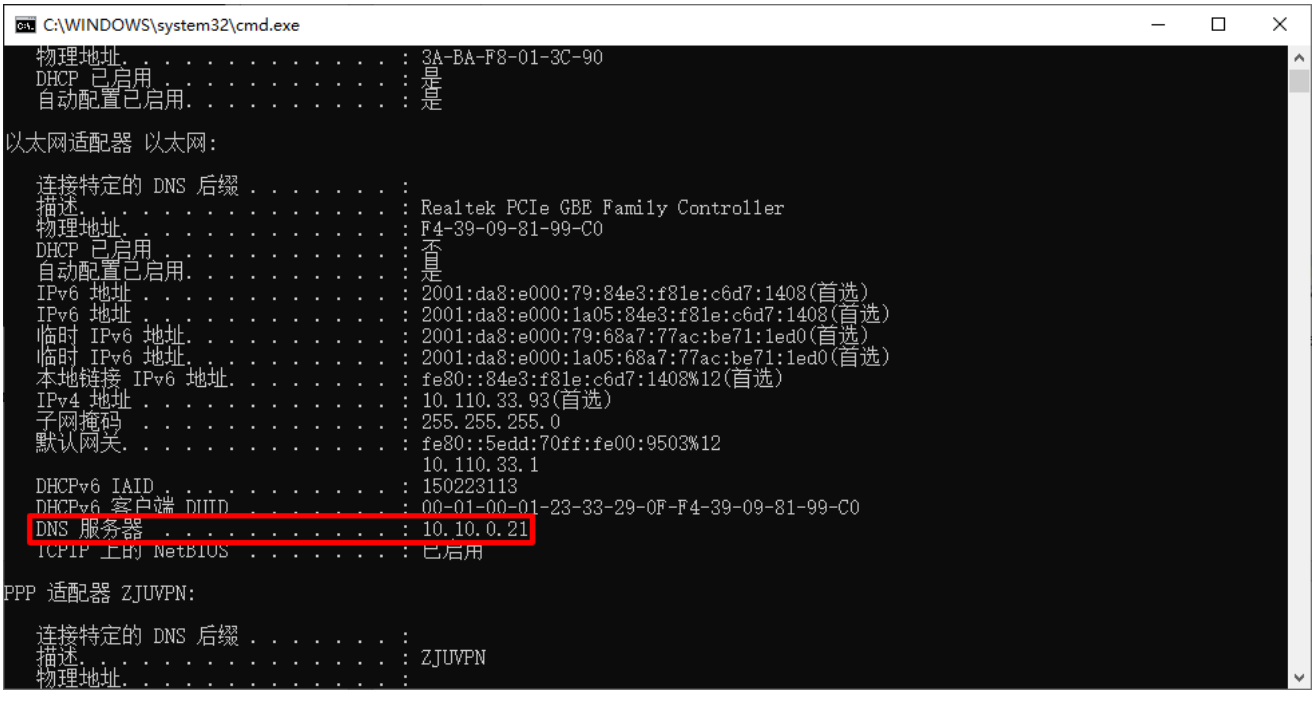
6. To what IP address is the DNS query message sent? Use *ipconfig* to determine the IP address of your local DNS server. Are these two IP addresses the same?

The DNS query message is sent to 10.10.0.21 as is shown in the first picture.

Use ipconfig /all to find out the IP address of my local DNS server, which is shown in the second picture.

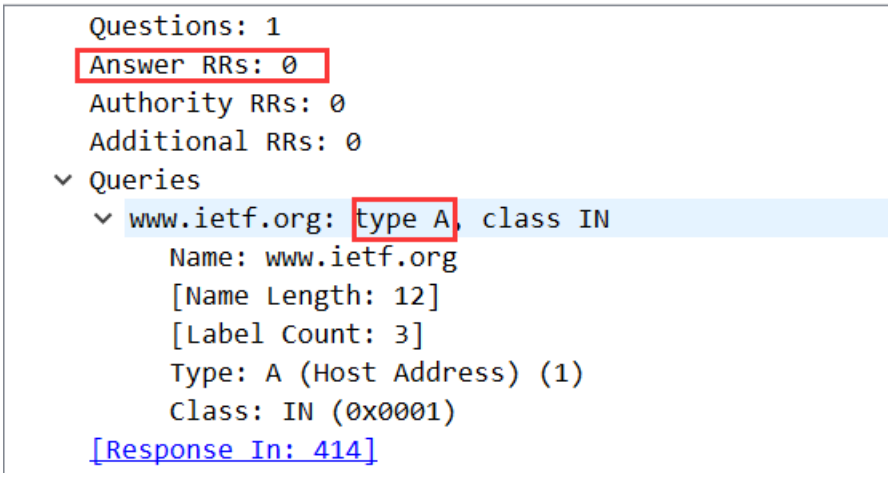
They are absolutely the same.





