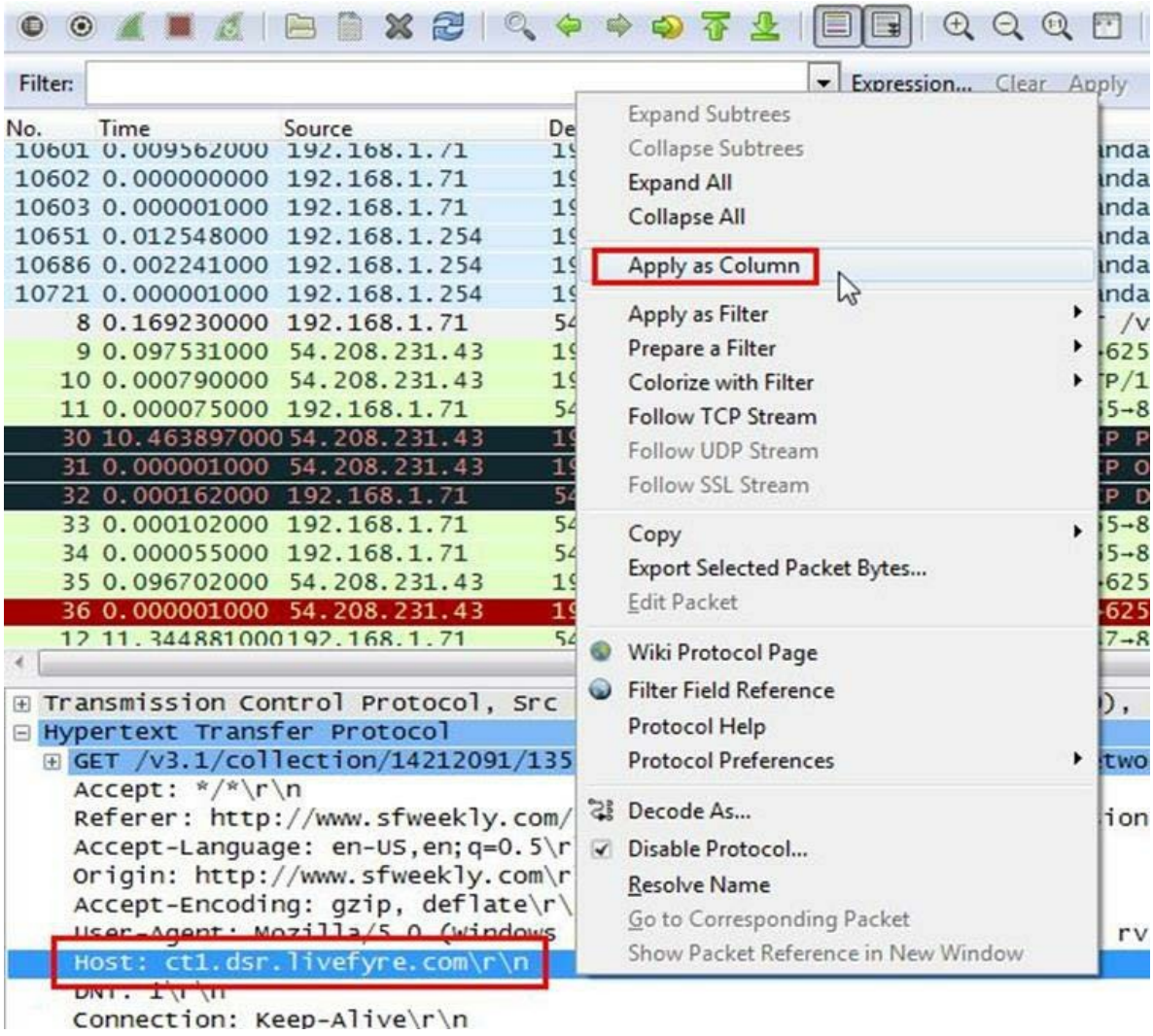
PRACTICAL 5

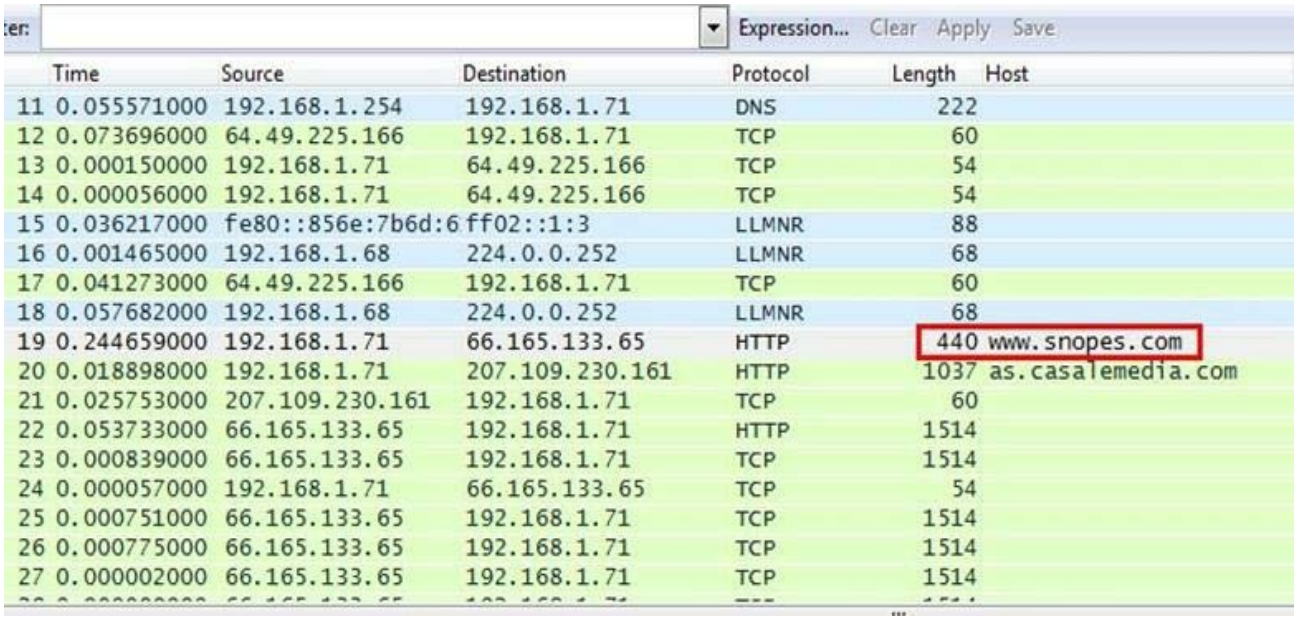
Aim :- Analyze the packets provided in lab and solve the questions using Wireshark :
- What web server software is used by www.snopes.com?
- About what cell phone problem is the client concerned?
- According to Zillow, what instrument will Ryan learn to play?
- How many web servers are running Apache?

