

Computer Networks – FALL 2020

Assignment # 5

Submission Details: The deadline for submission is **Monday 14th December 2020 at 11.55 PM** sharp. Please submit a soft copy via **google classroom**.

Note: You are supposed to submit solution of all the questions given below, however, Instructors and TAs reserve the right to mark some of the questions and give full credit for other questions. Remember that directly copied answers from solution manuals will be considered plagiarism. You need to explain the answers in your own words/layman terms. Plagiarism will be dealt with strictly.

Use Computer Networking - A Top-Down Approach 6th Edition for this assignment

Question 01: (Minimum 500 Maximum 700 words)

Write detailed notes on the following topics related to IPv6:

1. Header format in IPv6.
2. Compare QoS and performance of IPv4 vs. IPv6
3. How is security in IPv6 accomplished (necessarily explain IPSec and the two types of packets and their header formats plus their security properties they achieve)?
4. How is translation between IPv4 and IPv6 done. Describe some possible strategies.

Question 02: (Minimum 500 Maximum 700 words)

1. What is NAT traversal. Provide some examples (from the book) or internet that explains your understanding of NAT traversal.
2. Consider the diagram shown in the figure 1. Assume the router has four interfaces two of which are private interfaces and two are public. Considering NAT as the protocol for address translation, draw the NAT table(s) to show how it is possible for hosts with private IP(a) and private IP(b) to send 1 packet each to Server 1 and Server 2. Show the working in the form of table(s) and explain your working.

Question 03: Marks 5

1. Why TCP two-way handshake does not work?

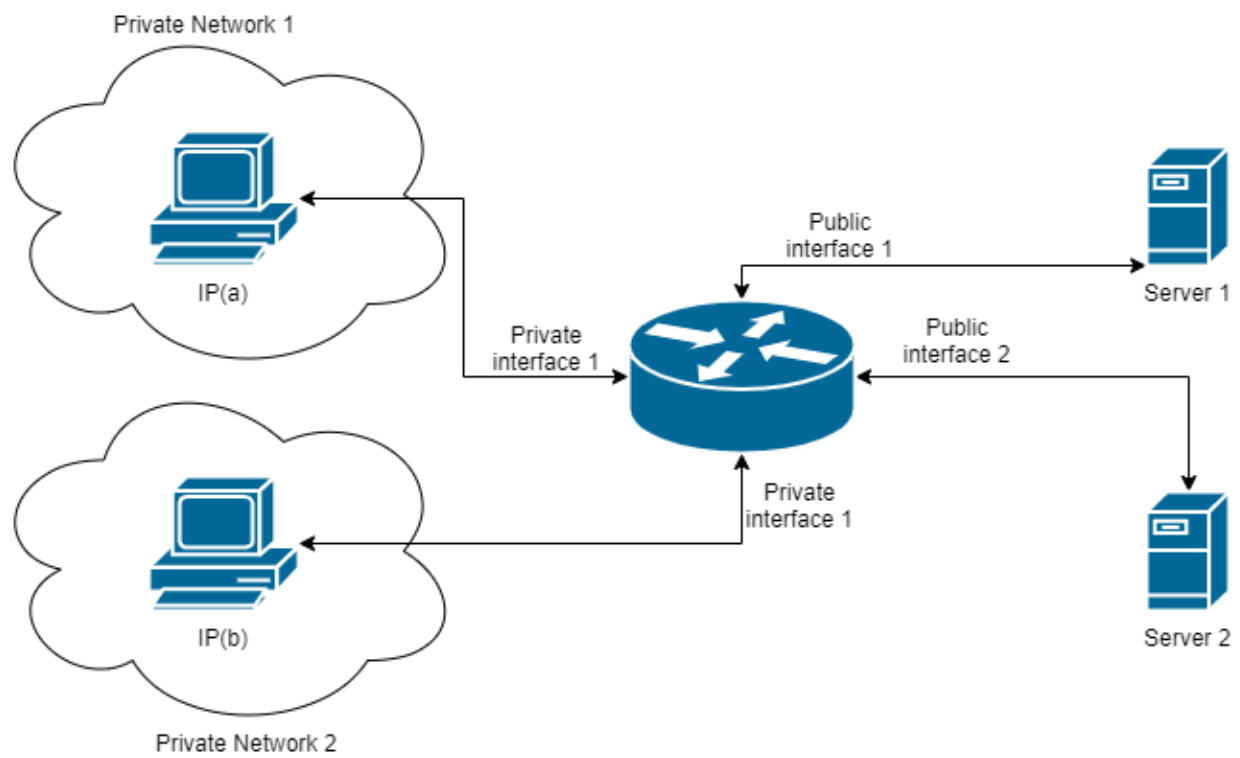


Figure 1