

# ASSIGNMENT 8: NAT

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## Part1:

**Q1]** What is the IP address of the client that sends the HTTP GET request in the nat-inside-wireshark-trace1-1.pcapng trace? What is the source port number of the TCP segment in this datagram containing the HTTP GET request? What is the destination IP address of this HTTP GET request? What is the destination port number of the TCP segment in this datagram containing the HTTP GET request?

A] Source IP: 192.168.10.11

Src Port: 53924,

Dst Port: 80,

Dst IP: 138.76.29.8

**Q2]** At what time is the corresponding HTTP 200 OK message from the web server forwarded by the NAT router to the client on the router's LAN side?

A] Time: 2021-03-29 09:20:27.774683377

**Q3]** What are the source and destination IP addresses and TCP source and destination ports on the IP datagram carrying this HTTP 200 OK message?

A] Src: 138.76.29.8, Dst: 192.168.10.11

Src Port: 80, Dst Port: 53924

**Q4]** At what time does this HTTP GET message appear in the nat-outside-wireshark-trace1-1.pcapng trace file?

A] HTTP GET message at Time = 0.27356291s

**Q5]** What are the source and destination IP addresses and TCP source and destination port numbers on the IP datagram carrying this HTTP GET (as recorded in the nat-outside-wireshark-trace1-1.pcapng trace file)?

**A]** Src: 10.0.1.254, Dst: 138.76.29.8

Src Port: 53924, Dst Port: 80

**Q6]** Which of these four fields are different from your answer to question 1 above?

**A]** Only the Source IP is different.

**Q7]** Are any fields in the HTTP GET message changed?

**A]** No, fields are changed in the two.

**Q8]** Which of the following fields in the IP datagram carrying the HTTP GET are changed from the datagram received on the local area network (inside) to the corresponding datagram forwarded on the Internet side (outside) of the NAT router: Version, Header Length, Flags, Checksum?

**A]** Header Checksum: 0x64dc [validation disabled] Inside Wireshark Trace

Header Checksum: 0x2492 [validation disabled] Outside Wireshark Trace

Yes the fields are changed because of the IP address of source has changed.

**Q9]** At what time does this message appear in the nat-outside-wireshark-trace1-1.pcapng trace file?

**A]** Time at which OK received is 0.030625966s .

**Q10]** What are the source and destination IP addresses and TCP source and destination port numbers on the IP datagram carrying this HTTP reply ("200 OK") message (as recorded in the nat-outside-wireshark-trace1-1.pcapng trace file)?

**A]** Src: 138.76.29.8, Dst: 10.0.1.254

Src Port: 80, Dst Port: 53924

**Q11]** What are the source and destination IP addresses and TCP source and destination port numbers on the IP datagram carrying the HTTP reply (“200 OK”) that is forwarded from the router to the destination host in the right of Figure 1?

**A]** Src: 138.76.29.8, Dst: 192.168.10.11

Src Port: 80, Dst Port: 53924