1. What web server software issued by www.snopes.com?

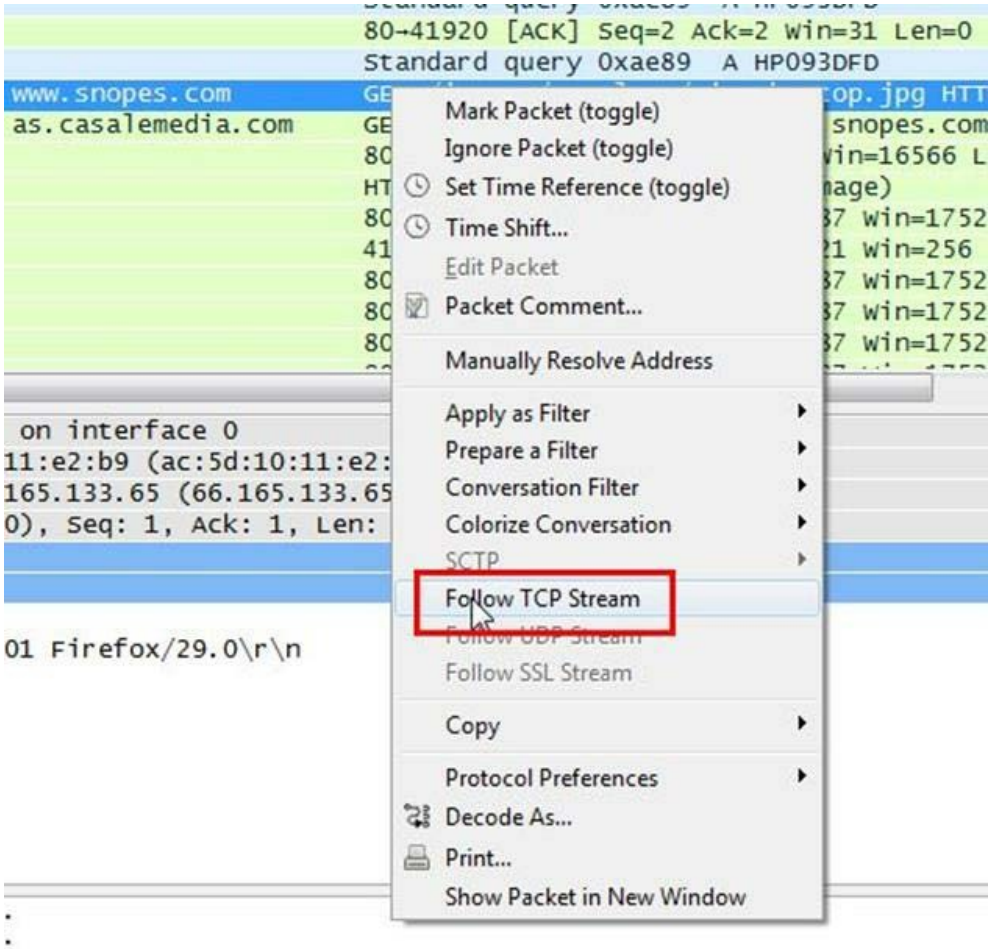
Analysis – The domain name be found from host header so we will set host header column where we will see all domain name. Select any HTTP request and expand the Hypertext Transfer Protocol then right click on Host header and then Apply as Column.



Now we can see our host www.snopes.com in host column.



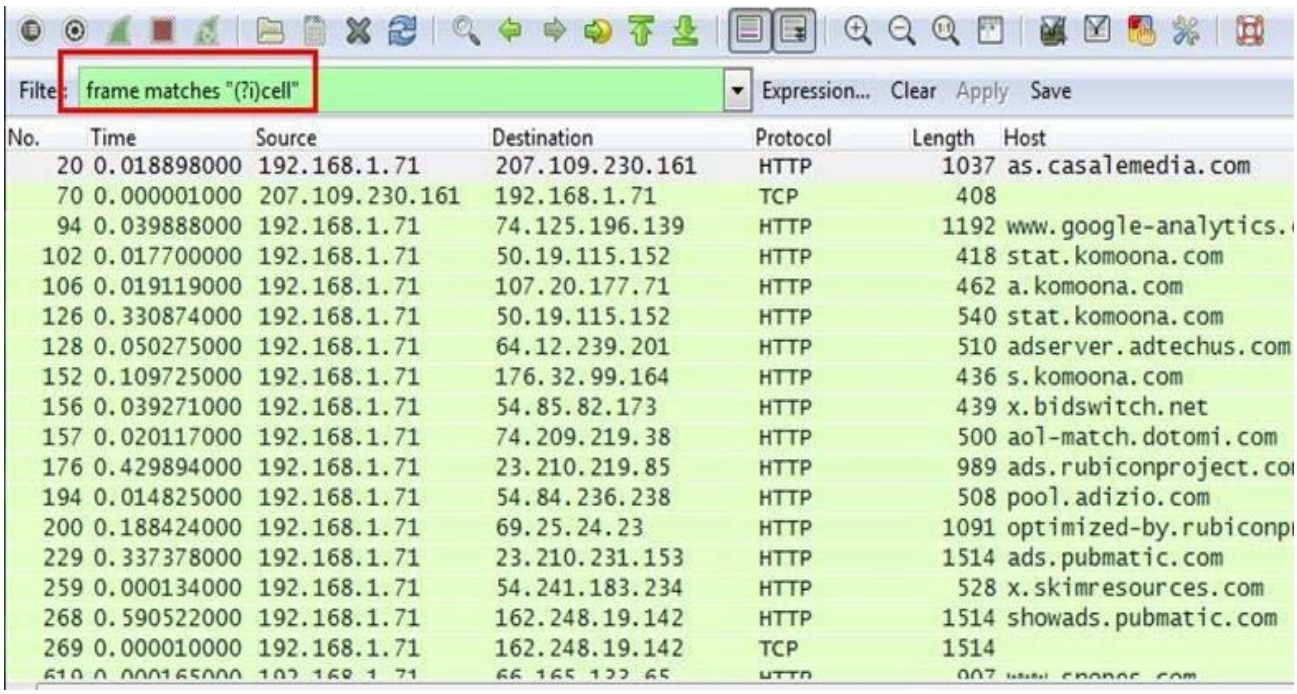
Right click on the selected packet and then select Follow TCP stream.



