

# CheatSheet: Linux Networking

## INTERVIEW

- PDF Link: [cheatsheet-networking-A4.pdf](#), Category: interview
- Blog URL: <https://cheatsheet.dennyzhang.com/cheatsheet-networking-A4>
- Related posts: CheatSheet: Linux File, CheatSheet: Linux Process, #denny-cheatsheets

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## 1.1 Top 10 Networking Questions

| Num | Name   | Summary                  |
|-----|--|--------------------------|
| 1   | Difference between switch and router?                              | L2, L3                   |
| 2   | What is a DNS amplification attack?                                |                          |
| 3   | Difference between L2 and L3 switch?                               |                          |
| 4   | What is TCP SYN scan? How it's conducted?                          |                          |
| 5   | Which port ICMP is using?  | Neither TCP or UDP. Link |
| 6   | Proxy server vs Loadbalancer. Proxy server vs Reverse proxy server |                          |
| 7   | Brief introduction about 802.1x                                    |                          |
| 8   | List all methods which can stop one ip ssh to the server           |                          |
| 9   | Explain how iptable routing rules works                            |                          |

## 1.2 Linux Networking

| Name                          | Comment   |
|-------------------------------|---|
| Examine network nic traffic   | <code>ethtool -S eth0</code>  |
| Check system configuration    | <code>sysctl -a</code>  |
| Change linux machine hostname | <code>/etc/sysconfig/network, /etc/hostname</code>                              |
| Ports for well-known services | <code>cat /etc/services</code>  |
| Reference                     | SSH CheatSheet, Tcpdump CheatSheet, CheatSheet: Curl & Wget                     |
| Reference                     | CheatSheet: Linux File, CheatSheet: Linux Process, CheatSheet: Linux Networking |

## 1.3 HTTP

| Name                                  | Command  |
|---------------------------------------|--|
| How HTTPS works                       |  |
| Explain X509 certificates             |  |
| See HTTP request statistics           | <code>httpstat https://www.google.com (brew install httpstat)</code> |
| Monitor HTTP URLs                     | SaaS: <a href="https://uptimerobot.com">uptimerobot.com</a>          |
| Examine web page performance          | SaaS: <a href="https://pingdom.com">pingdom.com</a>                  |
| Test webpage from different browsers  | SaaS: <a href="https://www.browserling.com">www.browserling.com</a>  |
| Export local http service to Internet | SaaS: <a href="https://ngrok.com">ngrok.com</a>                      |
| Reference                             | CheatSheet: Curl & Wget, GitHub: <a href="#">free-for-dev</a>        |

## 1.4 TCP

| Name   | Comment   |
|--|---|
| List all listening tcp ports                 | <code>netstat -tunlp</code>   |
| Port scan for a given host                   | <code>sudo nmap -O 192.168.1.103</code> , SaaS: <a href="https://viewdns.info/portscan">viewdns.info/portscan</a> |
| Add 97ms latency to eth0                     | Link: <code>tc, tc qdisc add dev eth0 root netem delay 97ms</code>  |
| Check tc status                              | <code>tc -s qdisc</code>  |
| Remove tc rule                               | <code>tc qdisc del dev eth0 root netem</code>   |
| Check network speed                          | SaaS: <a href="https://www.att.com/speedtest">www.att.com/speedtest</a>   |
| Tcp manual                                   | <code>man 7 tcp</code>  |
| Disable ipv6                                 | Change <code>sysctl</code> , by adding <code>net.ipv6.conf.*.disable_ipv6</code>                                  |
| Check for IPv6 support in the current kernel | <code>/proc/net/if_inet6</code>   |
| Reference                                    | Tcpdump CheatSheet  |

## 1.5 Route

| Name             | Comment   |
|------------------|---|
| List route rules | <code>route -n, netstat -nr</code>  |
| Add default rule | <code>route add default gw 10.0.0.1 netmask 255.255.255.0 dev eth0</code>   |
| Add route rule   | <code>route add -net 0.0.0.0 gw 192.168.1.1 netmask 0.0.0.0 dev eth0</code> |
| Del route rule   | <code>route del -net 192.168.3.0 netmask 255.255.255.0 dev eth1</code>      |

## 1.6 DNS

| Name                     | Comment   |
|--------------------------|---|
| Check dns naming         | <code>sudo nslookup www.google.com</code>   |
| Print routing table      | <code>netstat -rn</code>  |
| List all the router hops | <code>tracert</code>  |
| DNS lookup utility       | <code>host www.google.com</code>  |
| DNS pin test             | SaaS: <a href="http://viewdns.info">viewdns.info</a>  |
| Websites To Register DNS | Link: <a href="#">Google Domain DNS</a> , Link: <a href="#">GoDaddy</a> , Link: <a href="#">Amazon Route 53</a> |

## 1.7 CDN

| Name         | Command                           |
|--------------|-----------------------------------|
| CDN services | <code>cloudflare, jsDelivr</code> |

## 1.8 TCP sockets workflow

| Name  | Comment   |
|---|---|
| create a new anonymous socket                             | <code>s = socket(&lt;parameters&gt;)</code>     |
| Bind tcp port to a socket                                 | <code>bind(s, &lt;local IP:port&gt;)</code>     |
| Create a socket to remote endpoint                        | <code>connect(s, &lt;remote IP:port&gt;)</code> |
| Create local socket and make it eligible to take requests | <code>listen(s, ...)</code>                     |
| Accept client requests                                    | <code>s2 = accept(s)</code>                     |
| Read n bytes from a socket                                | <code>n = read(s, buffer, n)</code>             |
| Write n bytes to a socket                                 | <code>n = write(s, buffer, n)</code>            |
| Close a socket  | <code>close(s)</code>                           |
| Shutdown stdin and stdout/stderr for a socket             | <code>shutdown(s, &lt;side&gt;)</code>          |
| Read socket options                                       | <code>getsockopt(s, ..)</code>                  |
| Change socket options                                     | <code>setsockopt(s, ..)</code>                  |

## 1.9 More Resources

License: Code is licensed under MIT License.

<https://github.com/trimstray/the-book-of-secret-knowledge>