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

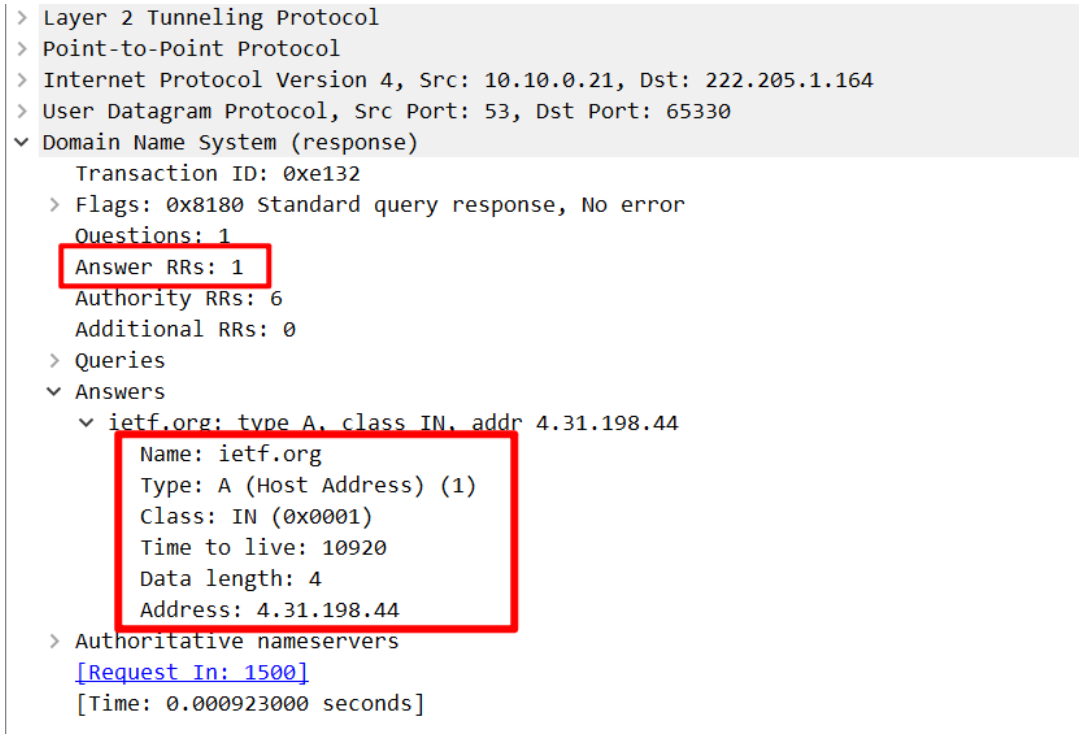
The DNS query message is shown below. It's a Type A DNS query and no answers are contained.



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

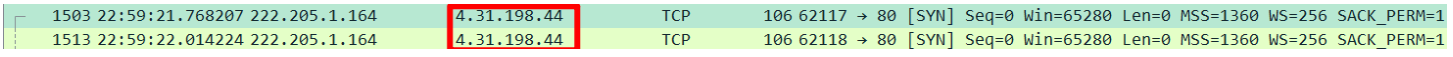
As is shown in the picture, one answer is provided in the DNS response message.

Name, Type, Class, Time to Live, Data Length and Address are contained in the response.



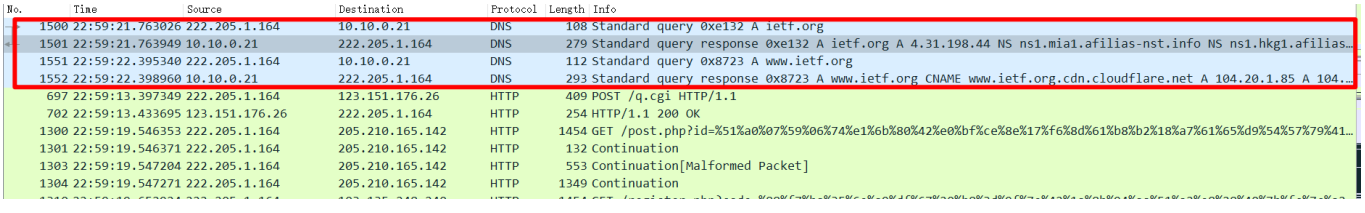
9. Consider the subsequent TCP SYN packet sent by your host. Does the destination IP address of the SYN packet correspond to any of the IP addresses provided in the DNS response message?

The destination IP address of the SYN packet is the same as the IP address provided in the DNS response message as is shown in the picture above and the picture below.



