Part C

1. The output is shown in the chart below.

Find the client ports who established a connection with the server 1080 port. In each flow, find which packet made the request for a http object. Store these packets and output their relevant information.

| |
|---|
| Request (60672, 1080, 531332370, 4067447166) |
| Request (60673, 1080, 1169627050, 567443346) |
| Request (60674, 1080, 1589310827, 3500659705) |
| Request (60675, 1080, 1301289201, 1521228893) |
| Request (60676, 1080, 3362863937, 801774222) |
| Request (60677, 1080, 2856562573, 1108411385) |
| Request (60678, 1080, 257326706, 281039456) |
| Request (60679, 1080, 3194843554, 145225713) |
| Request (60680, 1080, 555179635, 3789777698) |
| Request (60681, 1080, 3720702224, 2256075426) |
| Request (60682, 1080, 2493324574, 1080656128) |
| Request (60683, 1080, 1526115315, 3443944905) |
| Request (60684, 1080, 3317795785, 3223210725) |
| Request (60685, 1080, 4059655798, 2394269278) |
| Request (60686, 1080, 260554962, 3638621890) |
| Request (60687, 1080, 447605021, 2802842157) |
| Request (60688, 1080, 760568620, 192967496) |

2. There are 17 connections with port 1080, so there are at least 17 objects. The connections with port 1801 and 1082 are all less than 17, which means there exists multiple objects in single connection. Therefore, for http_1080.pcap, http version is 1.0, each object has a single connection. Http_1081.pcap is in version 1.1, persistent and parallel. Http_1082.pcap is in version 2.0, a single connection transmits all the objects. The result is shown in the chart below.

| |
|---|
| Port 1080 HTTP version: HTTP/1.0 |
| Port 1081 HTTP version: HTTP/1.1 |
| Port 1082 HTTP version: HTTP/2.0 |

3. At my circumstances (at the specific time when I load the page), the load time, sent packets and bytes from the server are shown in the chart below.
The site loads the fastest under HTTP/1.1, the slowest under HTTP/1.0.
HTTP/1.0 sent the most packets, HTTP/2.0 sent the least.
HTTP/2.0 sent the most bytes, HTTP/1.0 sent the least.

HTTP/1.0 load the slowest because more RTTs for objects. The speed of HTTP/2.0 maybe faster if there are more objects and the page is more complex. There is no big difference of packets and bytes sent between HTTP/1.1 and HTTP/2.0.
HTTP/1.0 has more packets sent due to one connection for only one object.
HTTP/1.1 and HTTP/2.0 has more bytes sent than HTTP/1.0.

HTTP/1.0:

Load time: 0.955703 seconds

Sent packets: 1541

Raw bytes sent: 2.086 Mb

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HTTP/1.1:

Load time: 0.538009 seconds

Sent packets: 1513

Raw bytes sent: 2.091 Mb

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HTTP/2.0:

Load time: 0.837368 seconds

Sent packets: 1511

Raw bytes sent: 2.112 Mb