

# Computer Networks, Winter 2025

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## Lab 4: Tools

In this lab, you will get familiarized with diagnostic tools. *This lab is to be done individually.*

### 1 Commandline tools

Learn the following commandline tools by reading their man pages and running them: `ifconfig`, `ifup`, `ifdown`, `ping`, `host`, `traceroute`, `mtr`, `tracert`, `dig`, `nslookup`, `netstat`, `tcpdump` Experiment with a few switches. Record your observations in your notebook. Include `ahduni.edu.in`, `google.com` and `berkeley.edu` for experiments.

### 2 Wireshark

Wireshark is a commonly used packet sniffer. It can be used for troubleshooting. Inspecting packet contents can also help in identifying potential security breaches. Install and experiment with Wireshark - available at <https://www.wireshark.org/>. Follow the Getting Started guide written by Kurose and Ross at [http://www-net.cs.umass.edu/wireshark-labs/Wireshark\\_Intro\\_v8.0.pdf](http://www-net.cs.umass.edu/wireshark-labs/Wireshark_Intro_v8.0.pdf) and prepare the answers to the questions listed at the end of the document. Ping to a destination of your choice and find the resulting entries in Wireshark.

### 3 Graded component

- Write the answers to the questions listed at the end of the Wireshark document.
- What is the use of filters? How would you select the packets that contain specific source and destination addresses?

### Evaluation

- Knows at-least 3 commandline tools well. TA: \_\_\_\_\_
- Knows how to run Wireshark and can apply some basic filters. TA: \_\_\_\_\_