# CSYE 6225: Network Structure & Cloud Computing

## Assignment #2: Linux Networking Commands Report

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## 1 Basic Network Information

Commands Used:

* ip addr show  
  ip link show  
  ip route show  
  cat /etc/resolv.conf

Explanation: These commands display network interfaces, their statuses, routing tables, and DNS configuration.

## 2 Network Statistics

Commands Used:

* netstat -i  
  netstat -s  
  ifstat

Explanation: These commands show network statistics, errors, and interface activity.

## 3 Packet Analysis

Commands Used:

* sudo tcpdump -i enX0  
  sudo tcpdump -i enX0 port 80  
  iftop

Explanation: Captures live network traffic and displays bandwidth usage.

## 4 Network Troubleshooting

Commands Used:

* ping google.com  
  traceroute google.com  
  nmap google.com  
  nslookup google.com  
  ss -tuln

Explanation: These commands check connectivity, trace routes, scan ports, and resolve DNS.

## 5 Advanced Packet Analysis

Commands Used:

* sudo tcpdump -i enX0 -w capture.pcap  
  tcpdump -r capture.pcap

Explanation: Captures and analyzes packets from a saved `.pcap` file.

## Challenges Faced:

1. Permission issues with `tcpdump` - Resolved using `sudo`.

2. Missing tools (`netstat`, `traceroute`, `nmap`) - Installed via `apt`.