



COMPUTER NETWORKS LAB

COURSE CODE:UE19CS255

NAME:PRIYA MOHATA

SRN:PES2UG19CS301

SECTION:E

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EXPERIMENT: Create a web page with N (e.g. 10) embedded images. Each image should be of minimum 2 MB size. Configure your browser (Firefox) with following settings (each setting requires repeat of experiment)

1. Non-persistent connection
2. 2 persistent connections
3. 4 persistent connections
4. 6 persistent connections
5. 8 persistent connections
6. 10 persistent connections

1.CONFIGURATION OF THE APACHE SERVER AND CLIENT ENVIRONMENT

1. To create a server - client architecture, machines were setup , the macOS and the ubuntu VM. The former is referred to as the client machine and the latter is the server machine.
2. Apache Server was installed and configured on the server machine, and a static webpage consisting of 10 objects (images) was created and hosted on the local network between these machines.
3. We need to observe and determine the effect of the number of persistent connections on the load time of this static webpage.

1.1 SETTING UP THE APACHE SERVER

Command used to install apache server : `sudo apt install apache2`
To view the status of the newly installed apache server : `systemctl status apache2`

```

priya@priya-VirtualBox: ~
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2021-02-01 16:41:56 IST; 1min 27s ago
     Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 2382 (apache2)
    Tasks: 55 (limit: 1103)
   Memory: 5.0M
   CGroup: /system.slice/apache2.service
           └─2382 /usr/sbin/apache2 -k start
             └─2384 /usr/sbin/apache2 -k start
               └─2385 /usr/sbin/apache2 -k start

Feb 01 16:41:56 priya-VirtualBox systemd[1]: Starting The Apache HTTP Server...
Feb 01 16:41:56 priya-VirtualBox apachectl[2381]: AH00558: apache2: Could not reliably de
Feb 01 16:41:56 priya-VirtualBox systemd[1]: Started The Apache HTTP Server.
~
~
~
~
~
~
lines 1-15/15 (END)

```

1.2 CONFIGURING THE APACHE SERVER FOR THE EXPERIMENT

- We have to edit the apache2.conf configuration file
- We have to set KeepAlive to On
- We have to set MaxKeepAliveRequests to 2

```

GNU nano 5.2 /etc/apache2/apache2.conf
# KeepAlive: Whether or not to allow persistent connections (more than
# one request per connection). Set to "Off" to deactivate.
#
KeepAlive On
#
# MaxKeepAliveRequests: The maximum number of requests to allow
# during a persistent connection. Set to 0 to allow an unlimited amount.
# We recommend you leave this number high, for maximum performance.
#
MaxKeepAliveRequests 2
#
# KeepAliveTimeout: Number of seconds to wait for the next request from the
# same client on the same connection.
#
KeepAliveTimeout 5
#
# These need to be set in /etc/apache2/envvars
User ${APACHE_RUN_USER}
Group ${APACHE_RUN_GROUP}
#
# HostnameLookups: Log the names of clients or just their IP addresses
# e.g., www.apache.org (on) or 204.62.129.132 (off).
# The default is off because it'd be overall better for the net if people
# had to knowingly turn this feature on, since enabling it means that
# each client request will result in AT LEAST one lookup request to the
# nameserver.
#
HostnameLookups Off

```

1.3 ADDING CUSTOM IP ADDRESS TO SERVER AND CLIENT

- The server is given the IP Address 10.0.5.35
- The client is given the IP Address 10.0.5.36
- Command Used : `sudo ip addr add IP-address dev interface-name`
- Before (Server Machine)

```

priya@priya-VirtualBox:~$ sudo ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:a0:2c:49 brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.109/24 brd 192.168.0.255 scope global dynamic noprefixroute enp0s3
        valid_lft 6721sec preferred_lft 6721sec
    inet6 fe80::8182:ddc:713:8f31/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
priya@priya-VirtualBox:~$

```

- After(Server Machine)

```

priya@priya-VirtualBox:~$ sudo ip addr add 10.0.5.35/24 dev enp0s3
priya@priya-VirtualBox:~$ sudo ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:a0:2c:49 brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.109/24 brd 192.168.0.255 scope global dynamic noprefixroute enp0s3
        valid_lft 6680sec preferred_lft 6680sec
    inet 10.0.5.35/24 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::8182:ddc:713:8f31/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
priya@priya-VirtualBox:~$

```

- Client Machine - Before

```

(base) priyas-MacBook-Air:~ priyamohata$ ip addr show
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
    inet 127.0.0.1/8 lo0
    inet6 ::1/128
    inet6 fe80::1/64 scopeid 0x1
en3: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether ac:de:48:00:11:22
    inet6 fe80::aede:48ff:fe00:1122/64 scopeid 0x4
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether a4:83:e7:69:e1:4b
    inet6 fe80::4a6:3ec:3f40:6737/64 secured scopeid 0x6
    inet 192.168.0.139/24 brd 192.168.0.255 en0
awdl0: flags=8943<UP,BROADCAST,RUNNING,PROMISC,SIMPLEX,MULTICAST> mtu 1484
    ether ca:86:4e:ec:ab:6d
    inet6 fe80::c886:4eff:feec:ab6d/64 scopeid 0xb
llw0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether ca:86:4e:ec:ab:6d
    inet6 fe80::c886:4eff:feec:ab6d/64 scopeid 0xc
utun0: flags=8051<UP,POINTOPOINT,RUNNING,MULTICAST> mtu 1380
    inet6 fe80::7106:365b:96c0:1248/64 scopeid 0xd
utun1: flags=8051<UP,POINTOPOINT,RUNNING,MULTICAST> mtu 2000
    inet6 fe80::fbee:58bd:d065:bd28/64 scopeid 0xe
(base) priyas-MacBook-Air:~ priyamohata$

