

Client-server communication protocol

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Abstract

This paper describes communication protocol between client and server in my simple file transfer program. Using this protocol you are able to download files from the server, upload files to the server, delete files from the server and get file lists from the server, everything by using the client part of the program.

1 Application part

Programs communicate by sending and receiving text messages (except binary files transfer). Each message is in the following form (**code** means a request or an answer code, **data** can be either text or binary (e.g. content of a file)):

```
code text\r\n
data
```

1.1 Request codes

Each request code is followed by a file name (*text* part of the message).

GET	request to download selected file from the server
PUT	request to upload selected file to the server
DEL	request to delete selected file from the server
LST	request for the file list (or one particular file) from the server

1.2 Answer codes

100	error, requested file was not found	104	server error
101	error, invalid filename	200	ok, sending file
102	error, can not operate directories	201	ok, sending only text info
103	error during transmission		

2 Transport part

This has nothing to do with used transport protocol (e.g. TCP/UDP), but it is only the internal way how to manage message length in the receiving process. Before the message is send (request/answer), message size is placed before the message itself, and after receiving this piece of information is removed from the message.

```
message_length(10)\r\n
message
```

3 Conclusion

The protocol was created to provide an effective way of communication for this program. The biggest advantage is in the text format, which can be easily understand and use by end user. It is partially based on the ftp protocol (see rfc959), but it implements only necessary operations. However, more functions can be added (e.g. download more files in one request).