Now we can see the webserver name in server header it is Microsoft IIS 5.0

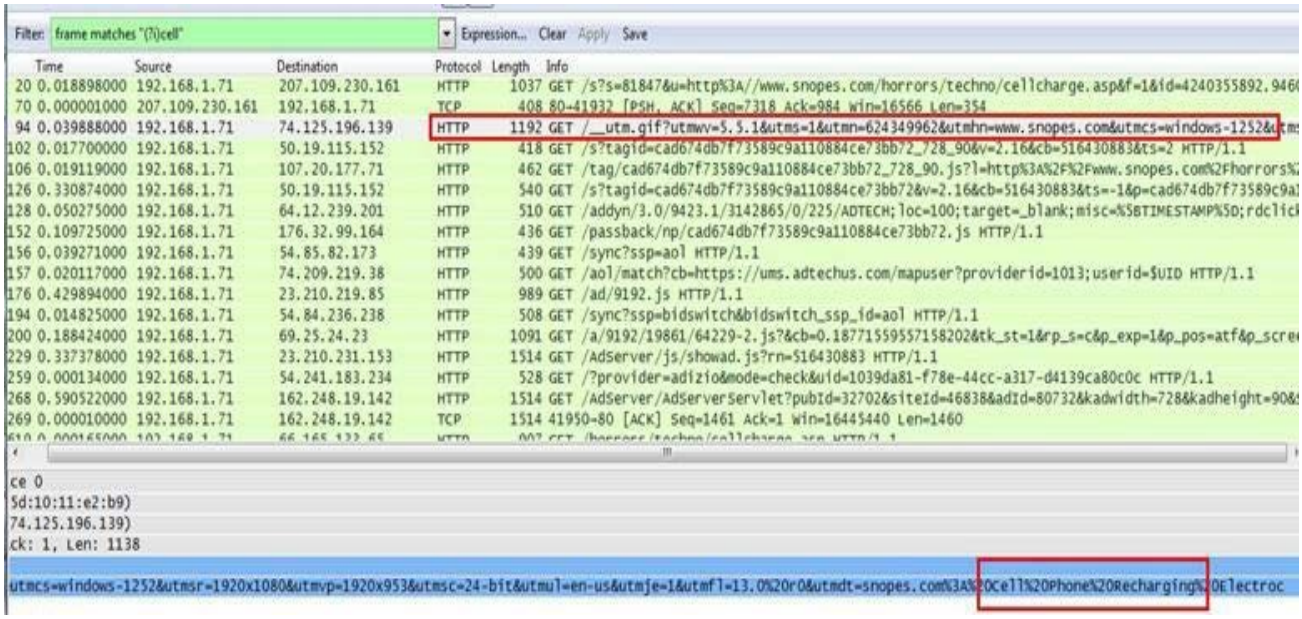
2. About what cell phone problem is the client concerned?

Analysis – Client talking about cell so we search for cell keyword in whole packets. We will use regular express for searching the cell keyword. Apply frame matches "(?!) cell"



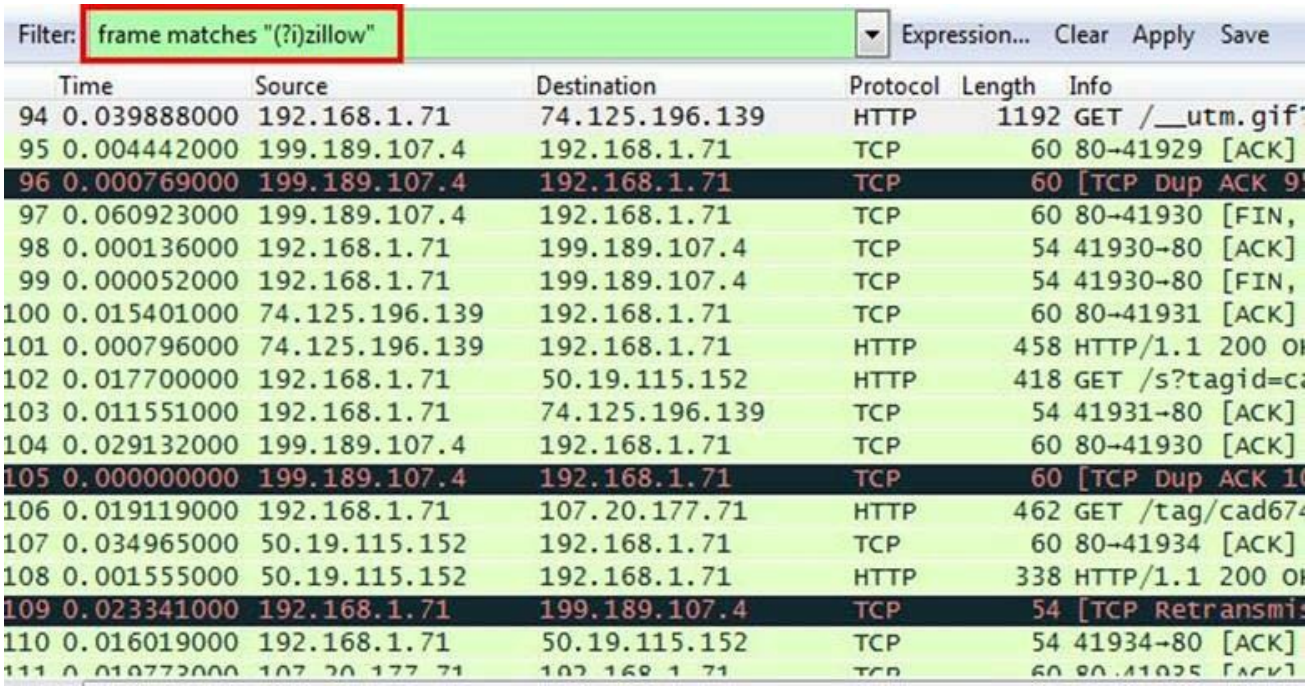
No.	Time	Source	Destination	Protocol	Length	Host
20	0.018898000	192.168.1.71	207.109.230.161	HTTP	1037	as.casalemedia.com
70	0.000001000	207.109.230.161	192.168.1.71	TCP	408	
94	0.039888000	192.168.1.71	74.125.196.139	HTTP	1192	www.google-analytics.
102	0.017700000	192.168.1.71	50.19.115.152	HTTP	418	stat.komoona.com
106	0.019119000	192.168.1.71	107.20.177.71	HTTP	462	a.komoona.com
126	0.330874000	192.168.1.71	50.19.115.152	HTTP	540	stat.komoona.com
128	0.050275000	192.168.1.71	64.12.239.201	HTTP	510	adserver.adtechus.com
152	0.109725000	192.168.1.71	176.32.99.164	HTTP	436	s.komoona.com
156	0.039271000	192.168.1.71	54.85.82.173	HTTP	439	x.bidswitch.net
157	0.020117000	192.168.1.71	74.209.219.38	HTTP	500	aol-match.dotomi.com
176	0.429894000	192.168.1.71	23.210.219.85	HTTP	989	ads.rubiconproject.co
194	0.014825000	192.168.1.71	54.84.236.238	HTTP	508	pool.adizio.com
200	0.188424000	192.168.1.71	69.25.24.23	HTTP	1091	optimized-by.rubiconp
229	0.337378000	192.168.1.71	23.210.231.153	HTTP	1514	ads.pubmatic.com
259	0.000134000	192.168.1.71	54.241.183.234	HTTP	528	x.skimresources.com
268	0.590522000	192.168.1.71	162.248.19.142	HTTP	1514	showads.pubmatic.com
269	0.000010000	192.168.1.71	162.248.19.142	TCP	1514	

After applying the filter now, we will start to check every HTTP request. We noticed in the first HTTP request cell keyword is in URL and it was about cell phone charging issue.

