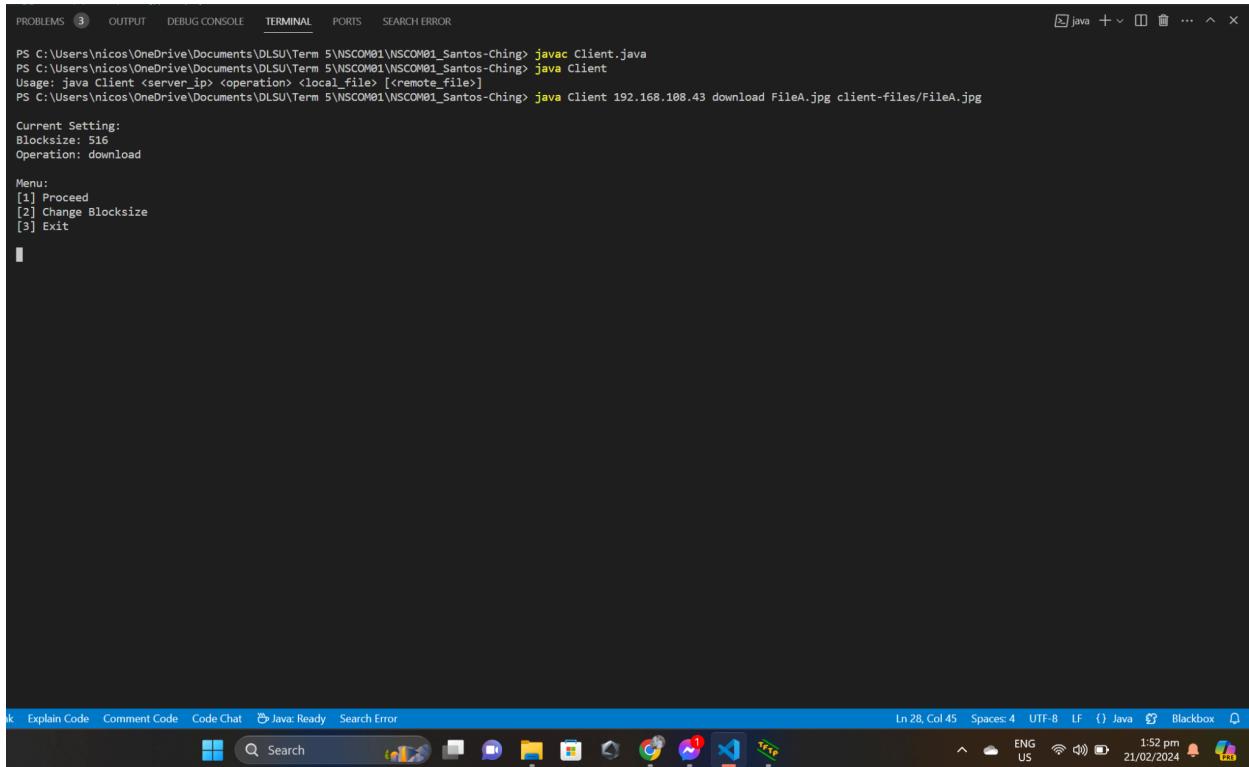


# MP1 TFTP Documentation

S12 - Ching | Santos



```
PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS SEARCH ERROR
PS C:\Users\nicos\OneDrive\Documents\DLSU\Term 5\NSCOM01\NSCOM01_Santos-Ching> javac Client.java
PS C:\Users\nicos\OneDrive\Documents\DLSU\Term 5\NSCOM01\NSCOM01_Santos-Ching> java Client
Usage: java Client <server_ip> <operation> <local_file> [<remote_file>]
PS C:\Users\nicos\OneDrive\Documents\DLSU\Term 5\NSCOM01\NSCOM01_Santos-Ching> java Client 192.168.108.43 download FileA.jpg client-files/FileA.jpg

Current Setting:
Blocksize: 516
Operation: download

Menu:
[1] Proceed
[2] Change Blocksize
[3] Exit
```