10. This web page contains images. Before retrieving each image, does your host issue new DNS queries?

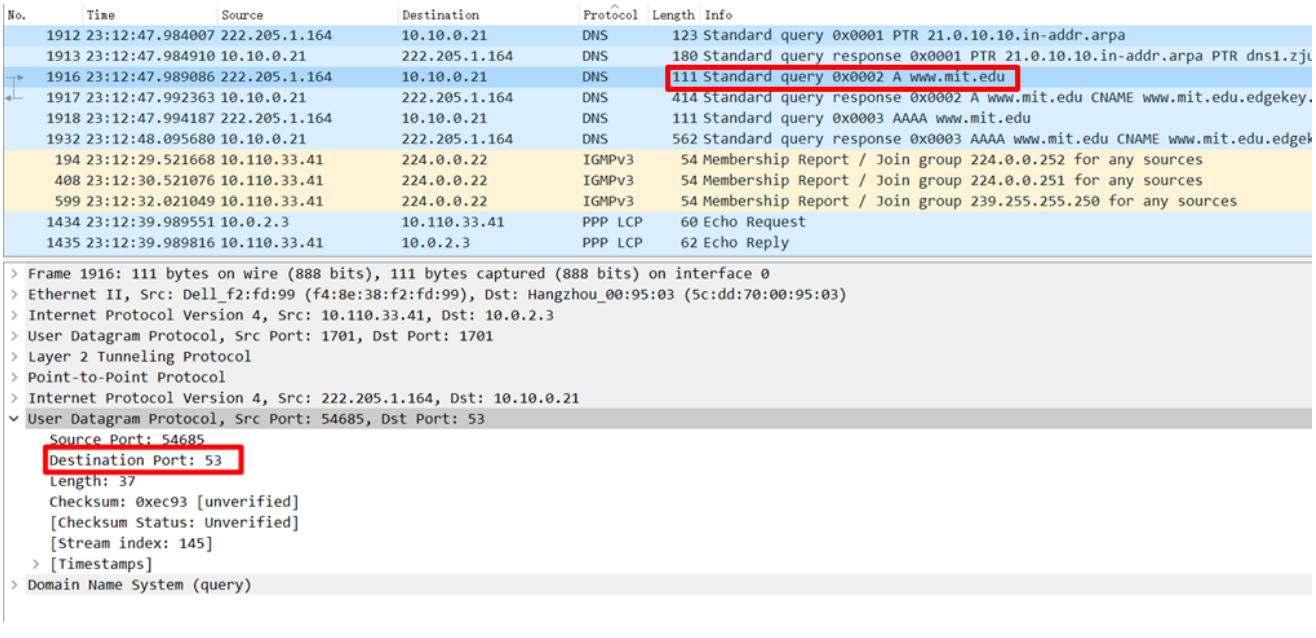
No, the images are all loaded from www.ietf.org, so no more DNS queries are necessary.

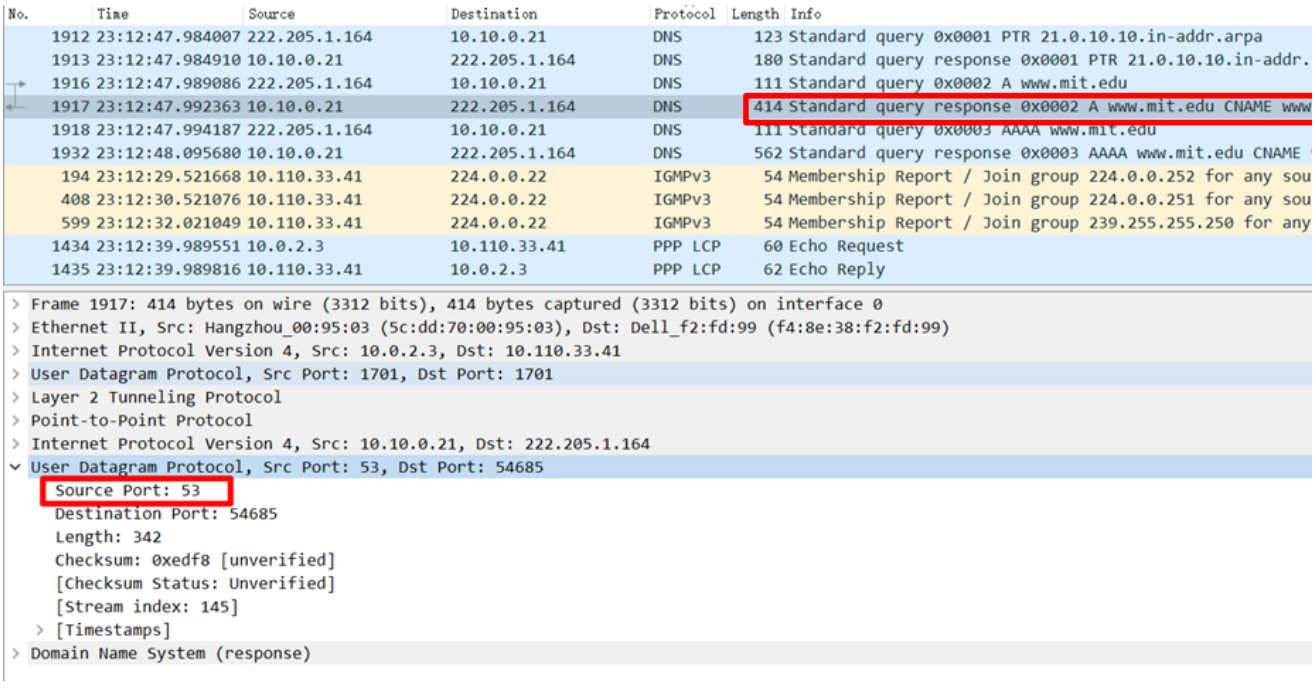


11. What is the destination port for the DNS query message? What is the source port of DNS response message?

The destination port for the DNS query message is 53.

