

Computer Networks

Lab Assignment 2 Report

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Part 1

- 1) The black colour identifies TCP packets with problems and errors - like packets delivered out-of-order, ICMP errors, Bad TCP etc.
- 2) Typing `http.request.method=="GET"` in the filtering field would give all outgoing http traffic, this is the required filter command.
- 3) DNS follows UDP stream because UDP is much faster and it reduces load. DNS requests are small, so perfectly fits in UDP segments, but this is not the case with http, so http needs to be sent in different packets, so UDP is not used by http. Also http needs to be as reliable as possible, which UDP is not (UDP just sends a single request and waits for the reply from server only once, so not reliable). TCP is reliable because if request fails first time, it can be reloaded again. As it uses 3-way handshake, it is reliable, but it is slow, so, not used by DNS, but used by http.

Part 2

- 1) The different protocols that appear in the protocol column in the unfiltered packet-listing window in wireshark GUI are TCP, TLSv1.2, TLSv1.3, HTTP, DNS, ICMP, OCSP.
- 2) The time it took from when the HTTP GET message was sent until the HTTP OK reply was received for the webpage(www.amazon.in) I visited in mozilla is 0.070156361 seconds. I calculated it subtracting GET time from OK time shown from screenshots.
- 3) The IP address of the website(www.amazon.in) I visited is 34.107.221.82. Internet address of my computer is 10.0.2.15.
- 4) I printed those 2 packets obtained from mozilla as a pdf.

- 5) I executed the same steps in google chrome and opera, I didn't find http protocol when I visited www.amazon.in using those browsers, but found http protocol using mozilla firefox. The proof of the same is attached using screenshots that I found no packet when I searched for http for chrome and opera but found packets when used mozilla firefox. I found that chrome and opera were using https when I saw the url in the search bar. I tried with different websites also, the results were same.