

Computer Networks, Spring 2021

Exercises Lecture 4: Multiple Access and Multithreading

Keywords: networking, sockets, multi-client, concurrent access, multi-threading.

1. Code a UDP server able to hand multiple simultaneous clients. You can reuse the structure and some of the functionalities in the TCP multi-threaded server example shown in class. You just need to adapt the socket functionalities.
 - Does it make sense to have threads to serve multiple clients in a UDP server?
2. Work on your semester project:
 - Based on the network architecture drafted in the exercises of Lecture 3, you can start implementing the networking aspects (in your own machine, or using multiple machines: i.e., two laptops or Raspberry Pis connected to the same LAN) using sockets and threads. Be careful with the IP addresses and ports used for the different links.
 - While implementing, keep making your mind around the use of UDP or TCP.

Exercise sessions:

- First, try the exercises on your own.
- If you get stuck, share your progress and doubts with the peers in your project group.
- You can also ask questions by email (irl@es.aau.dk) if you are not able to finish the exercises on your own.

With these exercises, you learn by doing and self-reflecting. All that you learn with these exercises are competences that you will need in the future, if you keep working on something network-related – apart from being useful tools for any programming implementation that you will do in this semester, or in the coming years.