The source port of DNS response message is also 53.

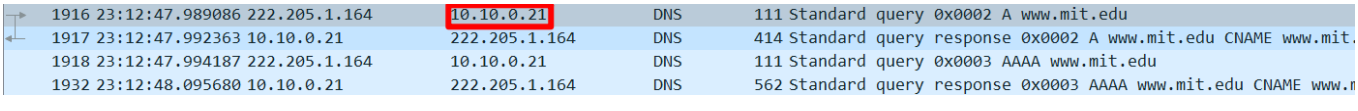




12. To what IP address is the DNS query message sent? Is this the IP address of your default local DNS server?

The DNS query message is sent to 10.10.0.21.

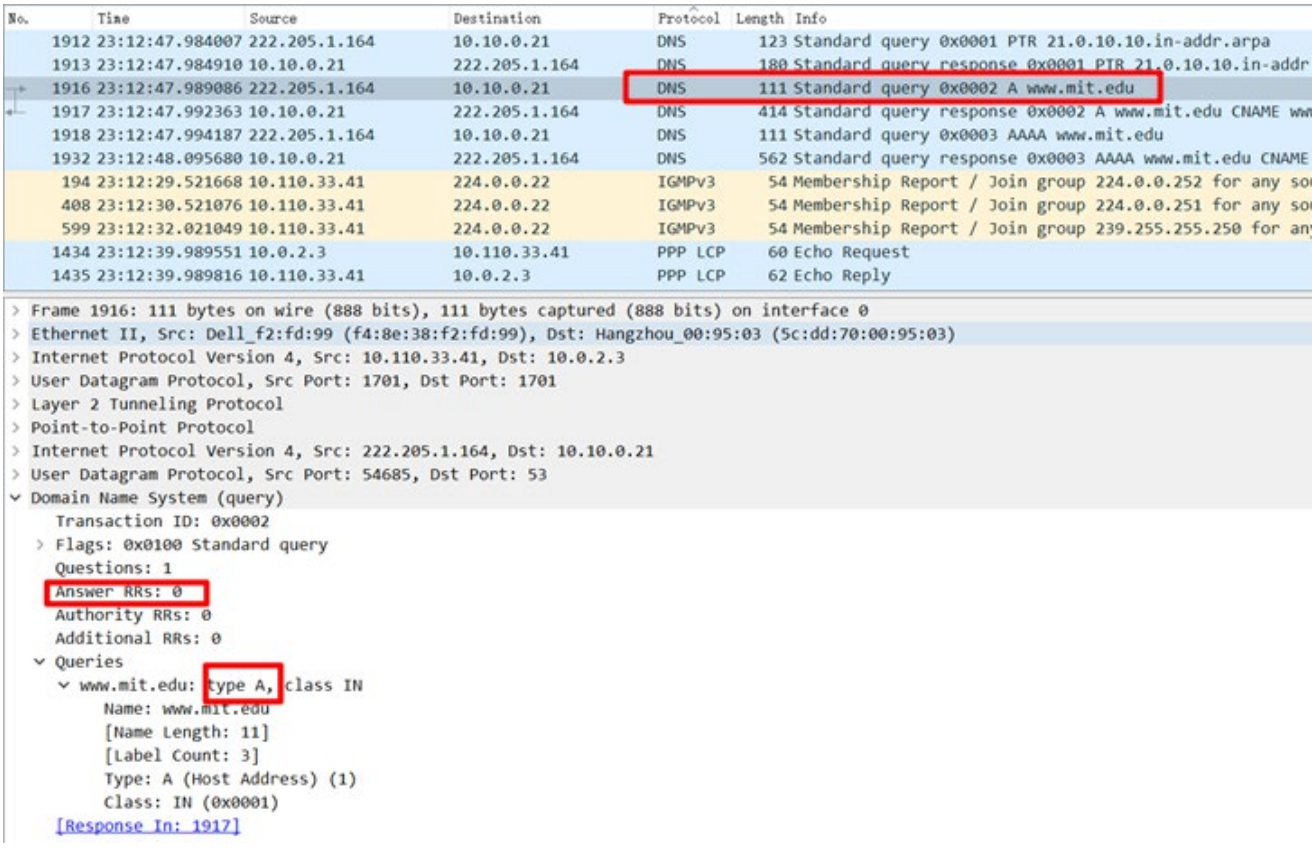
Use ipconfig /all to find out the IP address of my local DNS server, which is shown in the second picture. They are absolutely the same.



Yes. (see the screenshot)

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

The DNS query message is shown below. It's a Type A DNS query and no answers are contained.

