Assignment 5 : Socket Programming

Step 4:Compare their performance in terms of time to download by providing the average time

We have used <sys/time.h> and gettimeofday() to measure the time between GET Request and Receiving the objects of the entire text file.

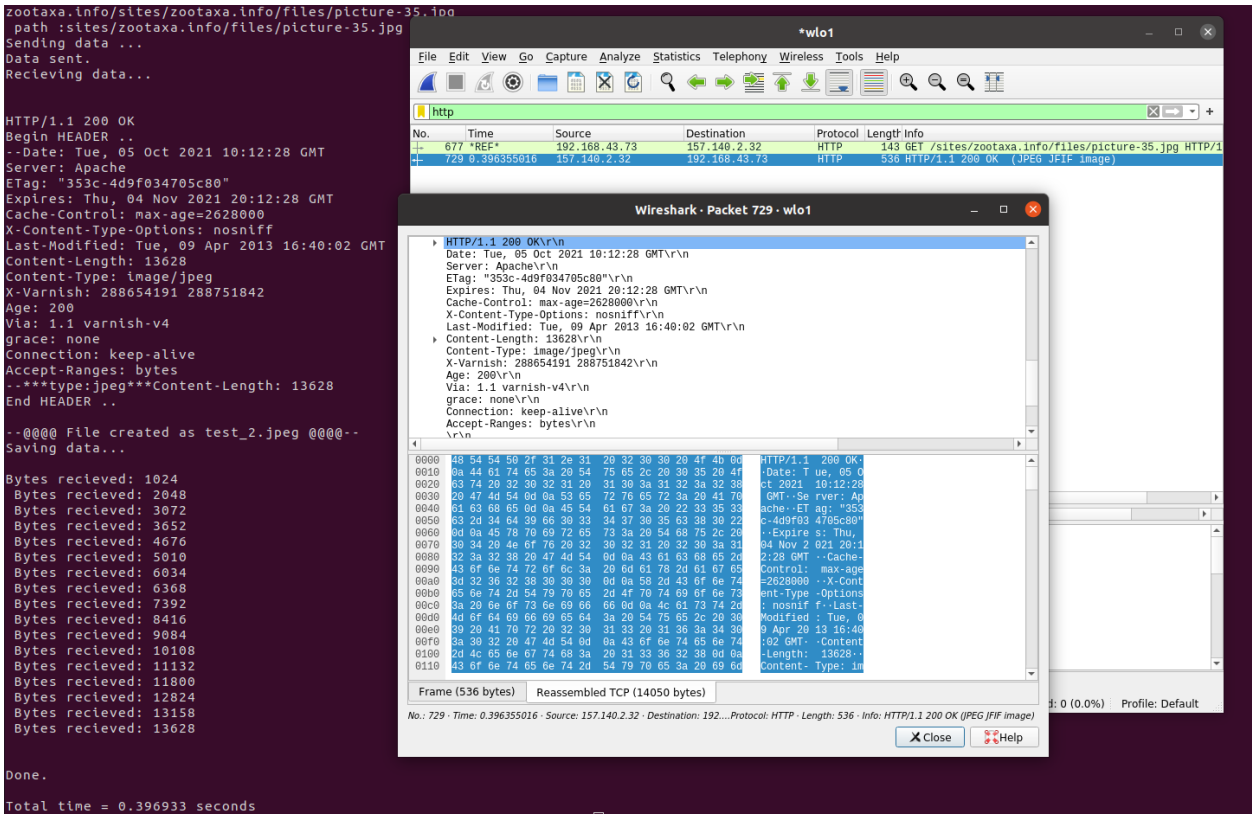

Fig : Shows our Total Time from the C program , and wireshark time matches for a given object from zootaxa.info!

--->For Input File : input2.txt [containing png,gif,jpg,jpeg objects of zootaxa.info --Total : 11 objects]

Experiment No	Step2 Download Time(secs)	Step3 Download Time(secs)	Average Time(secs)
1	11.453993	8.298334	
2	13.343555	7.364385	
3	12.579892	9.248642	

4	12.146636	7.271323	For Step2: 12.8705644 ---------- For Step3: 7.6565384 ----------
5	13.270016	5.736099	
6	11.042505	8.360579	
7	13.289209	7.957592	
8	15.450984	7.783747	
9	13.566203	7.372550	
10	12.562651	7.172133	

-----> For Input File : input.txt [containing 10 objects from the text file we were provided from unsplash.com]

Experiment No	Step2 Download Time(secs)	Step3 Download Time(secs)	Average Time(secs)
1	2.629564	1.480318	For Step 2: 2.9065008 ---------- For Step3: 1.486563
2	2.659396	1.452261	
3	2.715049	1.452261	
4	3.217887	1.940201	
5	3.443918	1.308591	
6	2.643081	1.217142	
7	3.156632	1.766520	
8	2.805497	1.201063	
9	2.680708	1.817355	
10	3.113276	1.229918	

From the above results it can be witnessed that downloading objects through Persistent HTTP connection takes less time than downloading objects through Non-Persistent HTTP connection.

Step2 : No of objects == No of TCP connections
Step3 : 1 TCP connection.

Step 2: 2 RTT + 2*10 RTT== 22RTT[More Connection Overhead]
Step 3: 2RTT + 10 RTT = 12RTT[Less Connection Overhead]

Therefore, Time for Step2 > Time for Step3 .