Sysadmin's networking cheat sheet

A sysadmin manages servers and networks. The following utilities and commands are common Linux tools that make a sysadmin's daily tasks easy.

Ping: verify connectivity between you and a remote system	
`ping 8.8.8.8`	Ping a server at 8.8.8.8 over IPv4
`ping6 example.com`	Ping a server at example.com over IPv6

Traceroute: trace the path from one system to another, including routers in between	
`traceroute 8.8.8.8`	`traceroute example.com`

Nslookup: query Internet name servers	
`nslookup example.com`	Display your DNS server and target IP address

Telnet & OpenSSL: connect to ports and query them for functionality	
`telnet example.com 110`	`openssl s_client -starttls smtp \` `-connect example.com:587`

Netstat: analyze interface, port, protocol statistics, and routing tables		
`netstat --listening`	`-l`	List ports in listening mode
`netstat --all`	`-a`	List all ports
`netstat --route`	`-r`	Display routing tables
`netstat --interfaces`	`-i`	Display TX/RX packet statistics for each interface

General	
`systemctl restart network`	Restart network service
`tcpdump -i eth0`	Show live packets from interface **eth0**

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Network manager

`nmcli device`	Display network devices
`nmcli device show eth0`	Show information about eth0 device
`nmcli connection`	Show network connections
`nmcli connection up foo`	Bring connection **foo** up
`nmcli device wifi connect foo`	Connect to wireless network **foo**

Routing

`ip route`	Show current routes
`route add default gw 10.0.0.1`	Add 10.0.0.1 as default gateway to routing table
`ip addr show`	Show your local IP address
`ip neighbor show`	Show neighbors
`arp`	Show neighbors

Firewall

`firewall-cmd --get-active-zones`	List active firewall zones
`--change-interface eth0 --zone=example`	Place eth0 into **example** zone
`--get-services`	List all defined services
`--add-service samba --zone=example`	Add **samba** ports to **example** zone
`--add-port=123/tcp --zone=example`	Add port **123** to **example** zone
`--permanent`	Add this flag to make a change persistent