Computer Networks Project

Due Date: **08/05/2017 23:59**

Overview

For this project you are required to establish a TCP connection to the given host. You must develop an application which will create a socket for connection and send the data as required in the protocol of server. The protocol is given below. You can use any of [C, C++, Java, C# or Python] programming languages.

Server Information

Address : odev.ticaret.edu.tr Port : 21212

Protocol

When you establish the connection, the server will send you a message like this:

Welcome to homework server! Please provide following information

After that, you must provide the following information:

- [COURSE_CODE]: Only valid input is CMPE322. Anything else will result and immediate termination.
- [STUDENT_ID]: Your student id. You must provide correct information to get points
- [FILE_NAME]: Filename to upload
- [FILE_SIZE]: File size to upload. Note that you must provide the exact size to upload your file successfully!
- [FILE]: Your source code.

Note: Except the file, all fields must end with a line feed $\backslash n$

If everything goes well, the server will send you a message like this and terminate the connection.

```
Congratulations! Your md5sum is [2ec402d8fb9a36d308d5342ee9e6cdc8]
BYE!!
```

You can use this md5 code to make sure you successfully upload your data.

Failure at any step will result an error message and immediate connection termination.

Error Codes

Defined error codes and their meanings:

- Error[101]: course code is not valid! Course code is in valid. Only valid entry is CMPE322.
- Error[102]: student id is not valid! Your student ID is not registered on the system. If you are sure the ID is correct but you still have the same error, please send an email to aboyaci [at] ticaret.edu.tr
- Error[103]: file name is not valid! You have some illegal characters in your filename
- Error[104]: file size is not valid! The file size must be a positive integer. File size is limited to 1M.
- Error[105]: file is not valid! Your input file is not valid.

Frequently Asked Questions:

1- I can not connect to the server. > Please make sure that you have an internet connection, you are connection to the correct host and port. Also make sure that you are creating a TCP connection.

2- The server declines my course code > Only valid entry is CMPE322. If you are not registered to this course, you should not send any data. (There is no space between CMPE and 322!)

3- The server does not accept my student ID. > Make sure that you are sending your ID correctly. If you are sure the ID is correct but you still have the same error, please send an email to aboyaci [at] ticaret.edu.tr

4- I send the course code but the server is not responding. > Except the file, every filed must end with a line feed character ($\backslash n$). See http://en.wikipedia.org/wiki/Newline for more information.

5- I find a way to send the source code. > You must send the file character by character.

6- I send the file but server is not responding. > Make sure that you send the file size correctly. If you send less data than the size you send earlier, the server will wait you to complete. If you send more data however, some of your data will be lost.

7- Can I make some tests before I submit my project? > You can make as much tests as you want. Only the final submission will be graded.

8- What is MD5? > To make sure you send the correct and complete data, the system will give you a summary of data. You can calculate the same summary on your local computer to check your result. http://en.wikipedia.org/wiki/Md5sum

Sample Application

You can find an example pseudo code below:

```
**test.c**

main()
{
  create a socket;
  read the data from server, print to screen;
  send course code;
  read the data from server, print to screen;
  send student ID
  read the data from server, print to screen;
  send the file name "test.c"
  read the data from server, print to screen;
  send file size in bytes 11254;
  open the "test.c" file
  Untill the end of file:
    read from file
    send the data
  read the data from server, print to screen;
}
```

Evaluation

To have a full grade you must send your source code correctly to the server. Any mistake or error in the file will reduce your grade.

This project is meant to be done individually. Any violation (cheating) will give reduce your grade drastically.

Resources

http://www.beej.us/guide/bgnet/output/print/bgnet_USLetter.pdf