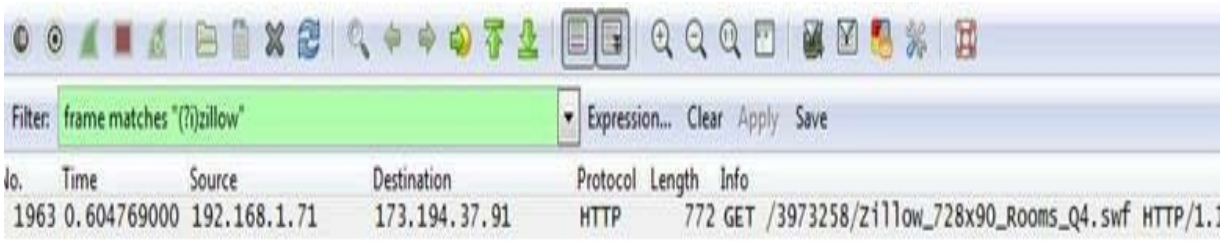


3. According to Zillow, what instrument will Ryan learn to play?

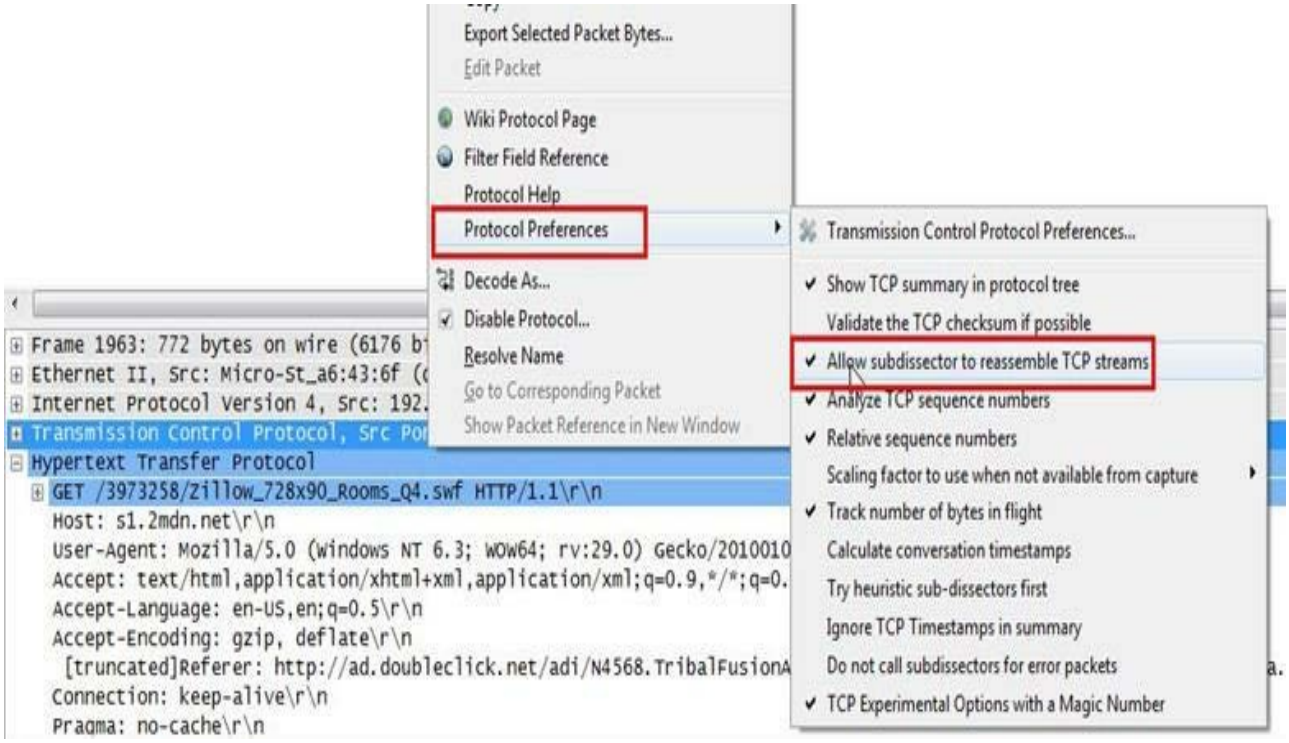
Analysis – As we did in the last challenge, we will apply a regular express filter for the Zillow keyword. Apply frame matched "(?!) zillow"



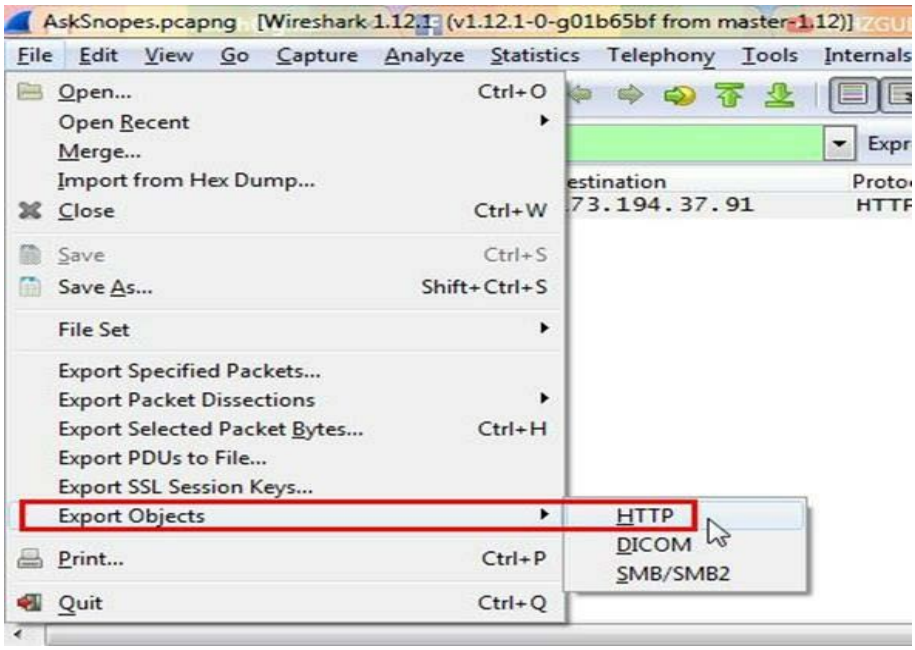
After applying the filter, we found only one packet with the Zillow keyword



