**Worksheet 4 - HTTP**

1. Identify and mark the HTTP method(request or response), URL, Version no. field and values in the following messages captured on Wireshark:

GET / HTTP/1.1

Host: google.com

Connection: keep-alive

Upgrade-Insecure-Requests: 1

User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/71.0.3578.98 Safari/537.36

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,\*/\*;q=0.8

Accept-Encoding: gzip, deflate

Accept-Language: en-US,en;q=0.9

Cookie: ANID=AHWqTUm3IgH\_8-si\_QBhRNJ0-H2RHtEgMuy3yH1s2\_uRJ0bVg-9y\_vqFX5ZYbKbE; SID=AQfpACzcH\_jGW4\_SFXvEbEj092TyzCgyHDKKgt-cgLDWhBoyAW26EFAKoud4UkzgC-Q-Xw.; HSID=A5gfhCMwvDkAdJoal; APISID=z131H3wCaNi1mquF/AMlh2dFh8PNng\_bct; NID=158=AFQkhlH\_nPT06Vu5gTyTc2PBy0ZZ3g3V3bo66WaZTIwQ4LcaVlGFQ1nzjhzBjepQSTIgNBFU\_WccKtQwzlXrVUu76\_J1IL5NYYGCpjM1YE3KyWixmPAb6yND3SXObCJD\_tgyR5FYrtY554KcaTuLKCpeokwpuBdrxIQQ\_tw\_pPT30iS1DHkHFRFUI5u0qDbcgsgMOPWHsLViV6yNkQyZVsrAo3jMQDrjagRmFoKAmwLSP223kePA9NWiEKGxZcYXWLiT-9EKYOXep5eWPv2p7r-49iVM; 1P\_JAR=2019-02-04-23; SIDCC=AN0-TYvbXBnhymUxJhdTMWnpCTpT9WYIs8zftoMT\_2rUgk4tQXk8VTXCmlW4rjfK4MC2FUDhUJ8D



HTTP/1.1 200 OK

Content-Type: text/xml; charset=utf-8

Server: Microsoft-IIS/10.0

X-ActivityId: d7b63bfa-c956-44ff-96f1-15a9154c6bb9

Access-Control-Allow-Origin: \*

X-AspNet-Version: 4.0.30319

X-Powered-By: ASP.NET

Cache-Control: public, max-age=331

Date: Mon, 04 Feb 2019 23:21:07 GMT

Content-Length: 4267

Connection: keep-alive

GET / HTTP/1.1

Host: amazon.com

Connection: keep-alive

Upgrade-Insecure-Requests: 1

User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/71.0.3578.98 Safari/537.36

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,\*/\*;q=0.8

Accept-Encoding: gzip, deflate

Accept-Language: en-US,en;q=0.9

Cookie: session-id=136-7174957-6726869; session-id-time=2082787201l; i18n-prefs=USD; ubid-main=133-1040048-1031134; x-wl-uid=1r1teBSRMw6MmHZ2pWULdXaxoqsgjY2yF+rMwvYIQTkk4jJUdRIwuL0yLWQsrcxSbMDNePvrNlt4=; session-token=LmJTeFQElGeANHU1D8TtUJn5Iau6BohWIOAS6+ZY4jdC9EVACF9cpMig4ktiA8d8lrJGQwtvCdqh4xAyV33D7m/Q7uNO8z7uJgqhWrDHOZiXR9QOFIcKzyrzurGD6P0r69rQhLGxne48SaoKbr70RLI/IeBNFcL7v25dVRJJ1OfOjFF8vpZnJluIuphXhNmV3X6NUBf2O19jek1ZQQaFkQCHeZCxItmhLhbaA9KJu9Jr5/9ybLJ3RRTWQ+KGpjiq; skin=noskin

HTTP/1.1 301 Moved Permanently

Server: Server

Date: Mon, 04 Feb 2019 23:26:50 GMT

Content-Type: text/html

Content-Length: 179

Connection: keep-alive

Location: <https://amazon.com/>

1. HTTP sends objects over a connection with a 1Mbps speed. Assuming each object’s size is 20KB and 100 such objects need to be sent. If you need to do handshaking everytime you need to make a connection. Let’s say handshaking time is 10ms. Ignore propagation delays.
   1. Find the total time taken by all objects to be sent out for both persistent and non-persistent HTTP.
   2. Draw and show the message exchange in case of persistent and non-persistent HTTP.