```

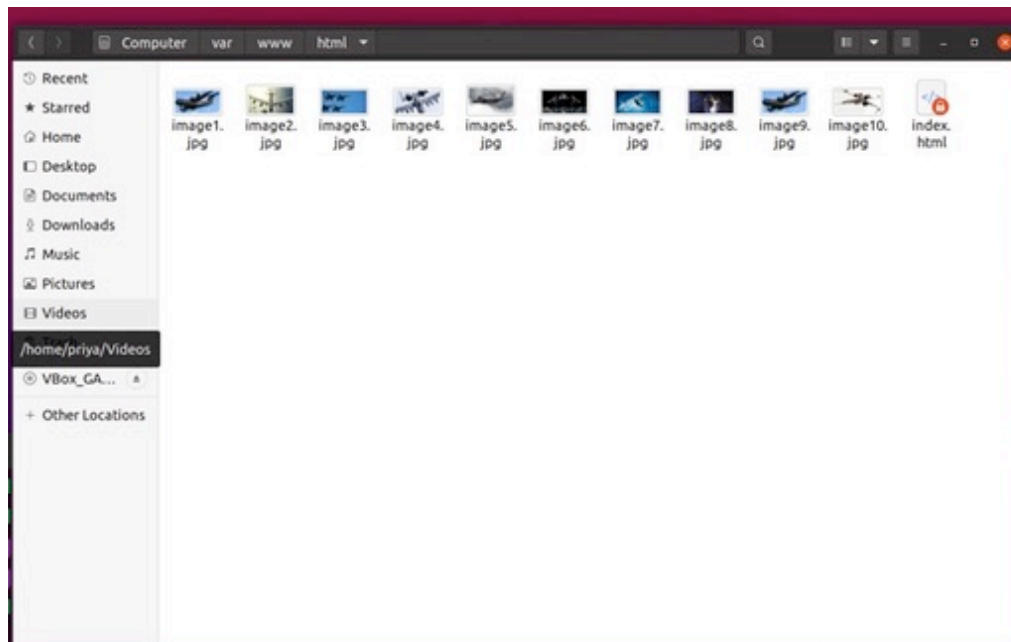
-Client Machine (After)

```
priyamohata — -bash — 80x24
(base) priyas-MacBook-Air:~ priyamohata$ ip addr show
lo: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
    inet 127.0.0.1/8 lo0
    inet6 ::1/128
    inet6 fe80::1/64 scopeid 0x1
en3: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether ac:de:48:00:11:22
    inet6 fe80::aede:48ff:fe00:1122/64 scopeid 0x4
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether a4:83:e7:69:e1:4b
    inet6 fe80::4a6:3ec:3f40:6737/64 secured scopeid 0x6
    inet 192.168.0.139/24 brd 192.168.0.255 en0
    inet 10.0.5.36/24 brd 10.0.5.255 en0
awdl0: flags=8943<UP,BROADCAST,RUNNING,PROMISC,SIMPLEX,MULTICAST> mtu 1484
    ether ca:86:4e:ec:ab:6d
    inet6 fe80::c886:4eff:feec:ab6d/64 scopeid 0xb
llw0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether ca:86:4e:ec:ab:6d
    inet6 fe80::c886:4eff:feec:ab6d/64 scopeid 0xc
utun0: flags=8051<UP,POINTOPOINT,RUNNING,MULTICAST> mtu 1380
    inet6 fe80::7106:365b:96c0:1248/64 scopeid 0xd
utun1: flags=8051<UP,POINTOPOINT,RUNNING,MULTICAST> mtu 2000
    inet6 fe80::fbee:58bd:d065:bd28/64 scopeid 0xe
(base) priyas-MacBook-Air:~ priyamohata$
```

