

# xFTP Transfer File Service

## 1. Introduction

The objective of this TPC is to implement the client and server programs of a File Transfer Service. In short, this service will use a TCP connection to allow the client to send commands to the server, while file data is transferred using UDP, block by block.

Fig. 1 illustrates the interaction between a client and the server.

1. The client connects to the server using a pre-defined TCP port (*TFTP*). At any given time, the server only interacts with a single client;
2. A command *shell* allows the user to give the following commands:
  - a. Obtain the contents of the directory where the server stores files. The user command is *DIR*;
  - b. To transfer a file in the client file system to the server's file system. The user command is *PUT filename*. The file has the same name in both file systems;
  - c. To transfer a file in the server file system to the client's file system. The user command is *GET filename*. The file has the same name in both file systems;
  - d. To finish the interaction between the client and the server. The user command is the string *QUIT*.
3. After the *QUIT* command, the client exits and the server proceeds to handle the next client.

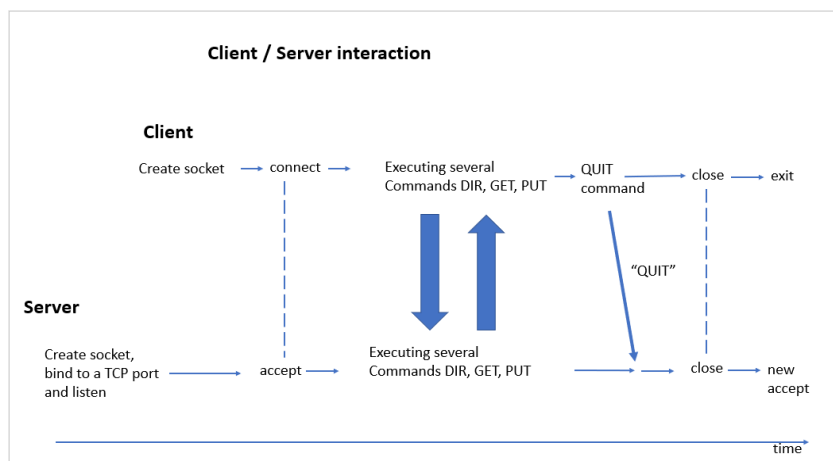


Fig. 1: Client/ Server interaction

The synopsis of the client command is:

```
client hostname port
```

The synopsis of the server command is:

```
server TCP_Port UDP_Port
```

## 2. Command operation description

In the following a description of the operation of the 4 commands is given.

