

Computer Networks Lab

Assignment - 8: Introduction to Networking Tools

Task 1: Physical and Data link layer

1. Find out what network cards your machine has. What is the speed?
(lspci)
2. Show all the parameters of your network interface. Also show the network statistics of your network interface.
(ethtool)
3. What is the MAC address of your machine?
(ip link, arp)
4. How many bytes did your eth0/em1 interface receive since boot?
(ifconfig)
5. What is the MTU setting for eth0/em1?
(ip link, ifconfig)

Task 2: Network Layer

1. What is your machine's network address? What is the default gateway (IP address and MAC address) of your network?
(ifconfig, route)
2. Show the arp entries in your machine.
(arp, ip neighbour)
3. Show the routing table of your machine.
(route, ip route)
4. Perform a traceroute /tracert /mtr to any website. Provide the full output.
Show how mtr and traceroute is working by packet capturing tools.
(mtr, traceroute, tcpdump host)

Task 3: Transport layer

1. What ports are currently open on your machine? What services do they belong to?
(netstat, socklist)
2. List out all the network connection on your machine.
(lsof)
3. Run any network program and provide the traffic generated by the program?
(tcpdump port)