Figure 1.1 and 1.2 How to run your Program and Program landing screen

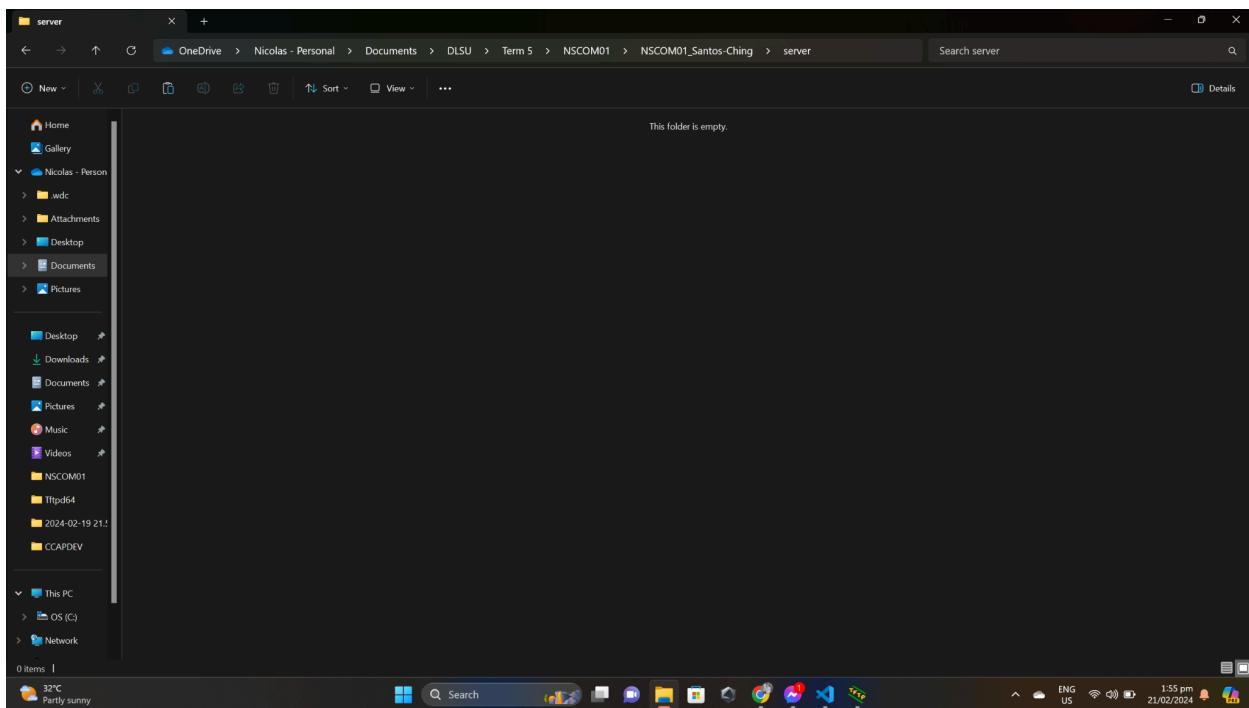


Figure 2.1 Target upload directory on the server

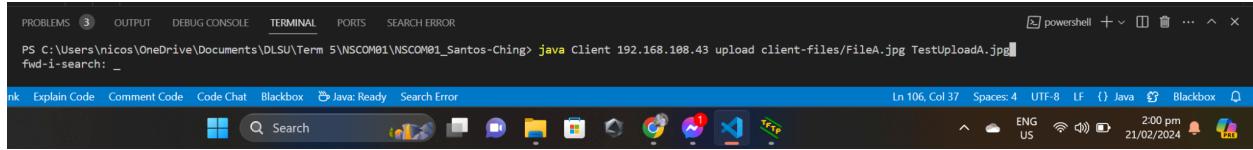


Figure 2.2 Inputting TFTP server address, file selection on client, inputting filename

