

## 4.5 Testing run commands

- Server: from server folder

- Build using: `mvn compile`

- Thread per client server:

```
mvn exec:java -Dexec.mainClass="bgu.spl.net.impl.tftp.TftpServer" -Dexec.args="<port>"
```

- Client: from client folder

- Build using: `mvn compile`

- Thread per client server:

```
mvn exec:java -Dexec.mainClass="bgu.spl.net.impl.tftp.TftpClient" -Dexec.args="<ip> <port>"
```

The server directory and client directory should contain a **pom.xml** file and the src directory. Compilation will be done from the server folder using: **mvn compile** The server should be implemented in the file "**server/src/main/java/bgu/spl/net/impl/tftp/TftpServer.java**" and for the client should be implemented in the file "**client/src/main/java/bgu/spl/net/impl/tftp/TftpClient.java**".

## 5 Running Examples

The following section contains examples of commands running on the client. It assumes that the software opened a socket properly and a connection has been initiated. We use “<” for keyboard input and “>” for screen output on the client side only. Server and client actions are explained in between.

### 5.1 Login and file download

Server assumptions for example:

- User named Dekel is currently not logged-in
- The server has a file named kelev\_yam.mp3 the is 2.4KB long

```
< LOGRQ Dekel
(Server checks if a user named Dekel is logged-in)
> ACK 0
< RRQ kelev_yam.mp3
(server sends DATA packet with opcode = 3, packet size =512, block = 1 and 512 bytes
of file data)
(Client sends ACK 1)
(server sends DATA packet with opcode = 3, packet size =512, block = 2 and 512 bytes
of file data)
(Client sends ACK 2)
...
(server sends DATA packet with opcode = 3, packet size =352, block = 5 and 352 bytes
of file data)
(Client sends ACK 5)
> RRQ kelev_yam.mp3 complete
< DISC
(Server removes Dekel from logged-in list)
> ACK 0
```

### 5.2 Login and file upload

Server assumptions for example:

- User named Dekel is currently not logged-in
- The server does not have a file named kelev\_yam.mp3
- The client has a file named kelev\_yam.mp3 the is 2.4KB long

```
< LOGRQ Dekel
(Server checks if a user named Dekel is logged-in)
> ACK 0
< WRQ kelev_yam.mp3
(Server checks if such a file exists, sees that it does not, and sends an ACK packet)
> ACK 0
(client sends DATA packet with opcode = 3, packet size =512, block = 1 and 512 bytes
of file data)
(Server sends ACK 1)
> ACK 1
(client sends DATA packet with opcode = 3, packet size =512, block = 2 and 512 bytes
of file data)
(Server sends ACK 2)
> ACK 2
...
(client sends DATA packet with opcode = 3, packet size =352, block = 5 and 352 bytes
of file data)
(Server sends ACK 5)
(Server sends BCAST to all logged in clients opcode = 9, added = 1, file name =
kelev_yam.mp3)
> ACK 5
> WRQ kelev_yam.mp3 complete
> BCAST add kelev_yam.mp3
< DISC
(Server removes Dekel from logged-in list)
> ACK 0
```

### 5.3 Errors, DIRQ and DELRQ

Server assumptions for example:

- User named Itzik is currently logged in
- User named Zino is currently not logged in
- The server contains 2 files:
  - The client has a file named kelev\_yam.mp3 the is 2.4KB long
  - The client has a file named lemon\_community\_memes.txt (500B).

< DIRQ

(Server creates an error message since user is not logged in yet. Opcode = 5, error code = 6 ,error message= whatever you want and a byte with 0)

> Error 6

< LOGRQ Itzik

(Server checks if a user named Itzik is logged-in, since it is an error is sent)

> Error 7

< LOGRQ Zino

(Server checks if a user named Zino is logged-in)

> ACK 0

< WRQ kelev\_yam.mp3

(Server checks if such a file exists, since it exists, an error is sent)

> Error 5

< DIRQ

(Server sends DATA packet with opcode = 3, packet size = 40, block = 1 and 40 bytes that are "kelev\_yam.mp3" + '0' + "lemon\_cmmunity\_memes.txt" + '\0')

(Client sends ACK 1)

> kelev\_yam.mp3

> lemon\_community\_memes.txt

< DELRQ kelev\_yam.mp3

(Server checks if a file by that name exists and then deletes it and sends an ack packet)

Server sends BCAST to all logged in clients opcode = 9, added = 0, file name = kelev\_yam.mp3)

> ACK 0

> BCAST del kelev\_yam.mp3

< DISC

(Server removes Zino from logged-in list)

> ACK 0