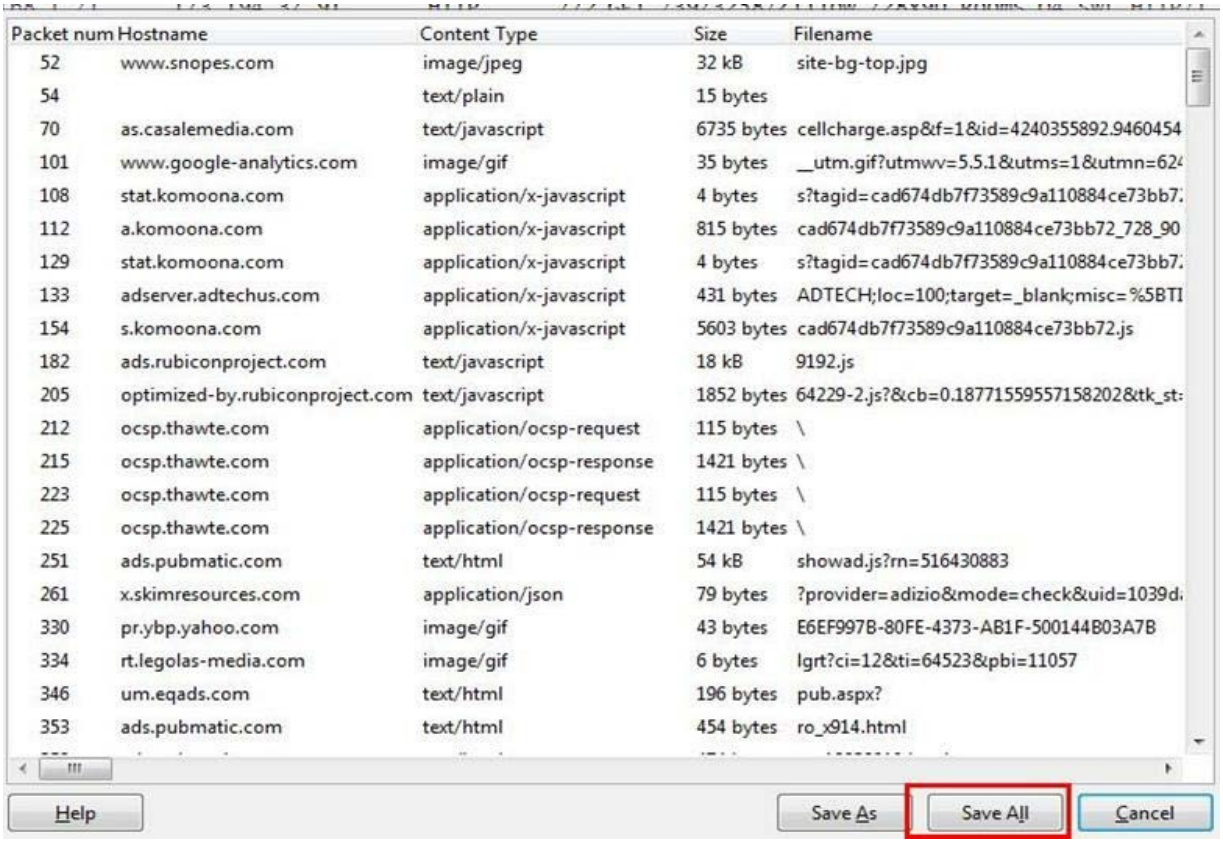
Select the packet and expand the Hypertext Transfer Protocol tab right click on it go to Protocol Preferences and check Allow subdissector to resemble TCP stream.



Now go to file and select Export Objects > HTTP. It will save all objects from the packet.

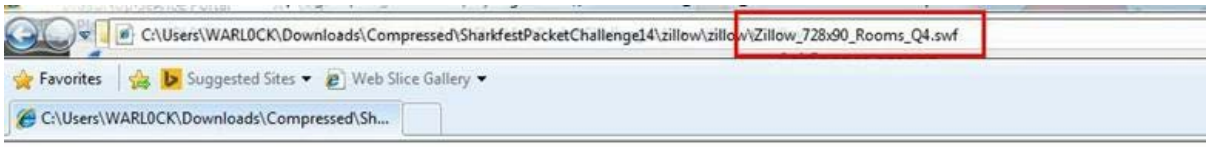


Click on save all.



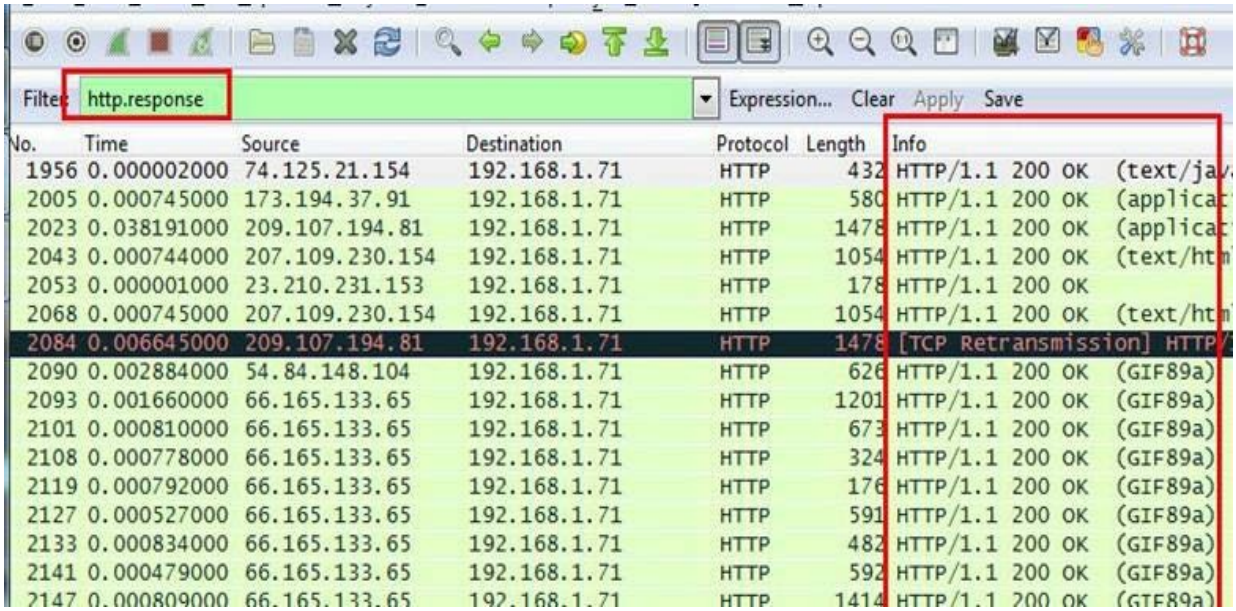
Packet num	Hostname	Content Type	Size	Filename
52	www.snopes.com	image/jpeg	32 kB	site-bg-top.jpg
54		text/plain	15 bytes	
70	as.casalemedia.com	text/javascript	6735 bytes	cellcharge.asp&f=1&id=4240355892.9460454
101	www.google-analytics.com	image/gif	35 bytes	__utm.gif?utmwv=5.5.1&utms=1&utmn=624
108	stat.komoona.com	application/x-javascript	4 bytes	s?tagid=cad674db7f73589c9a110884ce73bb7
112	a.komoona.com	application/x-javascript	815 bytes	cad674db7f73589c9a110884ce73bb72_728_90
129	stat.komoona.com	application/x-javascript	4 bytes	s?tagid=cad674db7f73589c9a110884ce73bb7
133	adserver.adtechus.com	application/x-javascript	431 bytes	ADTECH;loc=100;target=_blank;misc=%5BTI
154	s.komoona.com	application/x-javascript	5603 bytes	cad674db7f73589c9a110884ce73bb72.js
182	ads.rubiconproject.com	text/javascript	18 kB	9192.js
205	optimized-by.rubiconproject.com	text/javascript	1852 bytes	64229-2.js?&cb=0.18771559557158202&tk_st
212	ocsp.thawte.com	application/ocsp-request	115 bytes	\
215	ocsp.thawte.com	application/ocsp-response	1421 bytes	\
223	ocsp.thawte.com	application/ocsp-request	115 bytes	\
225	ocsp.thawte.com	application/ocsp-response	1421 bytes	\
251	ads.pubmatic.com	text/html	54 kB	showad.js?rn=516430883
261	x.skimresources.com	application/json	79 bytes	?provider=adizio&mode=check&uid=1039d
330	pr.ybp.yahoo.com	image/gif	43 bytes	E6EF997B-80FE-4373-AB1F-500144B03A7B
334	rt.legolas-media.com	image/gif	6 bytes	lgrt?ci=12&ti=64523&pbi=11057
346	um.eqads.com	text/html	196 bytes	pub.aspx?
353	ads.pubmatic.com	text/html	454 bytes	ro_x914.html