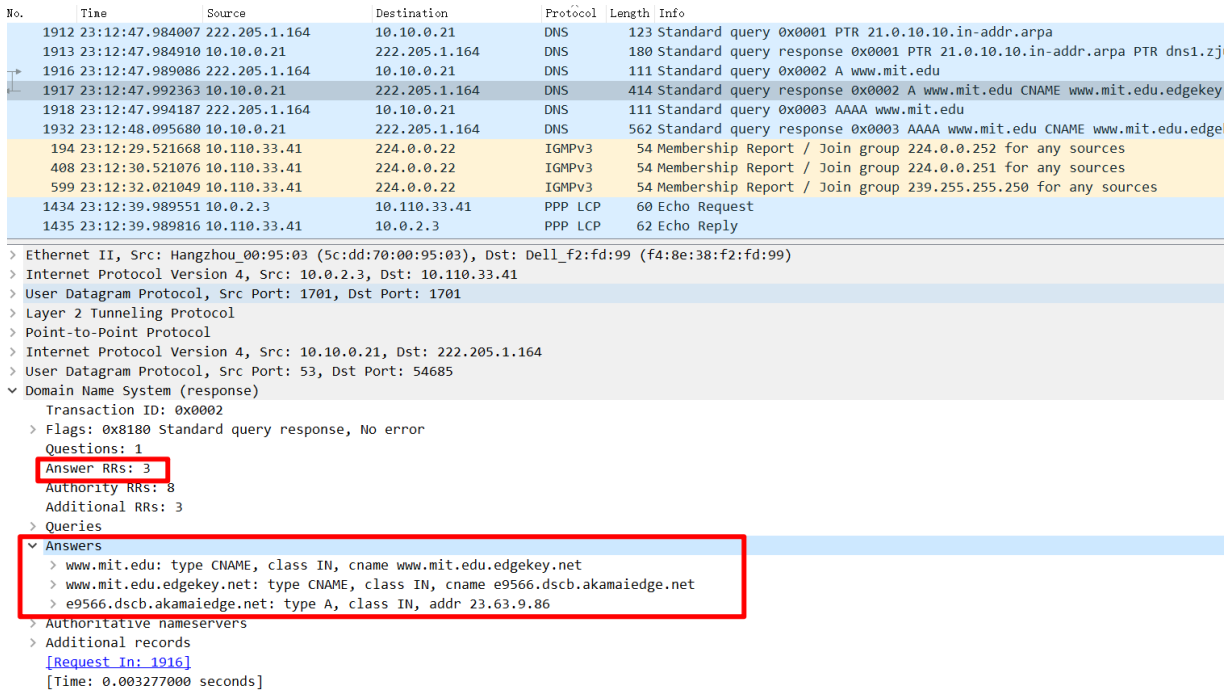


14. Examine the DNS response message. How many "answers" are provided? What does each of these answers contain?

Three answers are provided.

Two of them contains type, class and cname.

Another one contains type, class, addr.



15. Provide a screenshot.

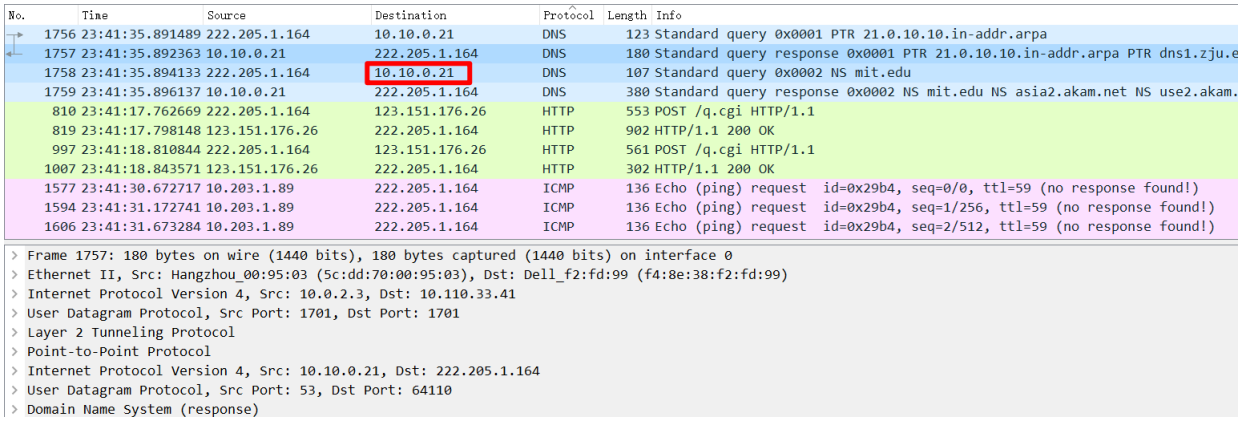
Already shown after every question

16. To what IP address is the DNS query message sent? Is this the IP address of your default local DNS server?

The DNS query message is sent to 10.10.0.21.