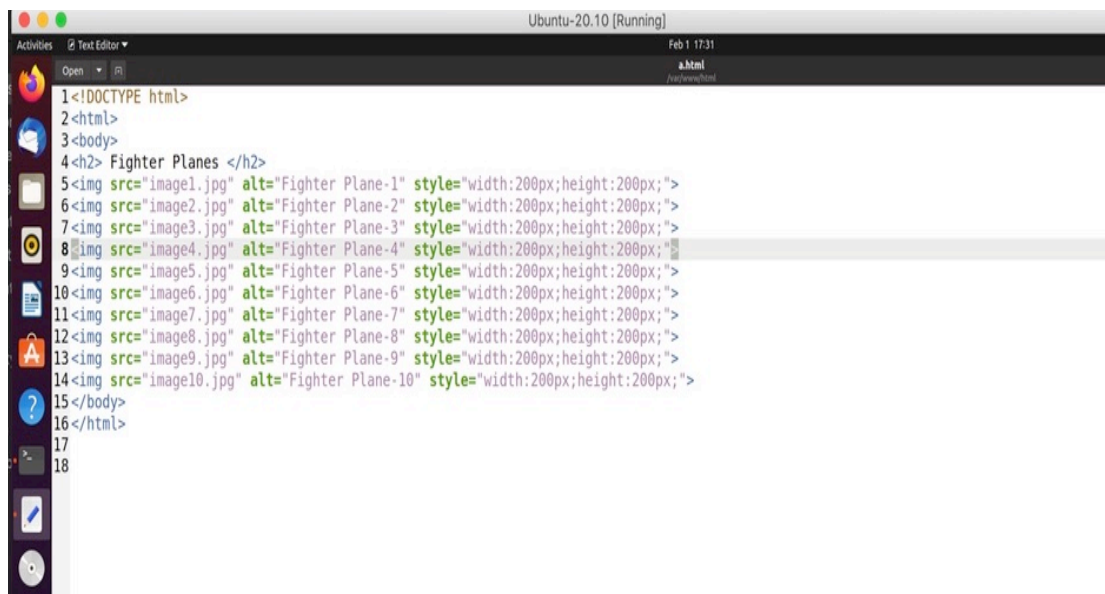
1.4 Hosting the Webpage

- The webpage can be hosted by moving the html file and the images to the server path
- The server path is /var/www/html

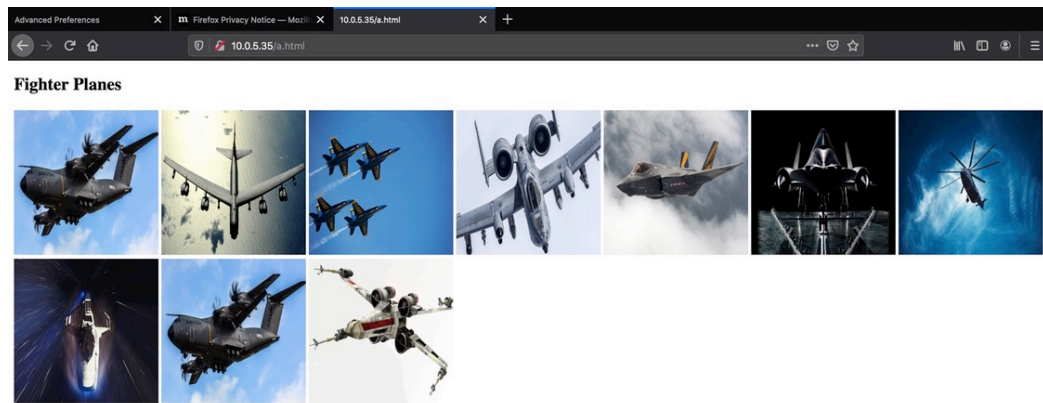
```
priya@priya-VirtualBox: /var/www/html
priya@priya-VirtualBox:~$ cd /var/www/html
priya@priya-VirtualBox:/var/www/html$ ls
image10.jpg image2.jpg image4.jpg image6.jpg image8.jpg index.html
image1.jpg image3.jpg image5.jpg image7.jpg image9.jpg
priya@priya-VirtualBox:/var/www/html$
```