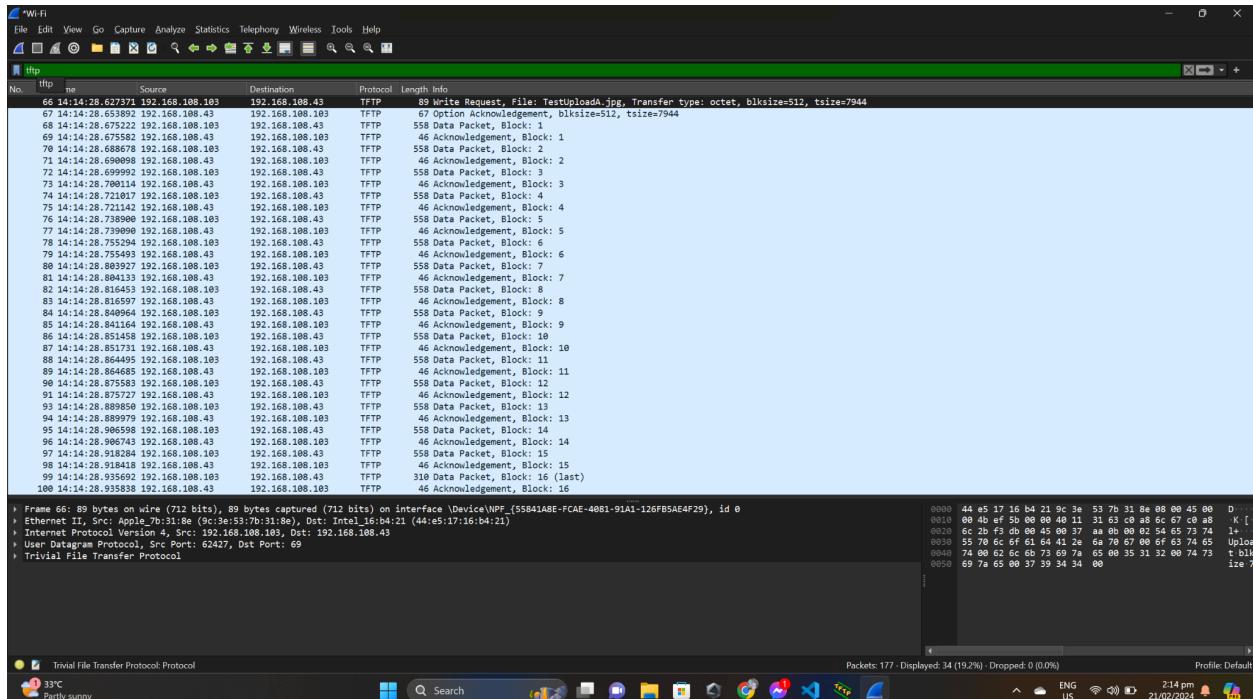


Figure 2.3 Capture and saver all TFTP packets showing upload of file to server

The screenshot shows a terminal window with the following output:

```
Packet count: 16
kyleKyles-MacBook-Pro NSCOM01_Santos-Ching % javac Client.java
kyleKyles-MacBook-Pro NSCOM01_Santos-Ching % java Client 192.168.108.43 upload client-files/FileA.jpg TestUploadA.jpg

Current Setting:
Blocksize: 512
Operation: upload

Menu:
[1] Proceed
[2] Change Blocksize
[3] Exit

1
WRQ sent.
Packet count: 1
Packet count: 2
Packet count: 3
Packet count: 4
Packet count: 5
Packet count: 6
Packet count: 7
Packet count: 8
Packet count: 9
Packet count: 10
Packet count: 11
Packet count: 12
Packet count: 13
Packet count: 14
Packet count: 15
Packet count: 16

You have successfully uploaded the file.
kyleKyles-MacBook-Pro NSCOM01_Santos-Ching %
```

