

Command pipeline assignment

```
curl -s http://public-dns.info/nameserver/br.csv |  
cut -d, -f1 | shuf | tail -n 50 | xargs -i timeout 1  
ping -c1 -w 1 {} | grep "time=" | awk '{print  
substr($7, 6, length($7)) " " substr($4, 1,  
length($4) -1)}' | sort -n | awk '{print $2 " " $1  
"ms"}' | head -n 10
```

This command is a combination of several command-line utilities, and it performs a series of operations to retrieve, process, and present information about the response times of a set of randomly selected DNS servers.

`curl -s http://public-dns.info/nameserver/br.csv:`

- `curl`: Command-line tool for making HTTP requests.
- `-s`: Option to run in silent mode, which means it won't show progress or error messages.
- `http://public-dns.info/nameserver/br.csv`: URL to retrieve a CSV file containing information about Brazilian DNS servers.

`cut -d, -f1:`

- `cut`: Command for cutting out sections from each line of a file.
- `-d,`: Specifies the delimiter as a comma (,).
- `-f1`: Selects the first field (column) from each line.

`shuf:`

- `shuf`: Command for generating random permutations of input lines.

`tail -n 50:`

- `tail`: Command for displaying the last part of a file.
- `-n 50`: Shows the last 50 lines of the input.

`xargs -i timeout 1 ping -c1 -w 1 {}:`

- `xargs`: Command for building and executing command lines from standard input.
- `-i`: Option to replace occurrences of `{}` in the command with the input from standard input.
- `timeout 1 ping -c1 -w 1 {}`: This is the command that will be executed for each input. It pings each DNS server once with a timeout of 1 second.

`grep "time=":`

- `grep`: Command for searching text patterns.
- `"time="`: Filters lines containing the specified text pattern, which indicates a successful ping response.

`awk '{print substr($7, 6, length($7)) " " substr($4, 1, length($4) - 1)}':`

- `awk`: A versatile text processing tool.

- The command extracts and rearranges information from the ping output. It prints the substring of the 7th column (response time), starting from the 6th character, and the substring of the 4th column (IP address), excluding the last character.

`sort -n:`

- `sort`: Command for sorting lines of text files.
- `-n`: Sorts numerically.

`awk '{print $2 " " $1 "ms"}':`

- Another `awk` command to rearrange and format the output. It prints the 2nd column (IP address) followed by the 1st column (response time) with "ms" appended.

`head -n 10:`

- `head`: Command for displaying the first part of a file.
- `-n 10`: Shows the first 10 lines of the input.

In summary, this command fetches information about Brazilian DNS servers, selects a random set of 50 servers, pings each server once, extracts and formats the response time and IP address information, sorts it numerically, and finally presents the top 10 fastest response times with their corresponding IP addresses.

```
pranjal.mukharjee@PF3HRQF1:~$ curl -s http://public-dns.info/nameserver/br.csv | cut -d, -f1 | shuf
| tail -n 50 | xargs -i timeout 1 ping -c1 -w 1 {} | grep "time=" | awk '{print substr($7, 6, length
($7)) " " substr($4, 1, length($4) -1)}' | sort -n | awk '{print $2 " " $1 "ms"}' | head -n 10
177.129.137.35 348ms
190.115.219.65 352ms
45.235.193.8 366ms
200.23.68.51 368ms
152.250.250.69 370ms
177.101.43.150 374ms
131.100.150.223 376ms
191.36.234.135 377ms
186.209.178.205 382ms
189.42.221.18 382ms
```