The var/www/html folder



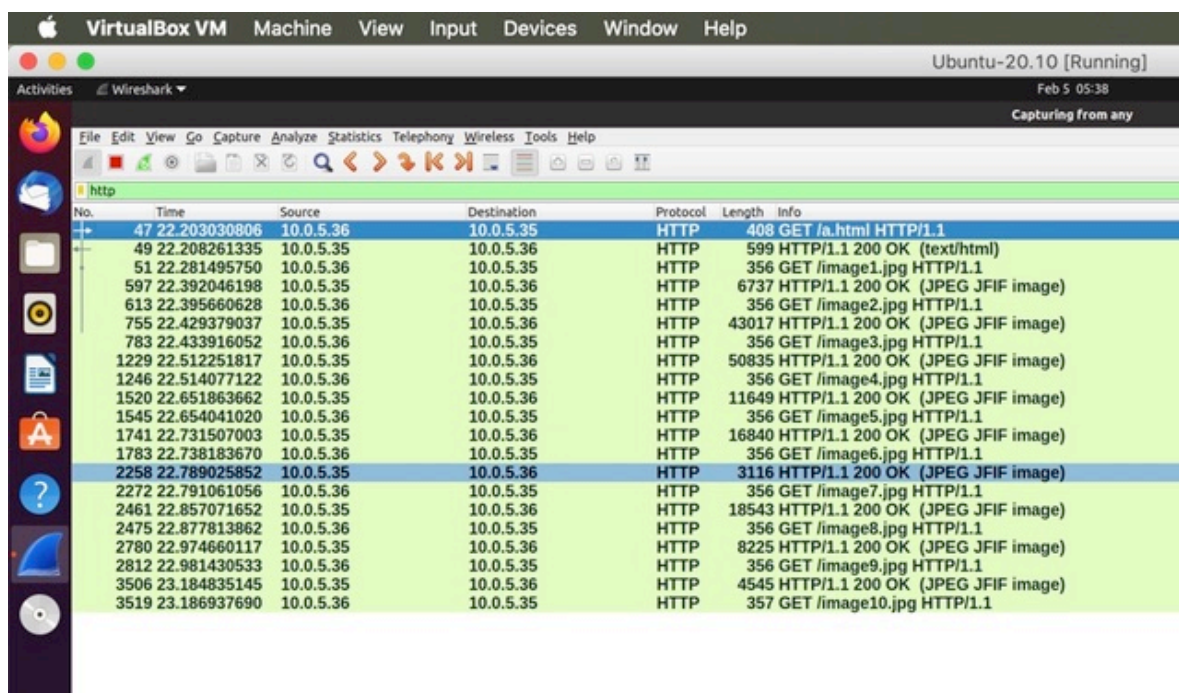
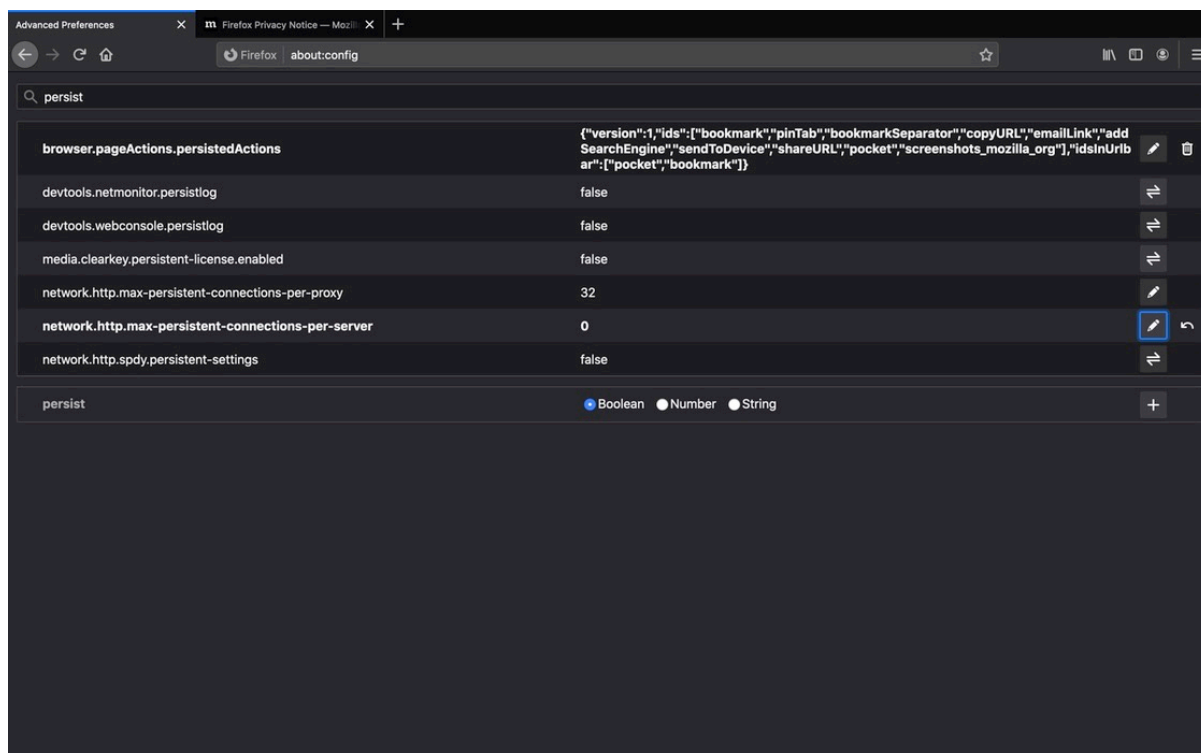
Html file (a.html)



The html file in the server path var/www/html

2. Non Persistent Connection

- To setup a non-persistent connection, we need to configure a few settings on our browser
- On Firefox, we set the max-persistent-connections-per-server to 0 and persistent-settings to false



$$\text{Time} = 23.186937690 - 22.208261335 = 0.978676355$$

4. Persistent Connection

4.1 Two persistent connections

The image shows two screenshots. The top screenshot is of the Firefox 'about:config' page with the search filter 'persist'. The bottom screenshot is of a Wireshark network traffic capture on an Ubuntu VM.

Firefox Advanced Preferences (persist filter):

