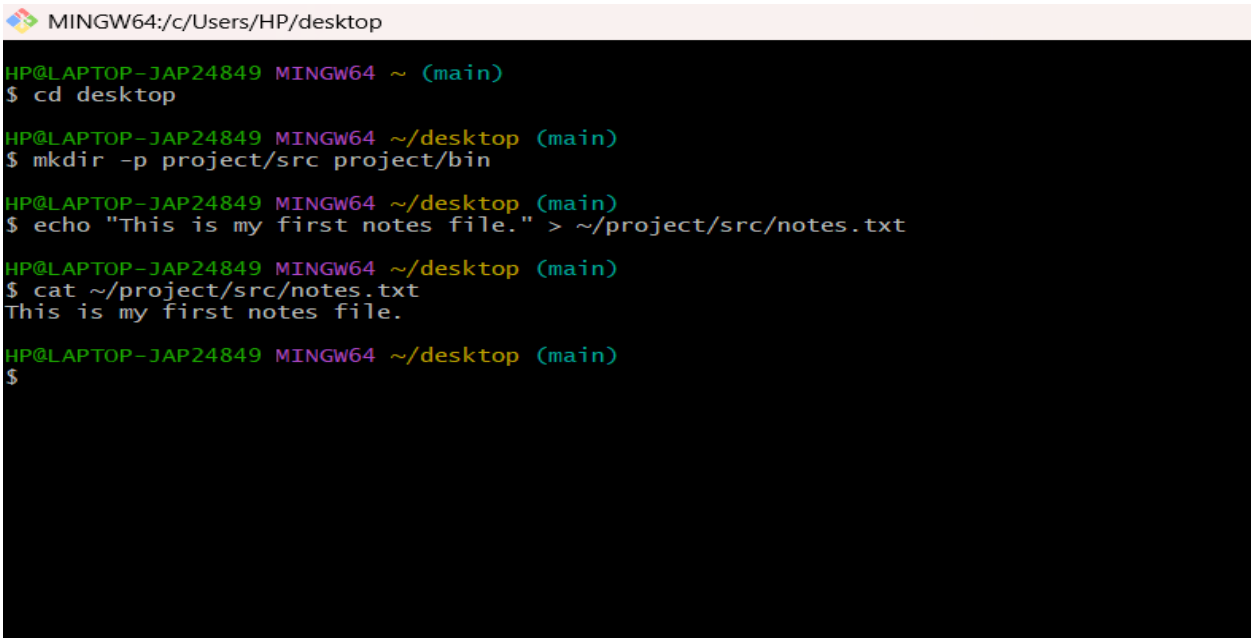
Unix Assignment Questions

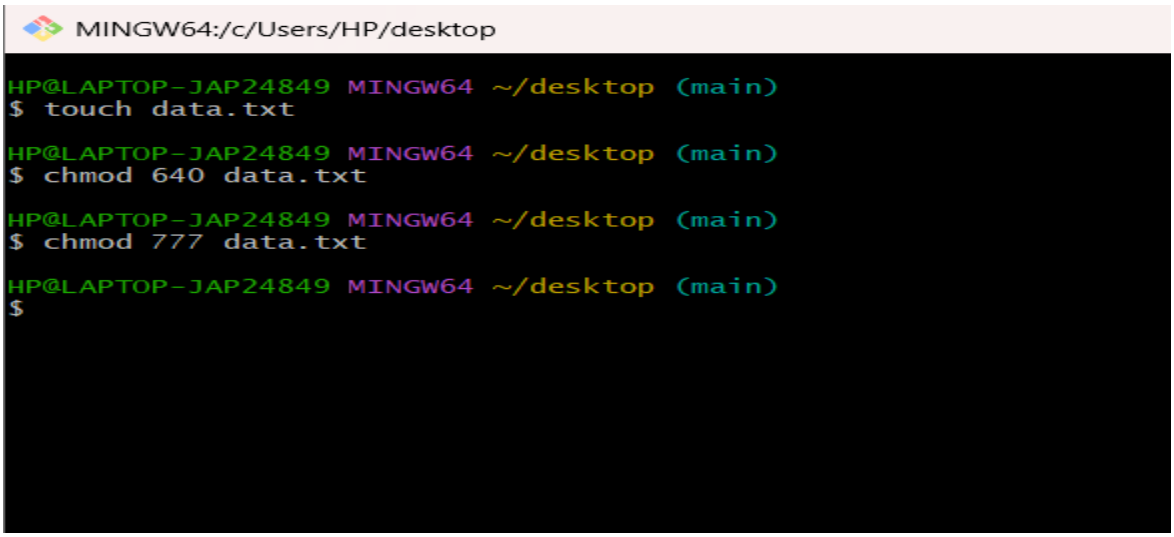
Basic File Operations:

- **Q1:** Create a new directory called `project` in your home directory. Inside the `project` directory, create two subdirectories named `src` and `bin`.
- **Q2:** Create a text file named `notes.txt` in the `src` directory and add some text into it using the `echo` command. Display the contents of the file.
  Answer 1,2:



2. Working with File Permissions:

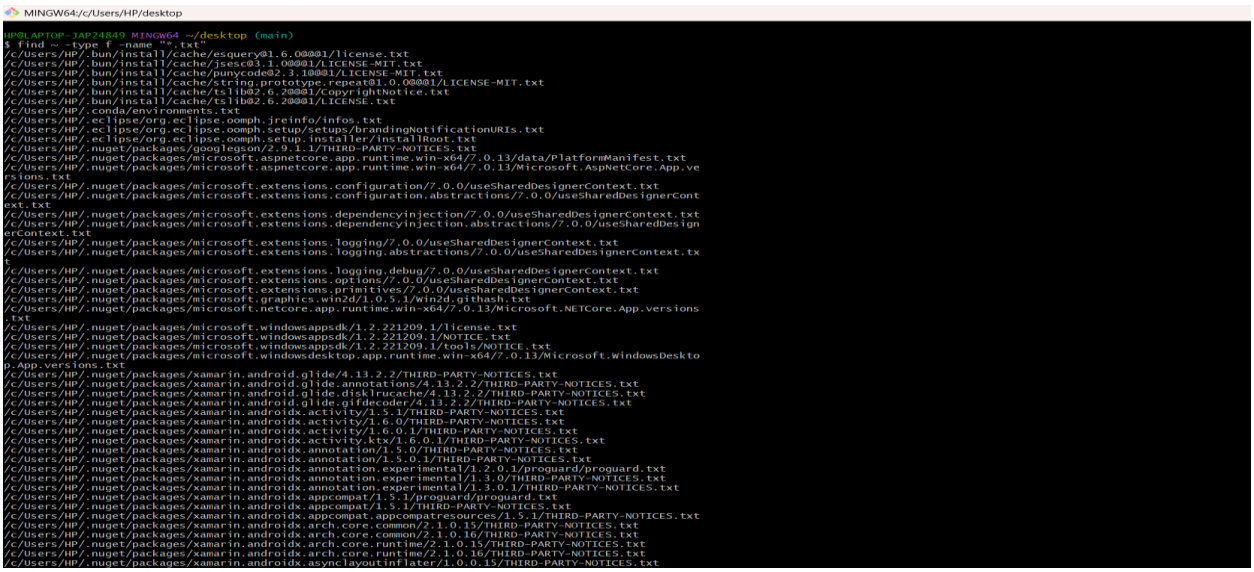
- **Q3:** Create a file named `data.txt`. Set the permissions so that:
  - The owner can read and write.
  - The group can read.
  - Others have no permissions.
- **Q4:** Change the permissions of `data.txt` to be readable, writable, and executable by everyone.

