**Documentation: Simple File Transfer in Java & C++**

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Github Link: <https://github.com/shumail92/CS213-Advanced-Programming/tree/master/Lab-3-FileSharing_Java_C>

The Project is implementation of simple file sharing app over network using C++ and Java sockets, in which a file can be transferred from server to client. The implementaiton is enhaced to support following transfers:

1 – From C++ server to C++ Client

2 – From Java server to Java Client

3 – From C++ server to Java Client

4 – From Java Server to C++ Client

**C/C++ implementation:**

Consists primarily of 2 files

1 – client.c

2 – server.c

client.c is the client side module which accepts the file transferred to client from server module (server.c). The transfer happens in chunks of size 256 bytes as server reads the file in chunks and sends it to client in chunks, on which client keeps writing the file chunk as it receives. Server runs on a port to which client connects, once the server starts listening on that port

**Java Implementation:**

It consists of 2 packages.

Package **com.lab3.source** contains 2 classes:

1 – FileTransferClient.java

2 – FileTransferServer.java

Package **com.aplab3.unittests** consist of 2 unit tests classes:

1 – ClientUnitTest.java

2 – ServerunitTest.java

FileTransferClient.java is the client side module which accepts the file transferred to client from server module (FileTransferServer.java). The transfer happens in chunks for which server reads the file in FileInputStream and uses bufferedInputStream to store read data and sends it to client, on which client keeps writing the receiving data into the fileOutputStream and then to BuffedOutputStream before writing. Server runs on a specific port to which client connects, once the server starts listening on that port.

The code is well commented and all the important parts are explained.