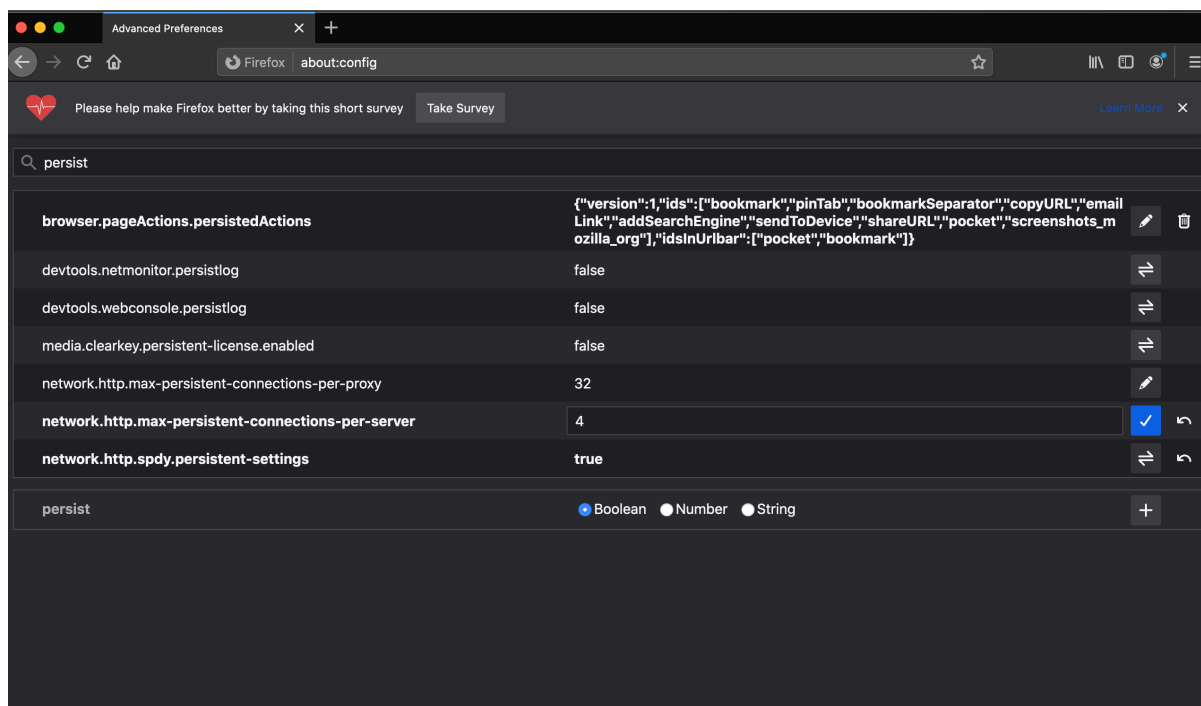
Setting Name	Value	Type
browser.pageActions.persistedActions	{"version":1,"ids":["bookmark","pinTab","bookmarkSeparator","copyURL","emailLink","addSearchEngine","sendToDevice","shareURL","pocket","screenshots_mozilla_org"],"idsinUriBar":["pocket","bookmark"]}	String
devtools.netmonitor.persistlog	false	Boolean
devtools.webconsole.persistlog	false	Boolean
media.clearkey.persistent-license.enabled	false	Boolean
network.http.max-persistent-connections-per-proxy	32	Number
network.http.max-persistent-connections-per-server	2	Number
network.http.spdy.persistent-settings	true	Boolean

Wireshark Network Traffic (HTTP Filter):

No.	Time	Source	Destination	Protocol	Length	Info
13	8.439716273	10.0.5.36	10.0.5.35	HTTP	408	GET /a.html HTTP/1.1
15	8.446717436	10.0.5.35	10.0.5.36	HTTP	599	HTTP/1.1 200 OK (text/html)
17	8.539377580	10.0.5.36	10.0.5.35	HTTP	356	GET /image1.jpg HTTP/1.1
22	8.545921258	10.0.5.36	10.0.5.35	HTTP	356	GET /image2.jpg HTTP/1.1
929	8.715645059	10.0.5.35	10.0.5.36	HTTP	2508	HTTP/1.1 200 OK (JPEG JFIF image)
958	8.716644925	10.0.5.36	10.0.5.35	HTTP	356	GET /image3.jpg HTTP/1.1
1213	8.749494073	10.0.5.35	10.0.5.36	HTTP	2361	HTTP/1.1 200 OK (JPEG JFIF image)
1407	8.790747373	10.0.5.36	10.0.5.35	HTTP	356	GET /image5.jpg HTTP/1.1
1829	8.884502311	10.0.5.35	10.0.5.36	HTTP	1478	HTTP/1.1 200 OK (JPEG JFIF image)
1899	8.885879241	10.0.5.35	10.0.5.36	HTTP	58832	HTTP/1.1 200 OK (JPEG JFIF image)
1930	8.892461012	10.0.5.36	10.0.5.35	HTTP	356	GET /image6.jpg HTTP/1.1
1941	8.900121329	10.0.5.36	10.0.5.35	HTTP	356	GET /image7.jpg HTTP/1.1
2855	9.097502896	10.0.5.35	10.0.5.36	HTTP	1167	HTTP/1.1 200 OK (JPEG JFIF image)
2884	9.100292998	10.0.5.36	10.0.5.35	HTTP	356	GET /image8.jpg HTTP/1.1
3083	9.124183133	10.0.5.35	10.0.5.36	HTTP	5964	HTTP/1.1 200 OK (JPEG JFIF image)
3141	9.129214196	10.0.5.36	10.0.5.35	HTTP	356	GET /image9.jpg HTTP/1.1
3331	9.150868563	10.0.5.35	10.0.5.36	HTTP	3932	HTTP/1.1 200 OK (JPEG JFIF image)
3343	9.151535925	10.0.5.36	10.0.5.35	HTTP	357	GET /image10.jpg HTTP/1.1
4126	9.273139065	10.0.5.36	10.0.5.35	HTTP	357	GET /favicon.ico HTTP/1.1
4128	9.276367990	10.0.5.35	10.0.5.36	HTTP	519	HTTP/1.1 404 Not Found (text/html)