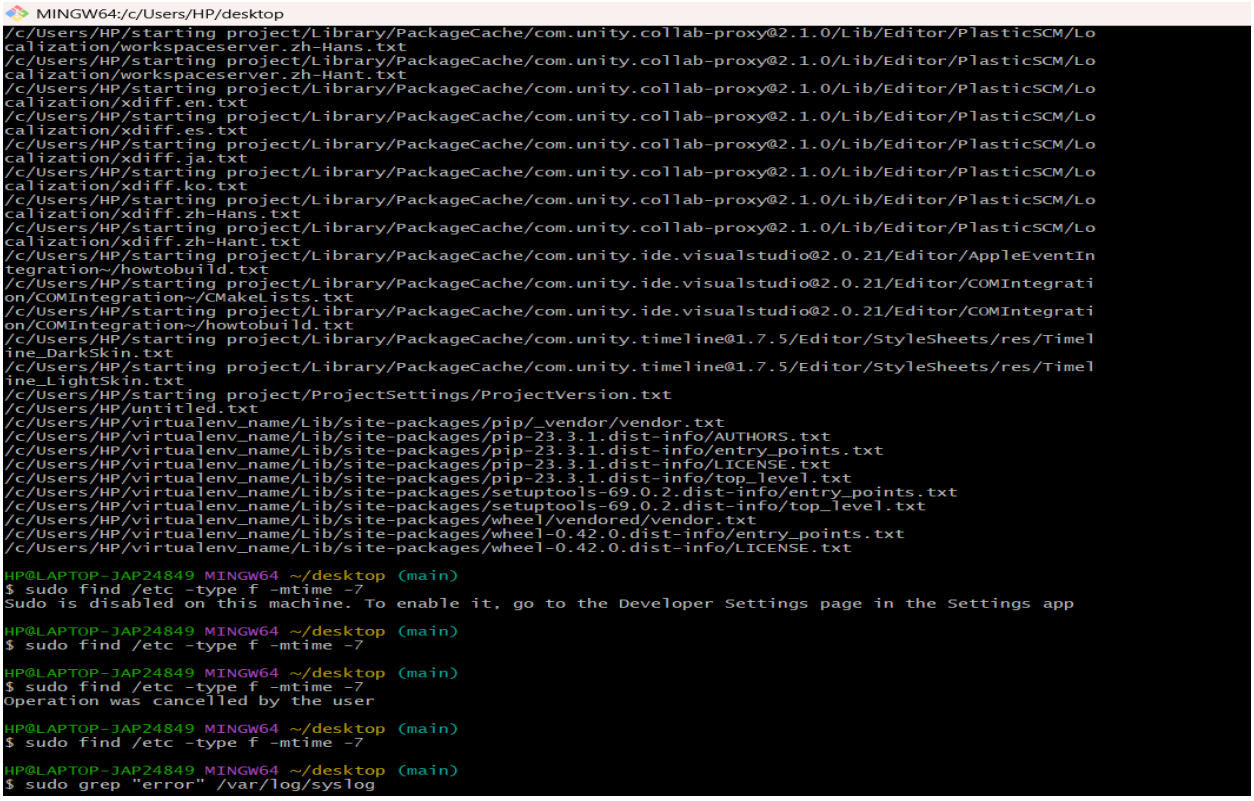


3. File Searching and Manipulation:

- **Q5:** Using the `find` command, search for all `.txt` files in your home directory.
- **Q6:** Find all files in the `/etc` directory that were last modified in the last 7 days.
- **Q7:** Use the `grep` command to search for the word "error" in the `/var/log/syslog` file. Display the lines where this word occurs.