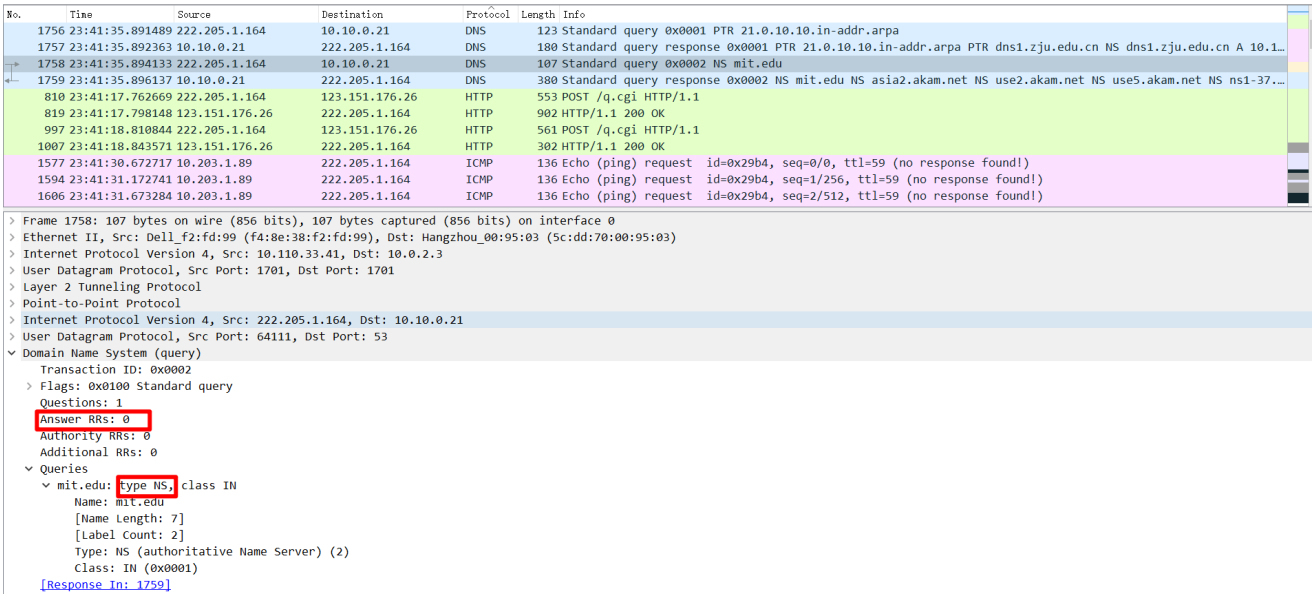
Use ipconfig /all to find out the IP address of my local DNS server, which is shown in the second picture.

They are absolutely the same.



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

The DNS query message is shown below. It's a Type NS DNS query and no answers are contained.



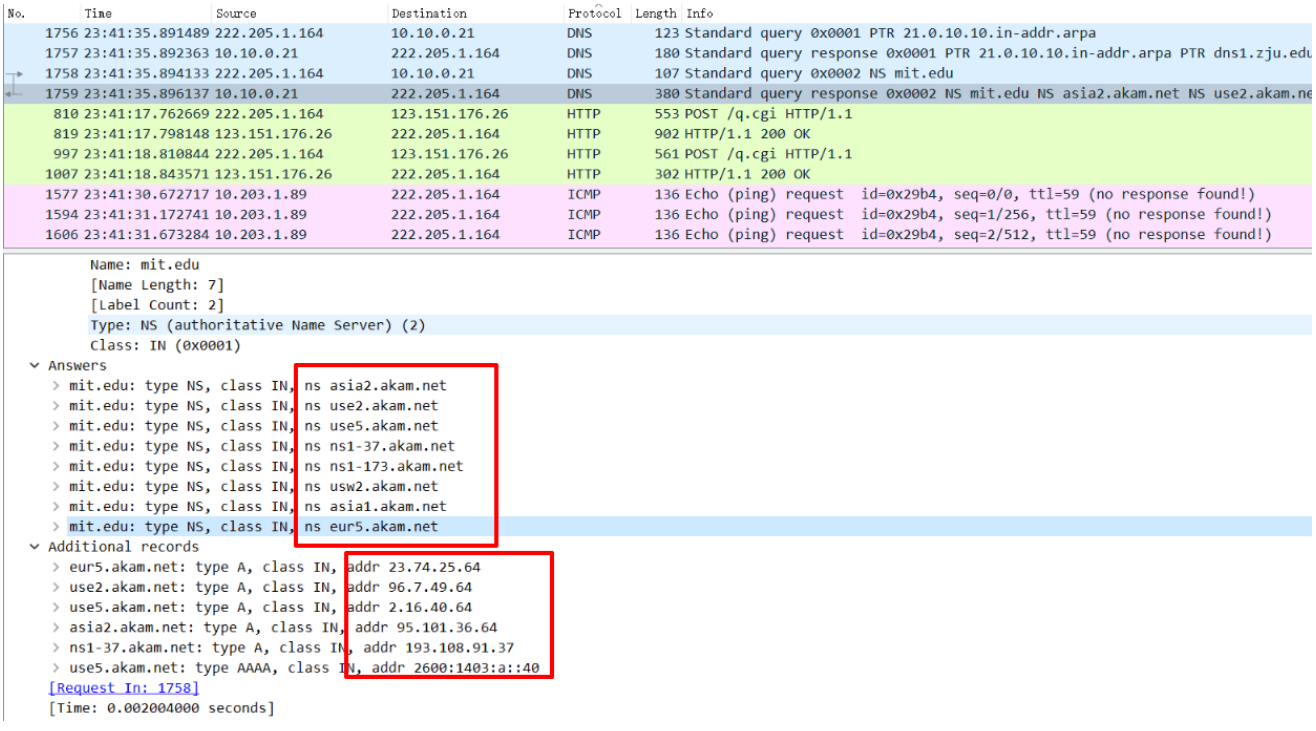
18. Examine the DNS response message. What MIT name servers does the response message provide? Does this response message also provide the IP addresses of the MIT name servers?