After saving all files in a directory and we found a swf file with name Zillow. After opening the flash file, we saw that Zillow was trying to learn saxophone.

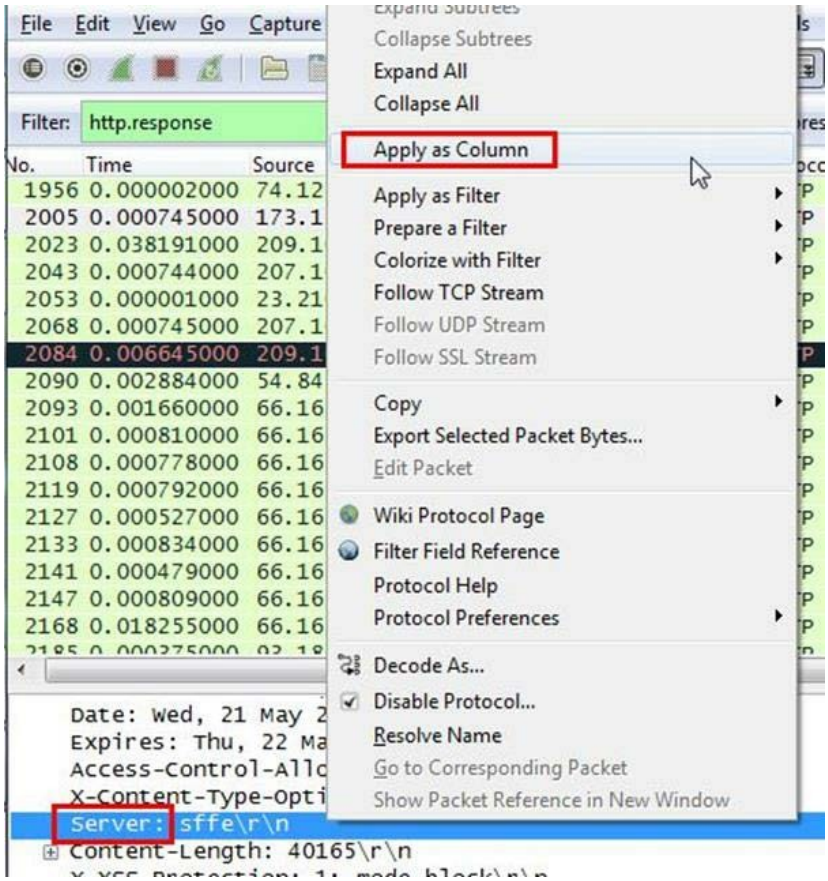


4. How many web servers are running Apache?

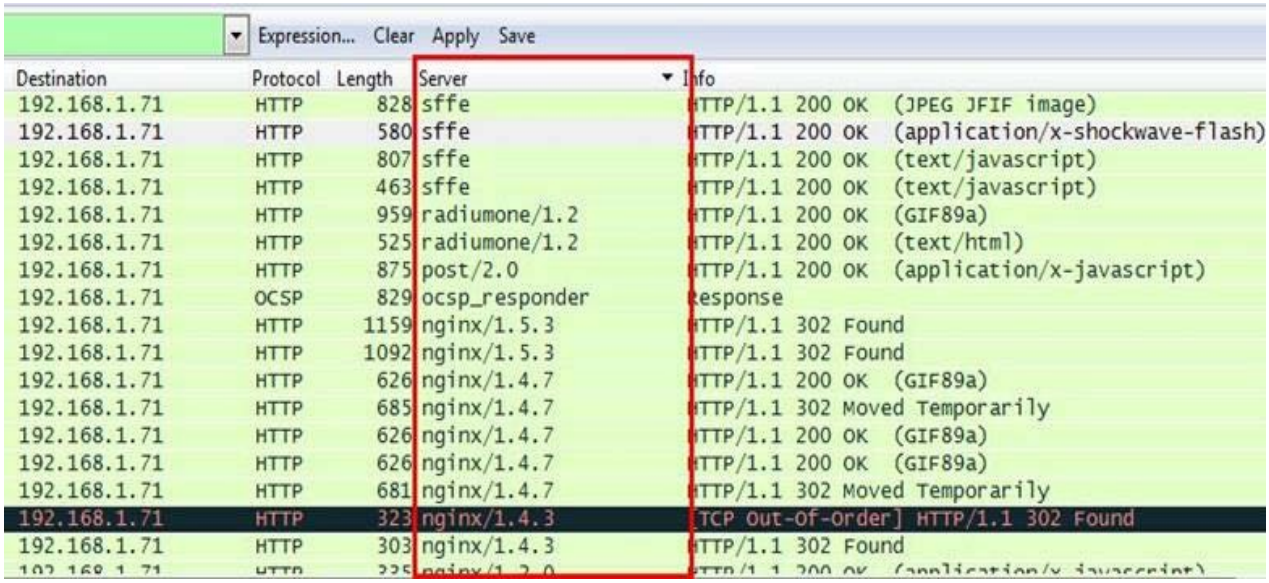
Analysis – The web server name can be retrieved from HTTP response header. So will apply filter http. response and we can see all http response packets.