### DIR command

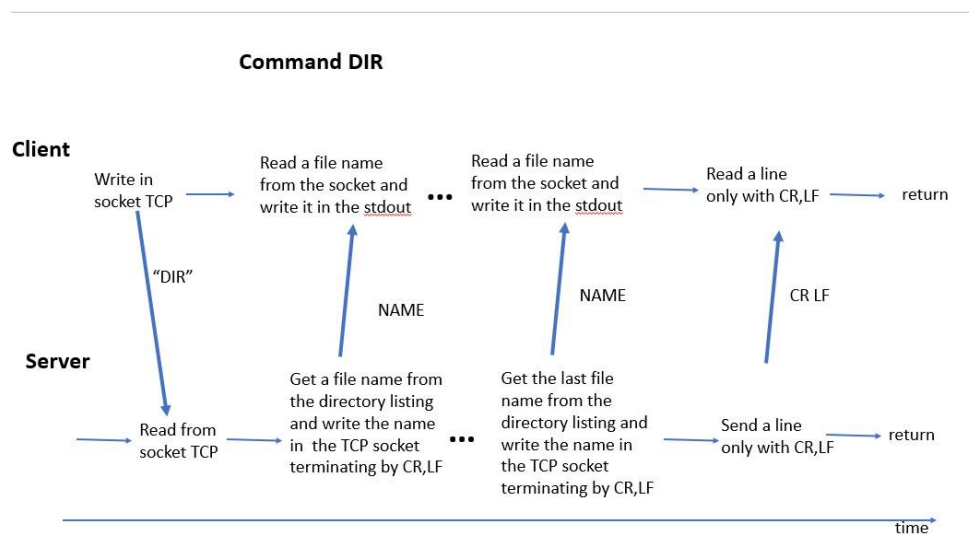


Fig. 2: DIR command

### GET command

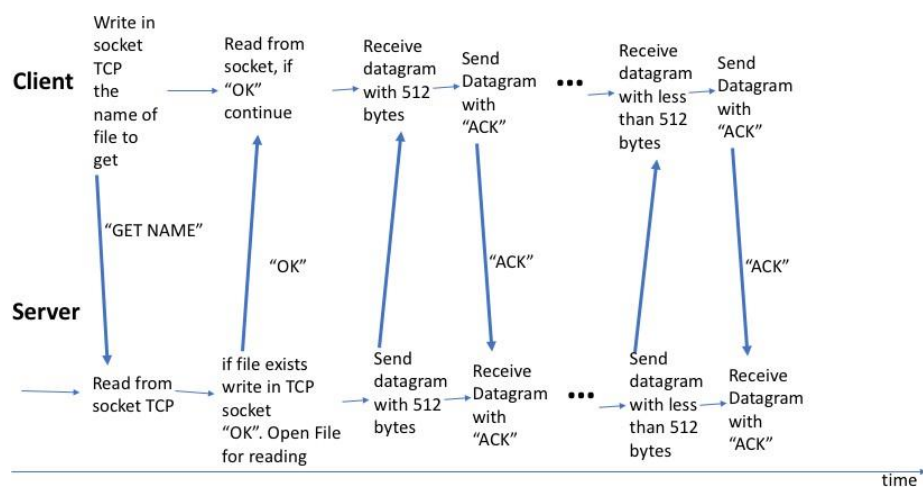


Fig. 3: GET command

## PUT command

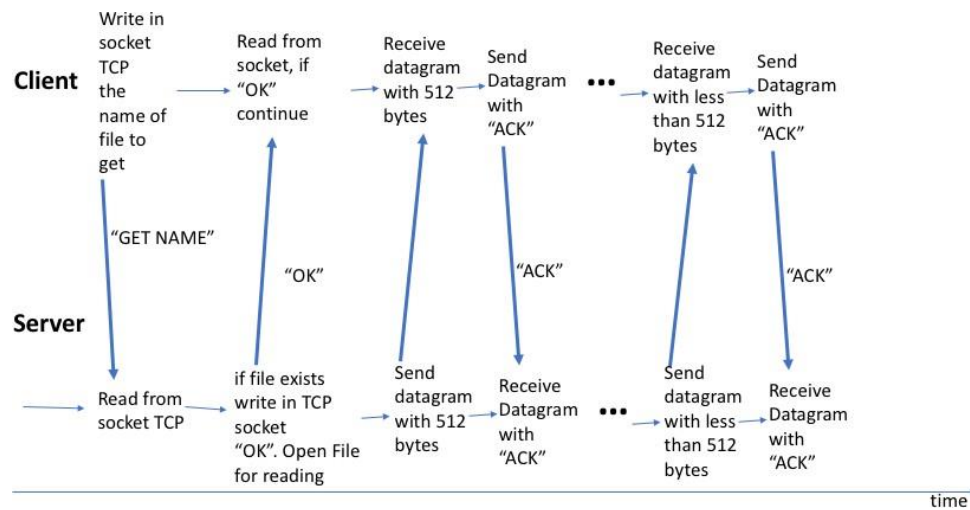


Fig. 4: PUT Command

## QUIT command

This command sends to the server, through the TCP connection the string "QUIT". The client closes its TCP socket and quits. The server prepares to handle a new client, by calling accept().

## 3. Delivery

The delivery will use a Google form. Details will be sent later. Should be done before 23:59 on 11<sup>th</sup> October, 2022.