

Networked Systems Programming (A.A. 2023/24)

Lab n. 1 – October 23, 2023

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Exercise 1.1

Download `serverDgram.c` and `clientDgram.c` from the material of lecture 11 on Handy, compile and run them locally (by using the loopback address 127.0.0.1 for IP communication). Exploit Wireshark to capture data exchanged between client and server and identify the UDP datagrams that contain the transferred data.

Change the application to avoid the communication of the constant string and use again Wireshark to capture exchanged data.

Exercise 1.2

Write a client/server application to remotely multiply two integer values. The client must read from the standard input two integer numbers and send them to the server. The server, after the reception of the two numbers, multiplies them and sends the result to the client. Use the datagram-oriented communication model (UDP). Exploit Wireshark to capture data exchanged between client and server and identify the UDP datagrams that contain the transferred data.

Exercise 1.3

Change the code of the first exercise such that the client sends the name of the user (read from the stdin) in the request message and change the response message in order to contain also the name of the user.

The client should show a message like the following: “Eugenio, this server has been contacted 6 times”, where Eugenio is the name passed by the client and 6 is the number of contacts received by the server.

Exploit Wireshark to analyze the content of the message exchanged.

Upload the exercises of this lab into your shared folder before October 25, 2023.

Upload also the Wireshark capture files and a simple document with screenshots to show the content of the messages.