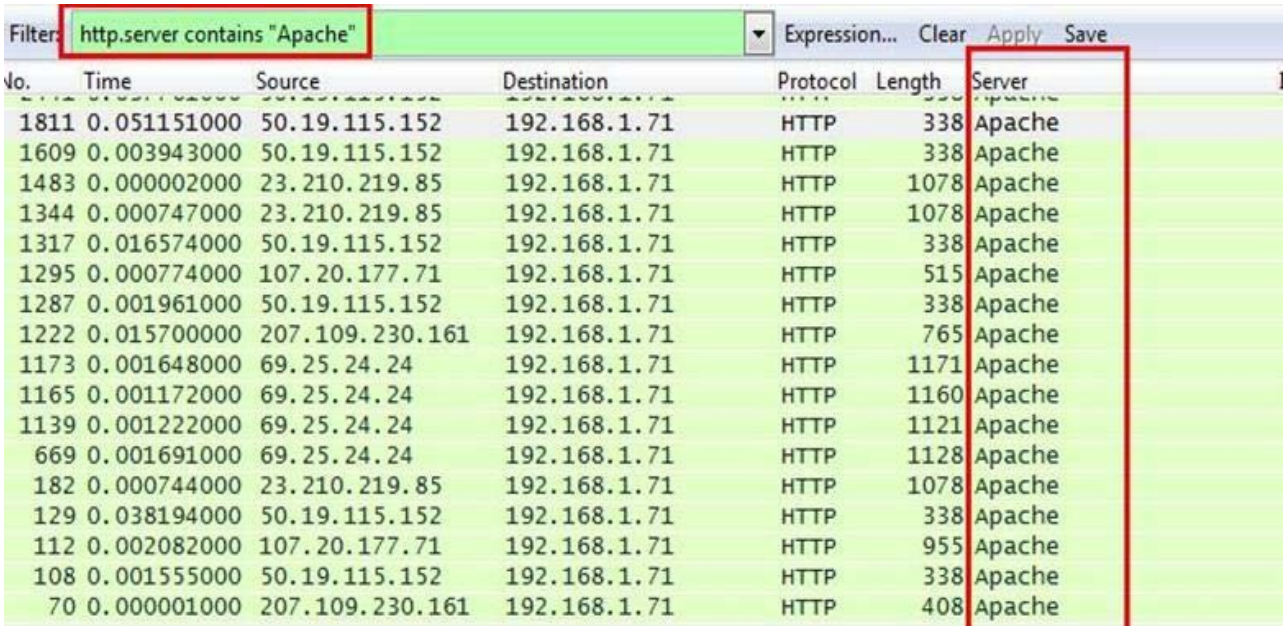
Now we will set the server header as column select any packet and right click on it then select Apply as Column.



Now can see the server column where all server name is showing.

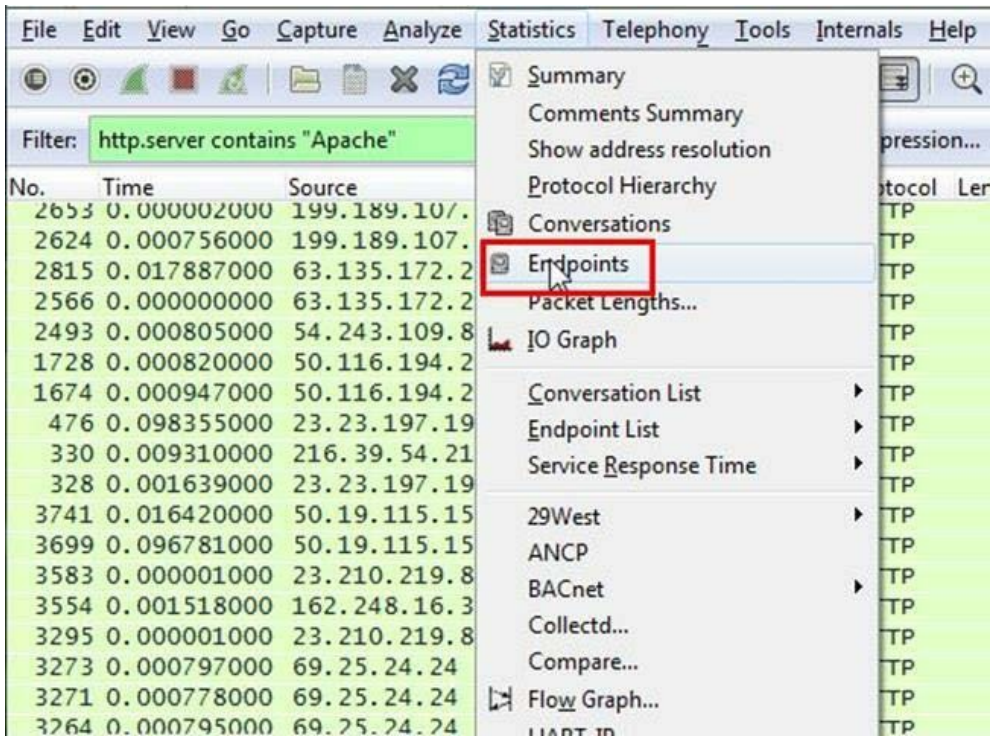


Now we have to check how many Apache packets are there we can't count manually for each packet so we will apply another filter http.server contains "Apache"