Time : 9.151535925-8.446717436=0.704818489

4.2 Four Persistent Connections

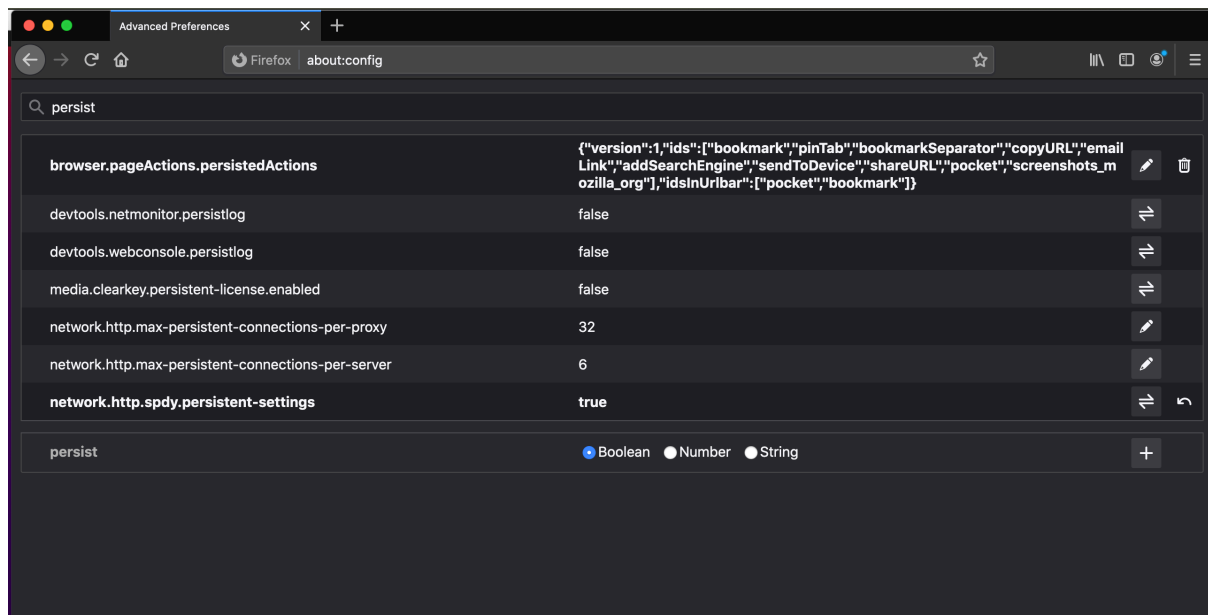


The screenshot shows a Wireshark packet capture of HTTP traffic. The table below represents the data shown in the packet list pane.

No.	Time	Source	Destination	Protocol	Length	Info
16	15.694228859	10.0.5.36	10.0.5.35	HTTP	408	GET /a.html HTTP/1.1
18	15.701221393	10.0.5.35	10.0.5.36	HTTP	599	HTTP/1.1 200 OK (text/html)
20	15.814582317	10.0.5.36	10.0.5.35	HTTP	356	GET /image1.jpg HTTP/1.1
124	15.840041022	10.0.5.36	10.0.5.35	HTTP	356	GET /image2.jpg HTTP/1.1
186	15.842165136	10.0.5.36	10.0.5.35	HTTP	356	GET /image3.jpg HTTP/1.1
188	15.843748065	10.0.5.36	10.0.5.35	HTTP	356	GET /image4.jpg HTTP/1.1
787	15.923649233	10.0.5.35	10.0.5.36	HTTP	4161	HTTP/1.1 200 OK (JPEG JFIF image)
811	15.925861215	10.0.5.36	10.0.5.35	HTTP	356	GET /image5.jpg HTTP/1.1
1344	15.999137691	10.0.5.35	10.0.5.36	HTTP	59433	HTTP/1.1 200 OK (JPEG JFIF image)
1364	16.011158682	10.0.5.36	10.0.5.35	HTTP	356	GET /image6.jpg HTTP/1.1
2202	16.186239720	10.0.5.35	10.0.5.36	HTTP	5404	HTTP/1.1 200 OK (JPEG JFIF image)
2237	16.188013427	10.0.5.36	10.0.5.35	HTTP	356	GET /image7.jpg HTTP/1.1
2308	16.205992101	10.0.5.35	10.0.5.36	HTTP	24080	HTTP/1.1 200 OK (JPEG JFIF image)
2355	16.224462499	10.0.5.36	10.0.5.35	HTTP	356	GET /image8.jpg HTTP/1.1
2499	16.254628821	10.0.5.35	10.0.5.36	HTTP	1931	HTTP/1.1 200 OK (JPEG JFIF image)
2525	16.257101914	10.0.5.36	10.0.5.35	HTTP	356	GET /image9.jpg HTTP/1.1
2709	16.269534381	10.0.5.35	10.0.5.36	HTTP	27684	HTTP/1.1 200 OK (JPEG JFIF image)
2761	16.286610866	10.0.5.36	10.0.5.35	HTTP	357	GET /image10.jpg HTTP/1.1

