



UNIVERSITY OF WESTERN ATTICA  
DEPARTMENT OF INFORMATION AND COMPUTER ENGINEERING  
NETWORK PROGRAMMING

## LABORATORY ASSESSMENT ASSIGNMENT

The purpose of the exercise is to create a console program that will provide remote access to text files using TCP Sockets. For this purpose you should create a project that will contain the following programs:

- 1) A server which will be able to exchange string type messages with the clients connected to it via TCP Socket.
- 2) A client that will be able to connect to the server and exchange string type messages with it.

### Operating specifications

In the directory where the server is running, there will be text files available for clients to download. The server will allow clients to view the list of available text files and then retrieve their contents. The server should be able to serve multiple clients at the same time (using multithreading where each client will connect to a different thread). The server, after starting it, should run continuously, without being able to be terminated by the clients.

### Communication protocol

After connecting to a client, the server will send him the list of the names of the text files (txt) available in the directory where the program is running.

The client, after receiving and displaying the list, will send the phrase "open" accompanied by the name of the file whose content it wants to read.

The server will send the content of the file or the indication "file not found" in case the file does not exist. At the same time, it will locally store the request (client IP, requested file name, timestamp) in a file called log. Requests from all clients will be stored in the log file. This file should NOT be readable by clients.

The client will receive the content of the file and display it on the console while at the same time saving it locally with the same name.

The client will be able to repeat the process for other files as many times as desired. The communication will be terminated when the client sends the phrase "exit"

***In the open eClass platform, in the “Tasks” tool, in the task titled “Assessment Task”, you will upload only two “.java” files: the client source code and the server source code.***

Good Success