DHCP & NAT Lab

DHCP

0) IP address of the DHCP server: 192.168.0.1

1) The list of DNSs that DHCP server offers:
DNS: 192.168.0.1
DNS: 0.0.0.0

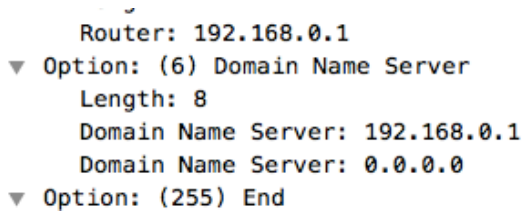

Figure 1.

2) Yes, client is asking for the IP address: 192.168.0.105

3) What is (are) the IP address (es) DHCP server is offering to you?
Your (client) IP address: 192.168.0.105

4) In which option (number and name) in the Bootstrap protocol tree, DHCP server tells its identifier (IP address)?

In DHCP offer message in the Bootstrap protocol in
Option: (54) DHCP Server Identifier (Figure 2).

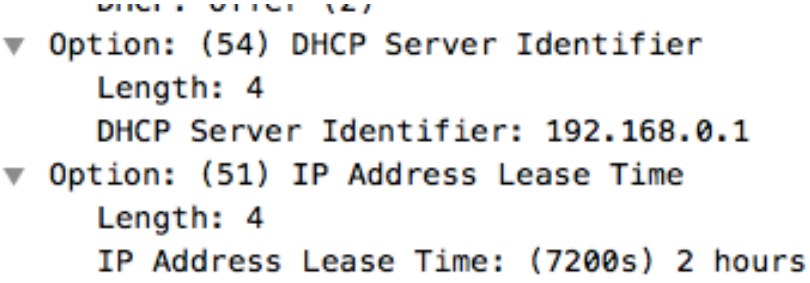

Figure 2

5) How much time you can use that IP address, according to the information given in the packets?
2 hours. (Figure2)

NAP
6) IP address of the client: 192.168.1.100

7) Consider now the HTTP GET sent from the client to the Google server (whose IP address is IP address 64.233.169.104) at time 7.102967. What are the source and destination IP addresses and TCP source and destination ports on the IP datagram carrying this HTTP GET?
Source IP: 192.168.1.100
Destination IP: 64.233.169.104
TCP source port: 4335
TCP destination port: 80

8) Corresponding HTTP 200 OK message
a) Received at time: 7.158797
b)
Source IP: 64.233.169.104
Destination IP: 192.168.1.100
TCP source port: 80
TCP destination port: 4335

9) In the NAT_ISP_side trace file:
a)Find the HTTP GET message was sent from the client to the Google server at time 7.109267 (where t=7.109267 is time at which this was sent as recorded in the NAT_home_side trace file). At what time does this message appear in the NAT_ISP_side trace file?
At time 6.069168

9-b) What are the source and destination IP addresses and TCP source and destination ports on the IP datagram carrying this HTTP GET (as recording in the NAT_ISP_side trace file)?
Source IP: 71.192.34.104
Destination IP: 64.233.169.104
TCP source port: 4335
TCP destination port: 80

9-c) Which of these fields are the same, and which are different, than in your answer to question 7 above?
Both source and destination port are same as well as destination IP address, while source IP address is different.

10-a) In the NAT_ISP_side trace file, at what time is the first 200 OK HTTP message received from the Google server?
At time: 6.117.570

10-b) What are the source and destination IP addresses and TCP source and destination ports on the IP datagram carrying this HTTP 200 OK message?
Source IP: 64.233.169.104
Destination IP: 71.192.34.104
TCP source port: 80
TCP destination port: 4335

10-c) Which of these fields are the same, and which are different than your answer to question 8 above?
Again source and destination ports are same as well as source IP address, while destination IP address is different.

11) Based on this information, fill in the following table:

NAT Translation table	
Local (IP & port)	Global (IP & port)
192.168.1.100	71.192.34.104

Table1.