Time = 16.286610866-15.701221393=0.585389473

4.3 Six Persistent Connections














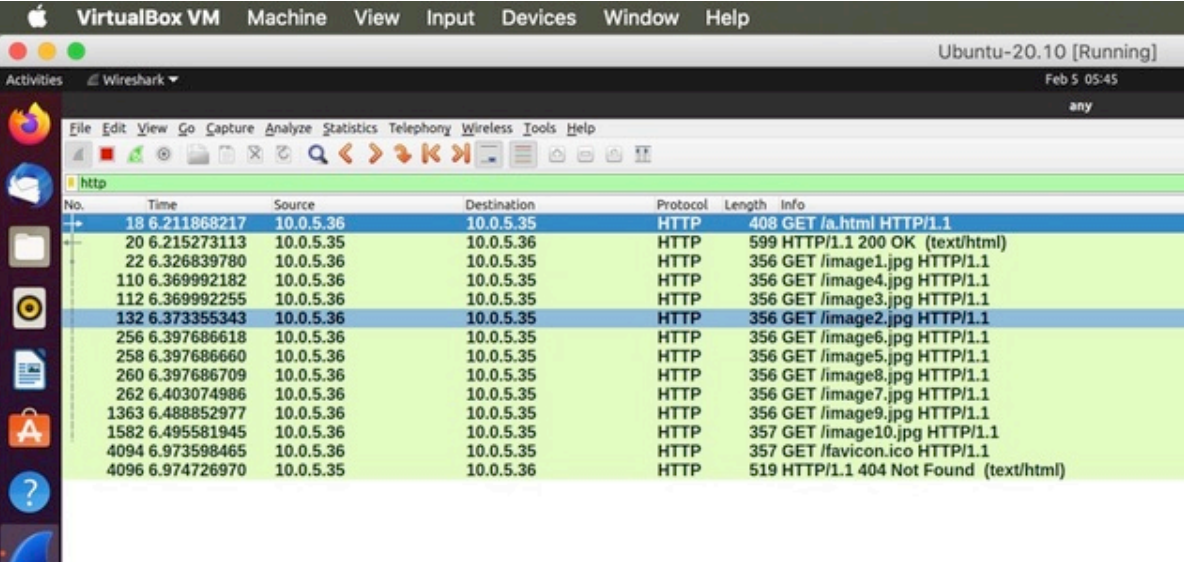
The screenshot shows a Wireshark capture of network traffic in a VirtualBox VM. The capture is filtered by 'http'. The table below shows the captured packets, with the first and last packets highlighted to show the time difference used in the calculation.

No.	Time	Source	Destination	Protocol	Length	Info
9	15.743562964	10.0.5.36	10.0.5.35	HTTP	408	GET /a.html HTTP/1.1
11	15.744136285	10.0.5.35	10.0.5.36	HTTP	599	HTTP/1.1 200 OK (text/html)
13	15.843498119	10.0.5.36	10.0.5.35	HTTP	356	GET /image1.jpg HTTP/1.1
174	15.890965810	10.0.5.36	10.0.5.35	HTTP	356	GET /image2.jpg HTTP/1.1
187	15.891388691	10.0.5.36	10.0.5.35	HTTP	356	GET /image3.jpg HTTP/1.1
238	15.903558103	10.0.5.36	10.0.5.35	HTTP	356	GET /image6.jpg HTTP/1.1
240	15.903558149	10.0.5.36	10.0.5.35	HTTP	356	GET /image5.jpg HTTP/1.1
242	15.903558194	10.0.5.36	10.0.5.35	HTTP	356	GET /image4.jpg HTTP/1.1
1524	16.096258030	10.0.5.36	10.0.5.35	HTTP	356	GET /image7.jpg HTTP/1.1
2270	16.153688795	10.0.5.35	10.0.5.36	HTTP	63431	HTTP/1.1 200 OK (JPEG JFIF image)
2372	16.158675089	10.0.5.36	10.0.5.35	HTTP	356	GET /image8.jpg HTTP/1.1
2639	16.167994598	10.0.5.36	10.0.5.35	HTTP	356	GET /image9.jpg HTTP/1.1
2649	16.168040583	10.0.5.36	10.0.5.35	HTTP	357	GET /image10.jpg HTTP/1.1

$$\text{Time} = 16.168040583 - 15.744136285 = 0.423904298$$

4.4 Eight persistent connections

browser.pageActions.persistedActions	{ "version":1,"ids":["bookmark","pinTab","bookmarkSeparator","copyURL","emailLink","addSearchEngine","sendToDevice","shareURL","pocket","screenshots_mozilla_org"],"idsInUrlbar":["pocket","bookmark"]}		
devtools.netmonitor.persistlog	false		
devtools.webconsole.persistlog	false		
media.clearkey.persistent-license.enabled	false		
network.http.max-persistent-connections-per-proxy	32		
network.http.max-persistent-connections-per-server	8		
network.http.spdy.persistent-settings	true		
persi	<input checked="" type="radio"/> Boolean <input type="radio"/> Number <input type="radio"/> String		