The following name servers are provided.

- Asia2.akam.net
- Use2.akam.net

- Use5.akam.net
- Ns1-37.akam.net
- Ns1-173.akam.net
- Usw2.akam.net
- Asia1.akm.net
- Eur5.akm.net

The IP address of the MIT name servers are also provided in the additional records.



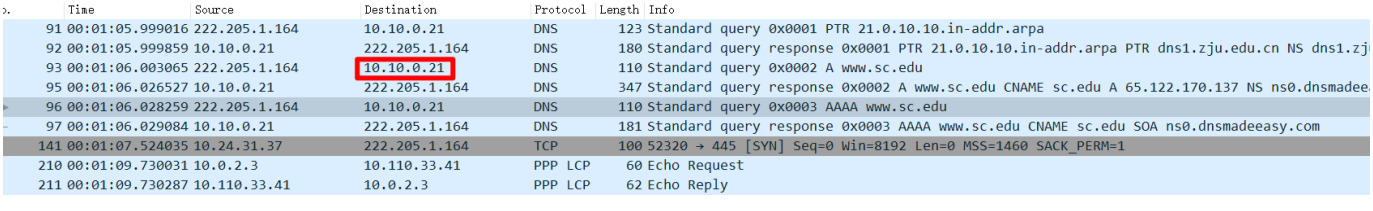
19. Provide a screenshot.

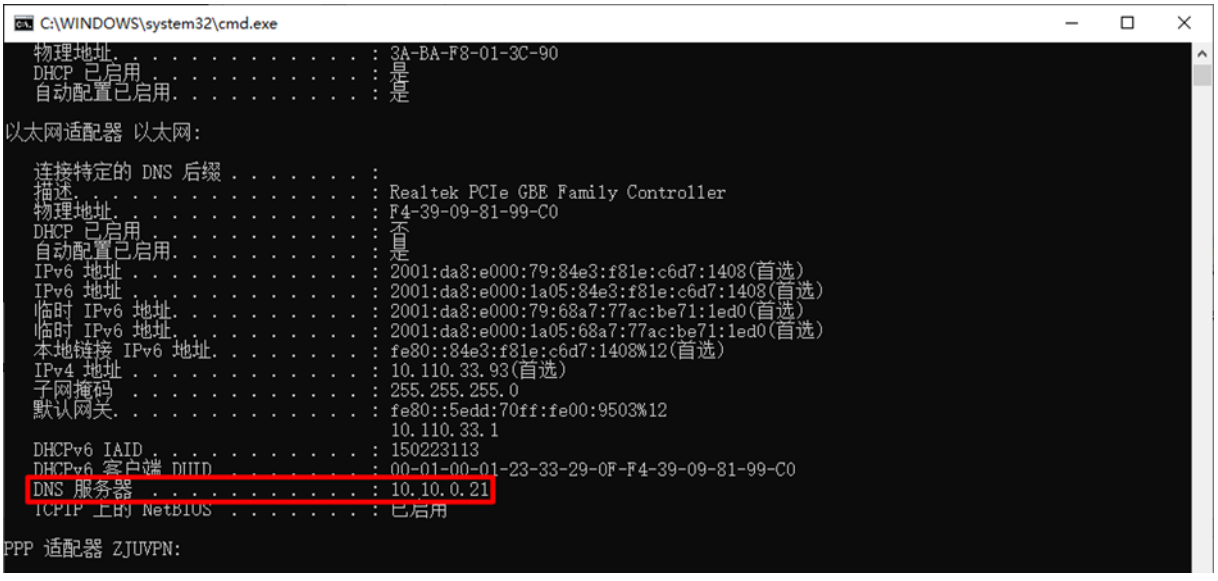
Already shown after every question

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 DNS query message is sent to 10.10.0.21.