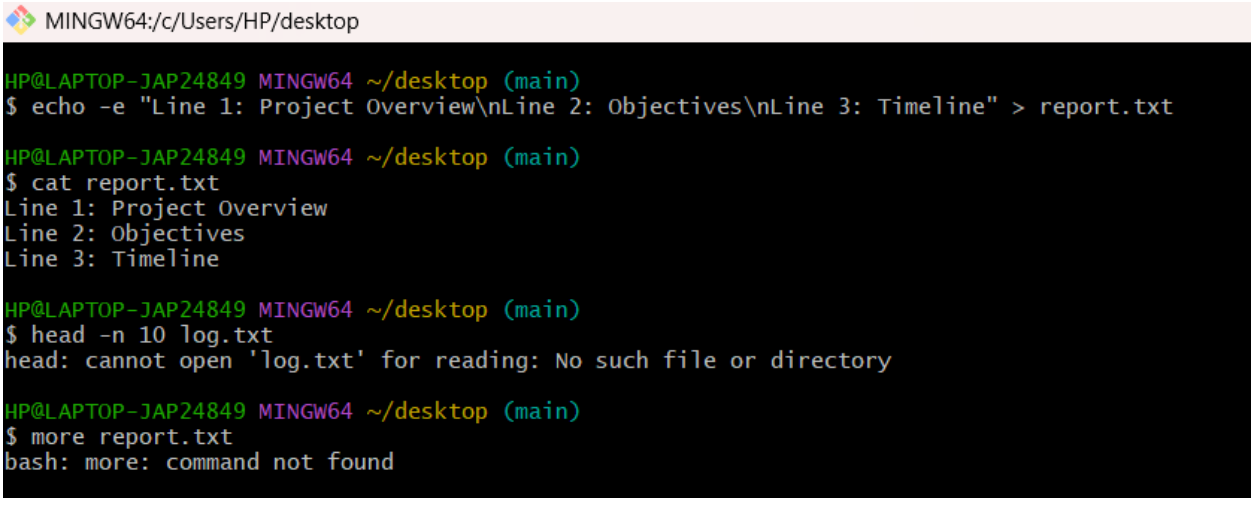
Answer 5 ,6,7:

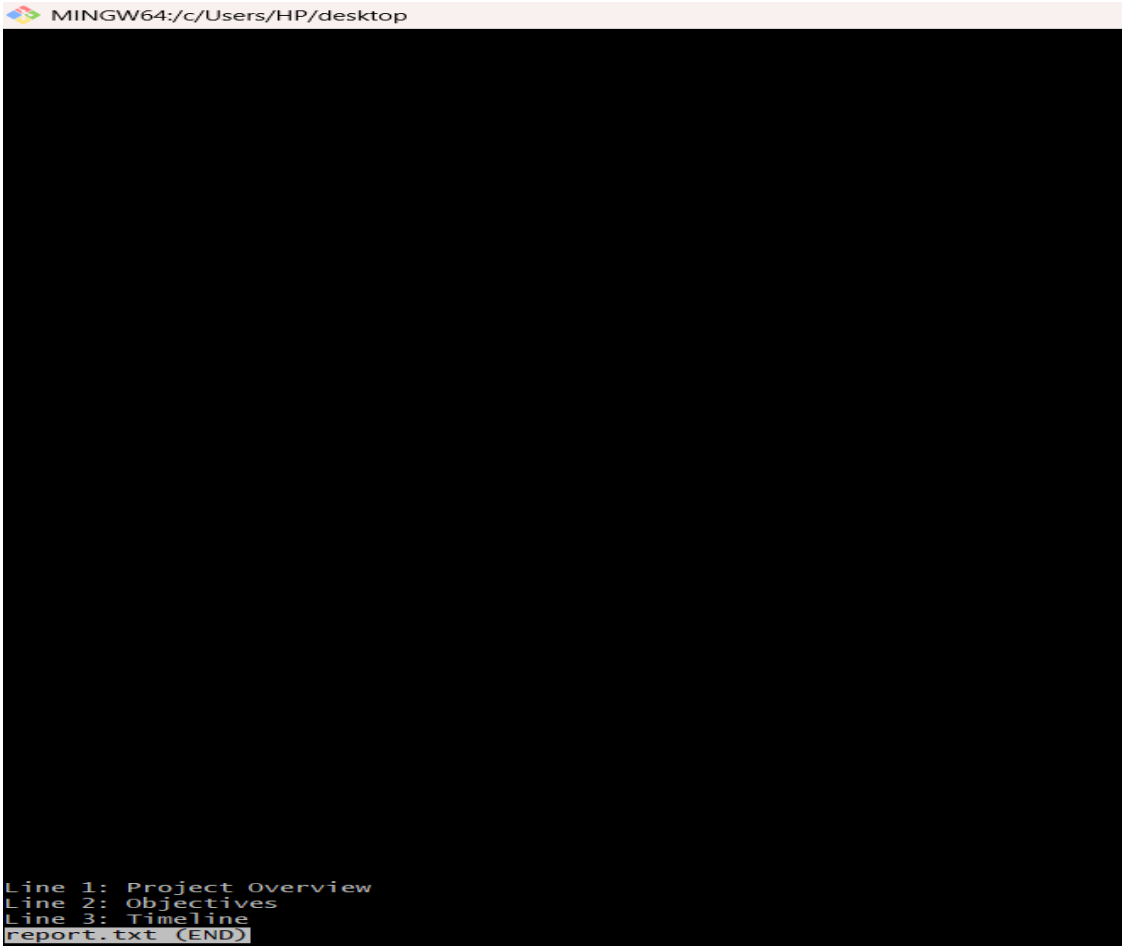




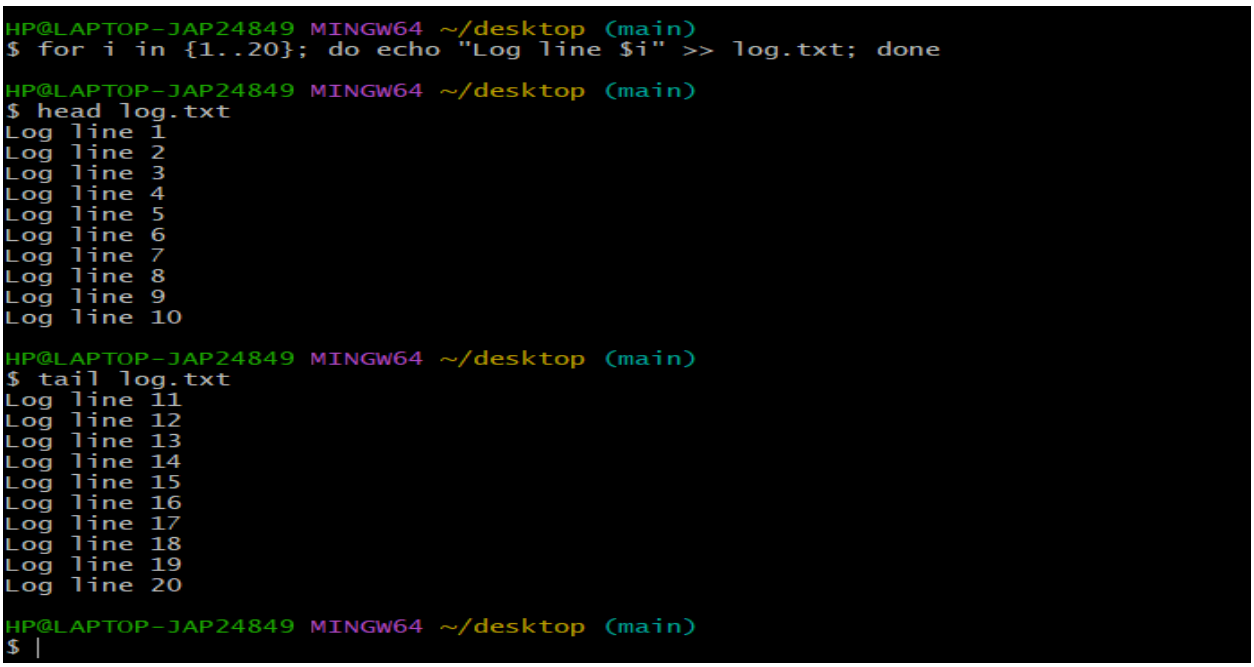
4. Text File Operations:

- **Q8:** Display the contents of a file `report.txt` line by line using the `cat`, `more`, and `less` commands.