No.	Time	Source	Destination	Protocol	Length	Info
18	6.211868217	10.0.5.36	10.0.5.35	HTTP	408	GET /a.html HTTP/1.1
20	6.215273113	10.0.5.36	10.0.5.35	HTTP	599	HTTP/1.1 200 OK (text/html)
22	6.326839780	10.0.5.36	10.0.5.35	HTTP	356	GET /image1.jpg HTTP/1.1
110	6.369992182	10.0.5.36	10.0.5.35	HTTP	356	GET /image4.jpg HTTP/1.1
112	6.369992255	10.0.5.36	10.0.5.35	HTTP	356	GET /image3.jpg HTTP/1.1
132	6.373355343	10.0.5.36	10.0.5.35	HTTP	356	GET /image2.jpg HTTP/1.1
256	6.397686618	10.0.5.36	10.0.5.35	HTTP	356	GET /image6.jpg HTTP/1.1
258	6.397686660	10.0.5.36	10.0.5.35	HTTP	356	GET /image5.jpg HTTP/1.1
260	6.397686709	10.0.5.36	10.0.5.35	HTTP	356	GET /image8.jpg HTTP/1.1
262	6.403074986	10.0.5.36	10.0.5.35	HTTP	356	GET /image7.jpg HTTP/1.1
1363	6.488852977	10.0.5.36	10.0.5.35	HTTP	356	GET /image9.jpg HTTP/1.1
1582	6.495581945	10.0.5.36	10.0.5.35	HTTP	357	GET /image10.jpg HTTP/1.1
4094	6.973598465	10.0.5.36	10.0.5.35	HTTP	357	GET /favicon.ico HTTP/1.1
4096	6.974726970	10.0.5.36	10.0.5.35	HTTP	519	HTTP/1.1 404 Not Found (text/html)

Time = 6.973598465 - 6.215273113=0.758325352

4.5 Ten persistent connections

The image shows two screenshots from a VirtualBox VM running Ubuntu-20.10. The top screenshot is the DevTools Settings panel for 'browser.pageActions.persistedActions'. The bottom screenshot is the Wireshark network traffic capture.

DevTools Settings:

Setting	Value	Reset	Help
browser.pageActions.persistedActions	<code>{"version":1,"ids":["bookmark","pinTab","bookmarksSeparator","copyURL","emailLink","addSearchEngine","sendToDevice","shareURL","pocket","screenshots_mozilla_org"],"idsInUrlbar":["pocket","bookmark"]}</code>		
devtools.netmonitor.persistlog	false	↕	
devtools.webconsole.persistlog	false	↕	
media.clearkey.persistent-license.enabled	false	↕	
network.http.max-persistent-connections-per-proxy	32	↕	
network.http.max-persistent-connections-per-server	10	✓	5
network.http.spdy.persistent-settings	true	↕	5

Wireshark Network Traffic:

No.	Time	Source	Destination	Protocol	Length	Info
51	9.848015134	10.0.5.36	10.0.5.35	HTTP	408	GET /a.html HTTP/1.1
53	9.861106031	10.0.5.35	10.0.5.36	HTTP	599	HTTP/1.1 200 OK (text/html)
55	10.071345814	10.0.5.36	10.0.5.35	HTTP	356	GET /image1.jpg HTTP/1.1
72	10.093434873	10.0.5.36	10.0.5.35	HTTP	356	GET /image2.jpg HTTP/1.1
128	10.106370969	10.0.5.36	10.0.5.35	HTTP	357	GET /image10.jpg HTTP/1.1
130	10.106371020	10.0.5.36	10.0.5.35	HTTP	356	GET /image9.jpg HTTP/1.1
132	10.106371072	10.0.5.36	10.0.5.35	HTTP	356	GET /image8.jpg HTTP/1.1
134	10.106371110	10.0.5.36	10.0.5.35	HTTP	356	GET /image7.jpg HTTP/1.1
136	10.106371154	10.0.5.36	10.0.5.35	HTTP	356	GET /image6.jpg HTTP/1.1
138	10.106371202	10.0.5.36	10.0.5.35	HTTP	356	GET /image5.jpg HTTP/1.1
140	10.106514437	10.0.5.36	10.0.5.35	HTTP	356	GET /image4.jpg HTTP/1.1
142	10.106514524	10.0.5.36	10.0.5.35	HTTP	356	GET /image3.jpg HTTP/1.1
5908	11.046758162	10.0.5.35	10.0.5.36	HTTP	947	HTTP/1.1 200 OK (JPEG JFIF image)
5957	11.071538653	10.0.5.36	10.0.5.35	HTTP	357	GET /favicon.ico HTTP/1.1
5959	11.075287456	10.0.5.35	10.0.5.36	HTTP	554	HTTP/1.1 404 Not Found (text/html)

Time = 11.046758162-9.861106031=1.185652131

Observations :

- Optimal Number of Connections = 6
- For six persistent connection the load time is the minimal
- The load time initially decreases as the number of persistent connections and becomes minimal at the value six and then the load time increases as the number of persistent connections increase
- Here is the table and the line graph for better insights

Number of Connections	Load Time
0	0.978676355
2	0.704818489
4	0.585389473
6	0.423904298
8	0.758325352
10	1.185652131