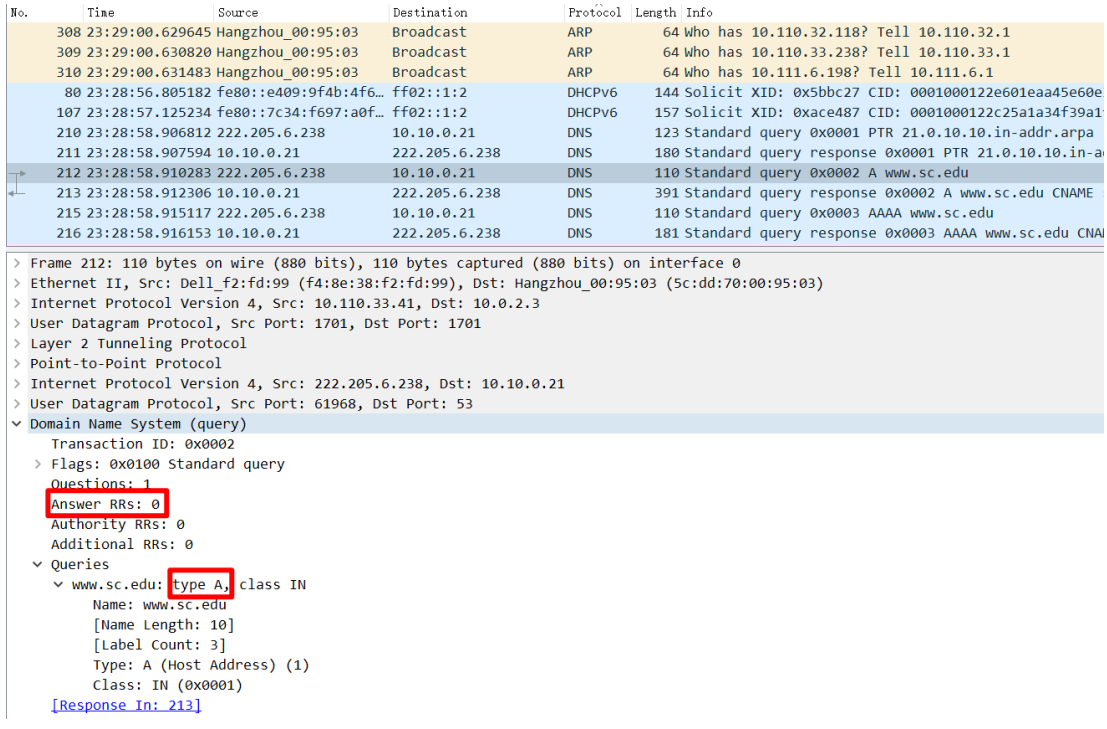
Use ipconfig /all to find out the IP address of my local DNS server, which is shown in the second picture. They are absolutely the same.





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

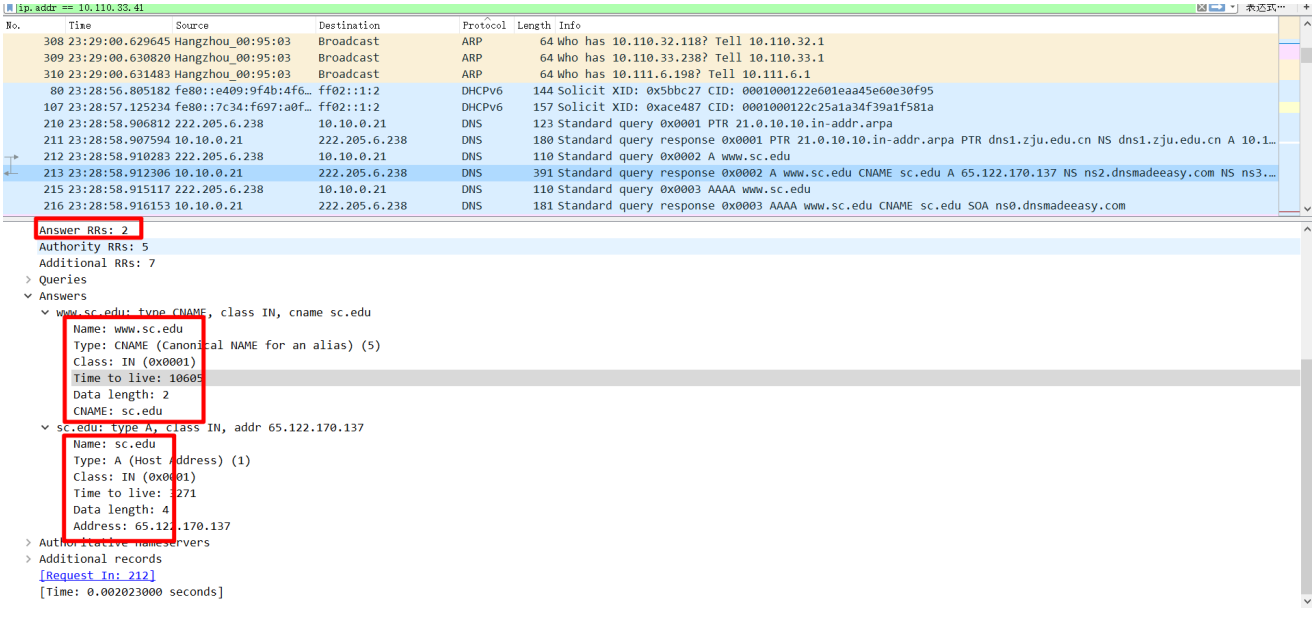
It's a Type A DNS query and no answers are contained.



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

Two answers are provided.

One answer contains Name, Type, Class, Time to Live, Data Length and Address and the other contains Name, Type, Class, Time to Live, Data Length and CNAME



23. Provide a screenshot.

Already shown after every question