# ASSIGNMENT 9

## Capturing and analyzing network traffic

*In this assignment, we will learn to capture traffic on our system and analyze it using Wireshark tool.*

### Problem Statement C1 (Compulsory; Difficulty level *; 100 points)

Accomplish the following tasks:

1. List the different protocols you encounter when you visit a page (www.example.com) and explain their significance. Every URL you visit is hosted on a certain server having an IP address. Find out the IP addresses corresponding to URL you visited and your machine.
2. Open the first packet which has the IP addresses of www.example.com in the destination and has HTTP as the protocol.
    a. Explain the five major headings: Frame, Ethernet Protocol, IPv4, TCP and HTTP. Why these different protocols are involved in the same message? How are these protocols related?
    b. Does the information in this packet state about the browser and OS you are using? Does it show that you are sending a cookie?

Please send your .pcap file containing information relevant to your answer, along with the documentation.

### Problem Statement O1 (Optional; Difficulty level *; 10 bonus marks)

Perform following and comment on the response you get:

- Ping 255.255.255.255
- Ping 10.64.1.1
- Ping to a nearby system (State IP address of the System you are pinging to in your report)

### Problem Statement O2 (Optional; Difficulty level *; 10 bonus marks)

Trace the route to http://www.stanford.edu/ and comment on the route.

**NOTE:**

- The assignment must be uploaded to https://sakai.iitd.ac.in (in certain exceptional cases, the TAs may allow it to be mailed to dslab2013.iitd@gmail.com )
- Submission deadline is 5 PM today
- Submit a zip file named assignno_entryno having 2 folders:
  1. CODE: Suitable files associated with the assignment
  2. DOCUMENTATION: .pdf and .tex file of your report

**Copying is counter-productive and will be penalized.**

## Reading instructions for the next session

In next session, we will be using Ostinato for generating network traffic.