

Socket Programming with TCP

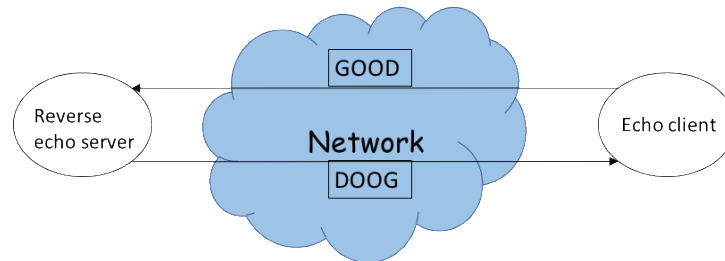
Objectives

The purpose of this lab is to learn how to write a server and client socket program. The TCP socket program description is the following exercise.

You need to work alone.

Exercise

Reverse-echo-serve and client: in this programming assignment, you are going to build a simple reverse echo server and a client using TCP socket. The server and client should run at different terminals/machines.



1) Reverse echo server

A reverse echo server receives a message from a client over TCP socket and replies the same message back to the source in reverse order. For example, if a server gets a message "GOOD" from a client, then the reverse echo server sends back the message "DOOG" to the client.

The server program should be terminated if it gets "end" message from a client after it replies "dne" message to the client. Note that please use port number over 5000.

2) Echo Client

An echo client gets a message from a user and sends the message to the connected reverse echo server. When the reversed message is arrived from the server, it displays the message to the users.

If a user wants to stop the client program, the user types "end" to the client. The client sends the message to the reverse echo server, and waits the message "dne" from the server. If the client gets the message "dne", it terminates itself with displaying "dne" message.

Submission

Please submit your deliverables to D2L Assignments folder: Project. You need to submit 4 different things: **Do not submit zip files.**

- 1) Your Python code saved as yourlastname_server.py and yourlastname_clint.py
- 2) Your Python code saved as yourlastname_server.txt and yourlastname_clint.txt - copy and paste your entire Python code, save.
- 3) Your report yourlastname_Report.doc as a word document
- 4) A short video demo: (3-5 minutes). You can also post a link to your video if you could not upload to D2L.

- a. Explaining your code
- b. Run your code and show both client and service site results.
 - i. Use you name, last name, a word of your choice as inputs before using end

Once you submit, D2L will perform a similarity check for your submission and show you the result. Your similarity score on your code as txt file must be lower than 40% unless something essential is described in the report. *Otherwise, 5 points will be deducted for every additional 5% similarity.* For example, you would get a maximum 95 if your similarity is between 41% and 45%.

You must submit all required documents. Missing any of them will result in further deduction.

Project Report:

The report does not have any specific format. Three things you must include:

1. What you did for the project, i.e., explain the project with your own word.
2. Explain your program/code.
3. Explain output, include screen shot from your run.

Note: You can use other programing language if you prefer.