

# Computer Networking

## Assignment 1

### FileServer & FileController

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#### Files

Files within this PDF:

1. FileServer.java
2. FileController.java

My implementation can List and Copy files, as required.  
You can find comments about my code in the Java files.

#### Usage

Once the classes are compiled, you can run them. As required, javac by itself can compile my classes.  
Since I never remember which parameter was defining the port and which defines the directory of files served by the server, **you are free to choose the order**:

```
java FileServer PORT_NUMBER FOLDER
```

has the same behaviour as:

```
java FileServer FOLDER PORT_NUMBER
```

Running a server without some or all the parameters will set parameters to **default**.

```
java FileServer  #Port: 9999, Monitor Directory: "."
```

```
java FileServer 9999  #Monitor Directory: "."
```

```
java FileServer ./Desktop  #Port: 9999
```

After the Server is started, it will give you some information about the listening socket and the “Monitor Directory”, the folder in which we will receive files or where we will read them for the “send” command.

Now it's the FileController turn: this time, just run it with

```
java FileController
```

As required, the FileController works as a shell and there are 4 commands you can issue: **list**, **copy**, **help** and **bye**.

LIST: syntax: list (Address):(Port)

LIST Will list all the files from the server (Address) at port (Port).

COPY: syntax: copy (Source) (File) ([Destination])

COPY Will copy (File) file at the moment present in (Source) in all the ([Destination])

Note that “Destination” is an ArrayList, so we can have many more destinations.

BYE: syntax: bye

BYE will close FileController.

HELP: syntax: help

HELP will display all commands and their usage in FileController.

Any other command issued won't be accepted.

## List Description

The list command can be issued by the controller to any FileServer.

Any FileServer has a “Monitor Directory” in which there are files monitored by the FileServer. A List command returns to the FileController a recursive list of the files managed by a certain FileServer.

Just displaying the first level of the “Monitor Directory” was “wrong” to me, since all the files into the “Monitor Directory” can be managed by the FileServer, so not listing them all could be seen as an error.

## Copy Description

The copy command is issued from a FileController to the Source FileServer or from the Source FileServer to the Destination FileServer(s).

```
FileController: copy FileServer1 File FileServer2 FileServer3
```

In the first case, the FileController sends the whole command to the Source FileServer (Here is labeled FileServer1): Here, the server which received this command knows:

1. It will send a file.
2. Which file has to be sent (File).
3. The targets which should receive that file (FileServer2 and FileServer3).

In the second case, a copy call is sent from FileServer1 to FileServer2 and FileServer3.

The command sent is like “copy File Size”.

Since the parameters are different, a FileServer will understand if It’s going to send or receive a file, so the behaviour changes.

Beyond you can find how a send from a server to 2 targets works.

