

CS310 Lab 6: Socket programming, Wireshark

October 18, 2023

1. Determine the IP address, default gateway, and DNS of your computer.
2. How many network interfaces are present? Can you have multiple interfaces?
3. See the Java code for `TCPServer` and `TCPClient`. Compile and run the client and server on two different hosts.
4. Create the same client server in Java but using UDP.
5. Capture and analyse packets using Wireshark, for both cases above.
6. There is a web server running on the Rpi. How will you know what files are hosted there?
7. Use `wget` to download the image located in the `alloy` subdirectory.
8. Traceroute the path from your machine to the Rpi.
9. Connect your laptop to your mobile hotspot. Can you browse the Rpi web pages? Why or why not? How can you access the pages hosted in the Rpi from your mobile network?
10. See the manpage of `dig`. Also see the `+trace` option. Perform a query for `www.cse.iitb.ac.in` and for `www.yahoo.com`. What do you observe?
11. Repeat Wireshark for HTTP and DNS access.

Useful links

1. Rpi address: 10.8.53.93
2. Kurose and Rose page: https://gaia.cs.umass.edu/kurose_ross/programming.php
3. Wireshark cheat sheet: <https://cdn.comparitech.com/wp-content/uploads/2019/06/Wireshark-Cheat-Sheet-1.jpg.webp>