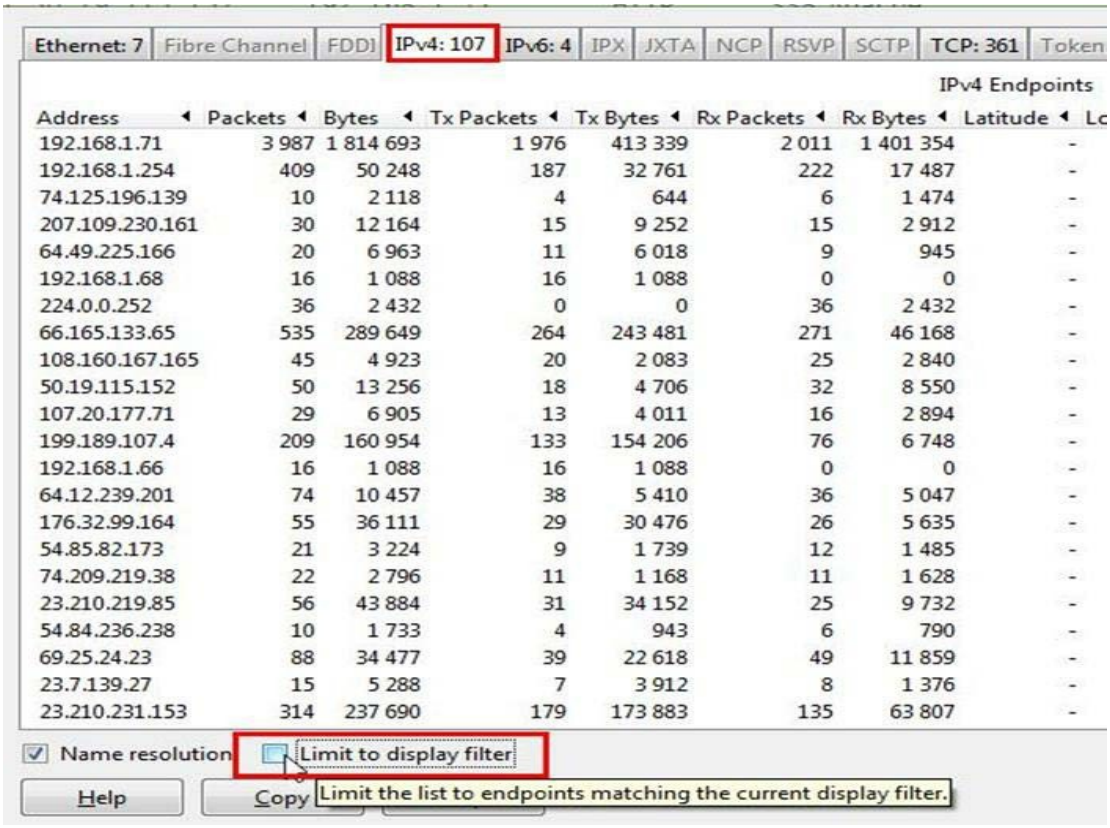


No.	Time	Source	Destination	Protocol	Length	Server
1811	0.051151000	50.19.115.152	192.168.1.71	HTTP	338	Apache
1609	0.003943000	50.19.115.152	192.168.1.71	HTTP	338	Apache
1483	0.000002000	23.210.219.85	192.168.1.71	HTTP	1078	Apache
1344	0.000747000	23.210.219.85	192.168.1.71	HTTP	1078	Apache
1317	0.016574000	50.19.115.152	192.168.1.71	HTTP	338	Apache
1295	0.000774000	107.20.177.71	192.168.1.71	HTTP	515	Apache
1287	0.001961000	50.19.115.152	192.168.1.71	HTTP	338	Apache
1222	0.015700000	207.109.230.161	192.168.1.71	HTTP	765	Apache
1173	0.001648000	69.25.24.24	192.168.1.71	HTTP	1171	Apache
1165	0.001172000	69.25.24.24	192.168.1.71	HTTP	1160	Apache
1139	0.001222000	69.25.24.24	192.168.1.71	HTTP	1121	Apache
669	0.001691000	69.25.24.24	192.168.1.71	HTTP	1128	Apache
182	0.000744000	23.210.219.85	192.168.1.71	HTTP	1078	Apache
129	0.038194000	50.19.115.152	192.168.1.71	HTTP	338	Apache
112	0.002082000	107.20.177.71	192.168.1.71	HTTP	955	Apache
108	0.001555000	50.19.115.152	192.168.1.71	HTTP	338	Apache
70	0.000001000	207.109.230.161	192.168.1.71	HTTP	408	Apache

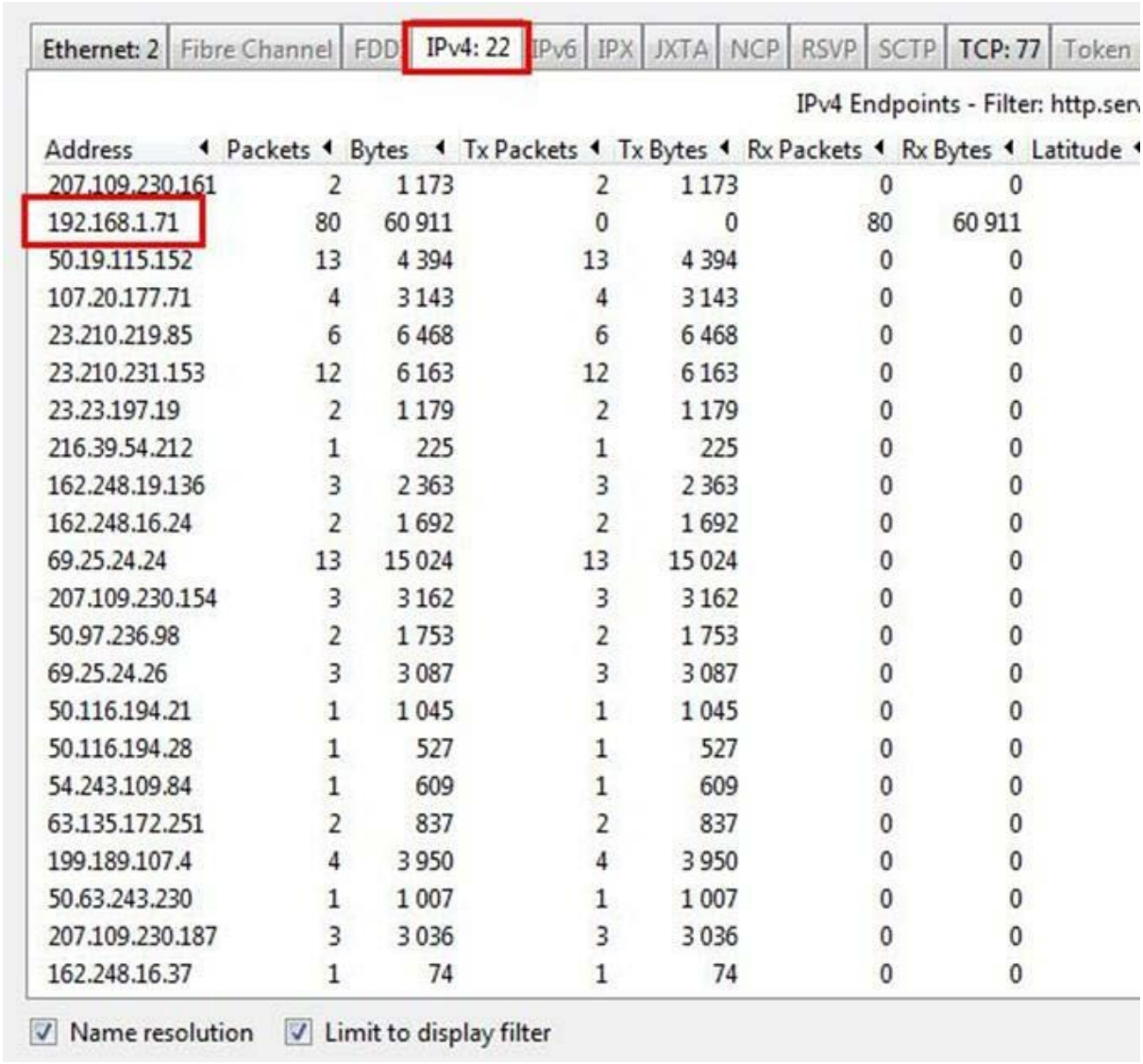
After applying filter go to Statistics > Endpoints



It will show all connections



Check the limit to display filter then it will show the actual Apache connections. Now there are showing 22 connections but will exclude 192.168.1.71 because it is client's IP not a server IP so there are actual 21 Apache servers.



CONCLUSION: We have successfully analyzed the packets provided and solved the questions using wireshark.