- **Q9:** Use head and `tail` commands to display the first 10 and last 10 lines of a file named `log.txt`.



- **Q10:** Create a file named `names.txt` containing a list of names. Use `sort` to display the names in alphabetical order.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ echo -e "Ananya\nKuhu\nStuti\nDhwani" > names.txt

HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ cat names.txt
Ananya
Kuhu
Stuti
Dhwani

HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ sort names.txt
Ananya
Dhwani
Kuhu
Stuti

HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
```

- **Q11:** Use the `wc` command to count the number of words, lines, and characters in a file `data.csv`.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ echo -e "Name,Age,City\nAnanya,22,Delhi\nRavi,25,Mumbai\nMeera,21,Bangalore" > data.csv

HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ wc data.csv
 4  4 64 data.csv

HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
```

5. Process Management:

- **Q12:** List all running processes using the `ps` command.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ ps aux
      PID    PPID    PGID     WINPID   TTY         UID    STIME COMMAND
S    1482    1241    1482      20084  pty0      197609 23:17:17 /usr/bin/less
     1240       1    1240      43432  ?         197609 19:22:17 /usr/bin/mintty
S    1477    1241    1477      41212  pty0      197609 19:57:22 /usr/bin/less
     1241    1240    1241      24324  pty0      197609 19:22:18 /usr/bin/bash
     1594    1241    1594      40312  pty0      197609 23:37:33 /usr/bin/ps
```

6. System Information:

- **Q13:** Display the current date and time using the `date` command.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ date
Sat Jun 21 23:38:06 IST 2025
```

- **Q14:** Use the `df` command to display disk space usage.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ df -h
Filesystem            Size  Used Avail Use% Mounted on
C:/Program Files/Git  261G  202G   60G  78% /
D:                    215G  2.1G  213G   1% /d

HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
```

- **Q15:** Use the `uname` command to display your system's information (e.g., OS type, version).

```
P@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
 uname -a
INGW64_NT-10.0-26100 LAPTOP-JAP24849 3.4.10-bc1f6498.x86_64 2024-09-15 15:08 UTC x86_64 Msys
```

- **Q16:** Display the current system uptime using the `uptime` command.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ cat /proc/uptime
1140440.07 746911.60
```

7. Network Commands:

- **Q17:** Use the `ping` command to check if a remote server (e.g., google.com) is reachable.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ ping amazon.com

Pinging amazon.com [205.251.242.103] with 32 bytes of data:
Reply from 205.251.242.103: bytes=32 time=318ms TTL=243
Reply from 205.251.242.103: bytes=32 time=436ms TTL=243
Reply from 205.251.242.103: bytes=32 time=386ms TTL=243
Reply from 205.251.242.103: bytes=32 time=410ms TTL=243

Ping statistics for 205.251.242.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 318ms, Maximum = 436ms, Average = 387ms
```

- **Q18:** Use the `ifconfig` or `ip a` command to display the network configuration of your system.

```
C:\Users\HP\Desktop>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet 3:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Unknown adapter Local Area Connection:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   IPv6 Address. . . . . . . . . . . : 2401:4900:1c30:3552:e1ae:330:39f0:5489
   Temporary IPv6 Address. . . . . . : 2401:4900:1c30:3552:5c2:8e60:8841:c9f
```

- **Q19:** Display the active network connections using the `netstat` command.

