**Computer Networks Lab#3**



**Session: 2021**

**Submitted by:**

**M.Farjad Waseem 2021-SE-56**

**Submitted to:**

**Sir Umer Rasheed**

Department of Computer Science

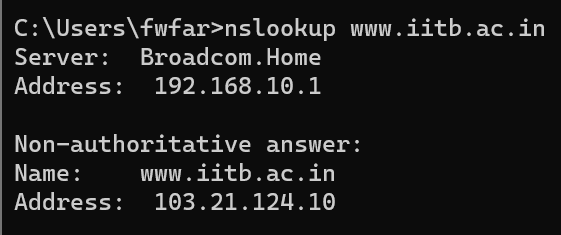
University of Engineering and Technology, Lahore, New Campus

* Run nslookup to obtain the IP address of the web server for the Indian Institute of Technology in Bombay, India: www.iitb.ac.in. What is the IP address of [www.iitb.ac.in](http://www.iitb.ac.in)?

Ans. IP Address: 103.21.124.10

* What is the IP address of the DNS server that provided the answer to your nslookup command in question 1 above?

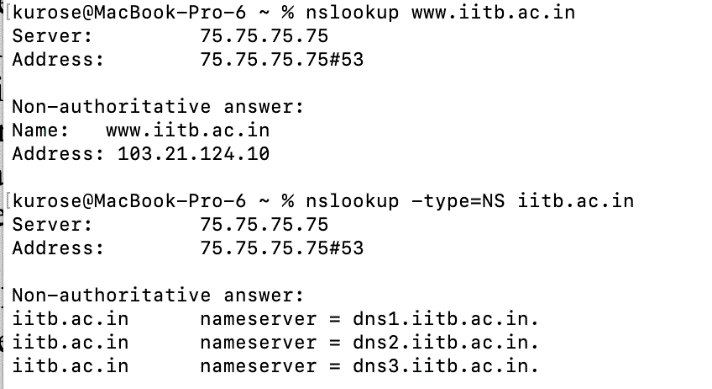
Ans.



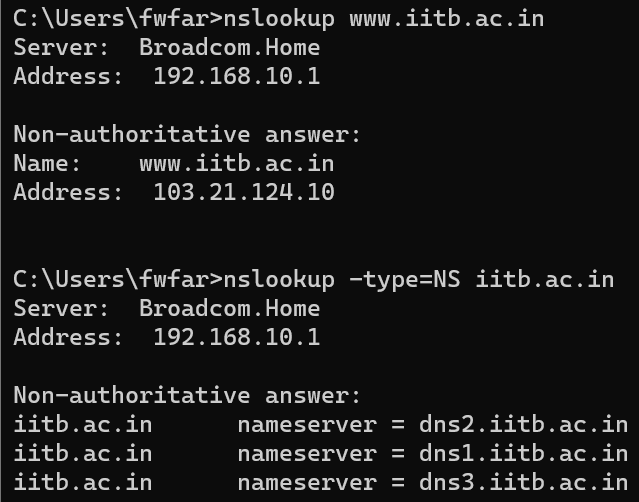
* Did the answer to your nslookup command in question 1 above come from an authoritative or non-authoritative server?

Ans. The Answer came from a Non-authoritative server.

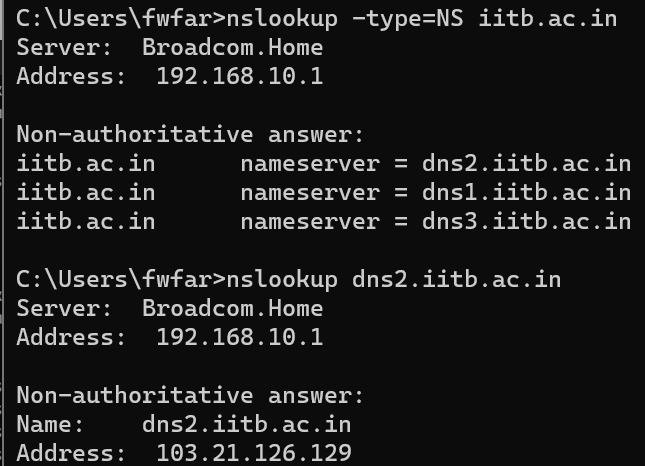
* Use the nslookup command to determine the name of the authoritative name server for the iit.ac.in domain. What is that name? (If there are more than one authoritative servers, what is the name of the first authoritative server returned by nslookup)? If you had to find the IP address of that authoritative name server, how would you do so?



Ans.



And to find the IP address of that particular nameserver we just have to provide that specific name in nslookup {nameserver}



* Locate the first DNS query message resolving the name gaia.cs.umass.edu. What is the packet number[[1]](#footnote-1) in the trace for the DNS query message? Is this query message sent over UDP or TCP

Ans: 3580;UDP

* Now locate the corresponding DNS response to the initial DNS query. What is the packet number in the trace for the DNS response message? Is this response message received via UDP or TCP? **Ans: 3581; UDP**
* What is the destination port for the DNS query message? What is the source port of the DNS response message? **Answer:** 53; 61614;
* To what IP address is the DNS query message sent? **Answer:** 172.16.30.254
* Examine the DNS query message. How many “questions” does this DNS message contain? How many “answers” answers does it contain? **Answer:** 1; 0
* Examine the DNS response message to the initial query message. How many “questions” does this DNS message contain? How many “answers” answers does it contain? **Answer:** 1; 0
* The web page for the base file http://gaia.cs.umass.edu/kurose\_ross/ references the image object http://gaia.cs.umass.edu/kurose\_ross/header\_graphic\_book\_8E\_2.jpg , which, like the base webpage, is on gaia.cs.umass.edu. What is the packet number in the trace for the initial HTTP GET request for the base file http://gaia.cs.umass.edu/kurose\_ross/? What is the packet number in the trace of the DNS query made to resolve gaia.cs.umass.edu so that this initial HTTP request can be sent to the gaia.cs.umass.edu IP address? What is the packet number in the trace of the received DNS response? What is the packet number in the trace for the HTTP GET request for the image object http://gaia.cs.umass.edu/kurose\_ross/header\_graphic\_book\_8E2.jpg? What is the packet number in the DNS query made to resolve gaia.cs.umass.edu so that this second HTTP request can be sent to the gaia.cs.umass.edu IP address? Discuss how DNS caching affects the answer to this last question.

**Answer:** HTTP = 1142; DNS = 7730; DNS response = 7820;

HTTP (image) = 5582; DNS (second get) = 7907

1. [↑](#footnote-ref-1)