```
HP@LAPTOP-JAP24849 MINGW64 ~/desktop (main)
$ netstat

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    127.0.0.1:49680        LAPTOP-JAP24849:49681  ESTABLISHED
  TCP    127.0.0.1:49681        LAPTOP-JAP24849:49680  ESTABLISHED
  TCP    127.0.0.1:49682        LAPTOP-JAP24849:49683  ESTABLISHED
  TCP    127.0.0.1:49683        LAPTOP-JAP24849:49682  ESTABLISHED
  TCP    127.0.0.1:49739        LAPTOP-JAP24849:49740  ESTABLISHED
  TCP    127.0.0.1:49740        LAPTOP-JAP24849:49739  ESTABLISHED
  TCP    127.0.0.1:50925        LAPTOP-JAP24849:50927  ESTABLISHED
  TCP    127.0.0.1:50927        LAPTOP-JAP24849:50925  ESTABLISHED
  TCP    192.168.1.13:51123     104.18.32.47:https     ESTABLISHED
  TCP    192.168.1.13:51136     104.18.32.47:https     ESTABLISHED
  TCP    192.168.1.13:51202     lb-140-82-112-25-iad:https  ESTABLISHED
  TCP    192.168.1.13:51232     52.104.130.25:https    ESTABLISHED
  TCP    192.168.1.13:51301     172.67.75.13:https     ESTABLISHED
  TCP    192.168.1.13:51303     172.67.75.13:https     ESTABLISHED
  TCP    192.168.1.13:51506     whatsapp-cdn-shv-03-del2:https  CLOSE_WAIT
  TCP    192.168.1.13:51507     whatsapp-cdn-shv-03-del2:https  CLOSE_WAIT
  TCP    192.168.1.13:51508     whatsapp-cdn-shv-03-del2:https  CLOSE_WAIT
  TCP    192.168.1.13:51531     116.119.85.99:https    CLOSE_WAIT
  TCP    192.168.1.13:51532     whatsapp-cdn-shv-01-del1:https  CLOSE_WAIT
  TCP    192.168.1.13:51533     116.119.197.227:https  CLOSE_WAIT
  TCP    192.168.1.13:51534     116.119.77.162:https   CLOSE_WAIT
  TCP    192.168.1.13:51535     116.119.74.96:https    CLOSE_WAIT
  TCP    192.168.1.13:51536     116.119.201.96:https   CLOSE_WAIT
  TCP    192.168.1.13:51537     116.119.107.35:https   CLOSE_WAIT
  TCP    192.168.1.13:51538     116.119.91.225:https   CLOSE_WAIT
  TCP    192.168.1.13:51539     116.119.91.225:https   CLOSE_WAIT
  TCP    192.168.1.13:51540     116.119.84.98:https    CLOSE_WAIT
  TCP    192.168.1.13:51541     116.119.105.227:https  CLOSE_WAIT
  TCP    192.168.1.13:51542     whatsapp-cdn-shv-01-ccu1:https  CLOSE_WAIT
  TCP    192.168.1.13:51543     182.79.139.96:https    CLOSE_WAIT
  TCP    192.168.1.13:51544     whatsapp-cdn-shv-02-del1:https  CLOSE_WAIT
  TCP    192.168.1.13:51545     116.119.200.160:https  CLOSE_WAIT
  TCP    192.168.1.13:51546     116.119.85.33:https    CLOSE_WAIT
  TCP    192.168.1.13:51552     116.119.124.163:https  CLOSE_WAIT
  TCP    192.168.1.13:51599     del03s18-in-f3:https   ESTABLISHED
  TCP    192.168.1.13:51600     del03s18-in-f3:https   ESTABLISHED
  TCP    192.168.1.13:51623     del11s08-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51629     del11s08-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51654     104.18.36.34:https     ESTABLISHED
  TCP    192.168.1.13:51656     104.18.36.34:https     ESTABLISHED
  TCP    192.168.1.13:51673     tzdela-ay-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51674     tzdela-ay-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51695     tzdela-ay-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51699     tzdela-ay-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51702     tzdela-ay-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51706     tzdela-ay-in-f14:https  ESTABLISHED
  TCP    192.168.1.13:51717     104.26.14.136:https    TIME_WAIT
  TCP    192.168.1.13:51718     104.26.14.136:https    TIME_WAIT
  TCP    192.168.1.13:51730     13.89.179.11:https     ESTABLISHED
  TCP    192.168.1.13:51731     tzdela-ar-in-f3:http   TIME_WAIT
  TCP    192.168.1.13:51733     a104-108-224-28:http   TIME_WAIT
  TCP    192.168.1.13:51734     78.138.96.173:http     TIME_WAIT
```