Figure 2.4 Client informs user of successful upload

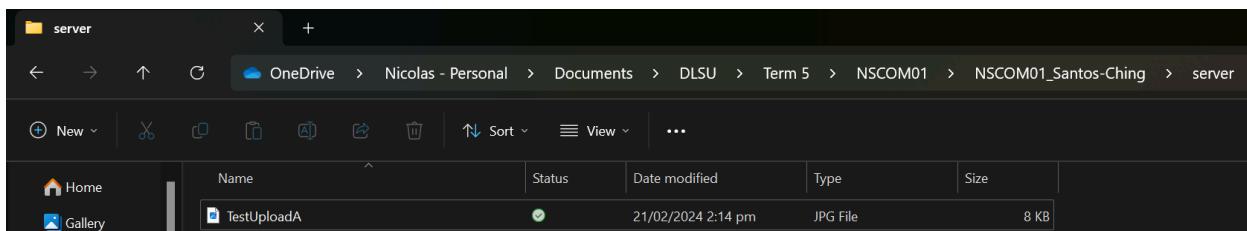


Figure 2.5 Directory showing that uploaded file is present on the server. Size and date modified of file must be visible

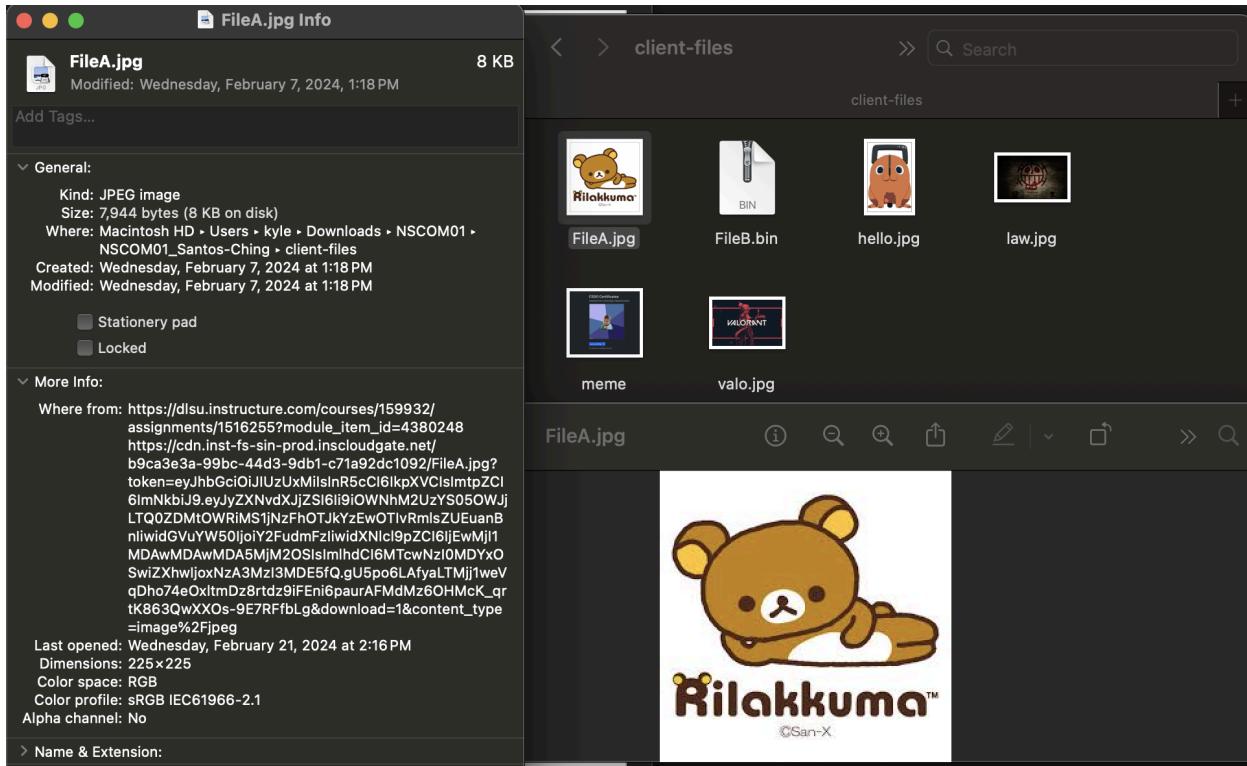


Figure 2.6 Uploaded file can be opened on the client.

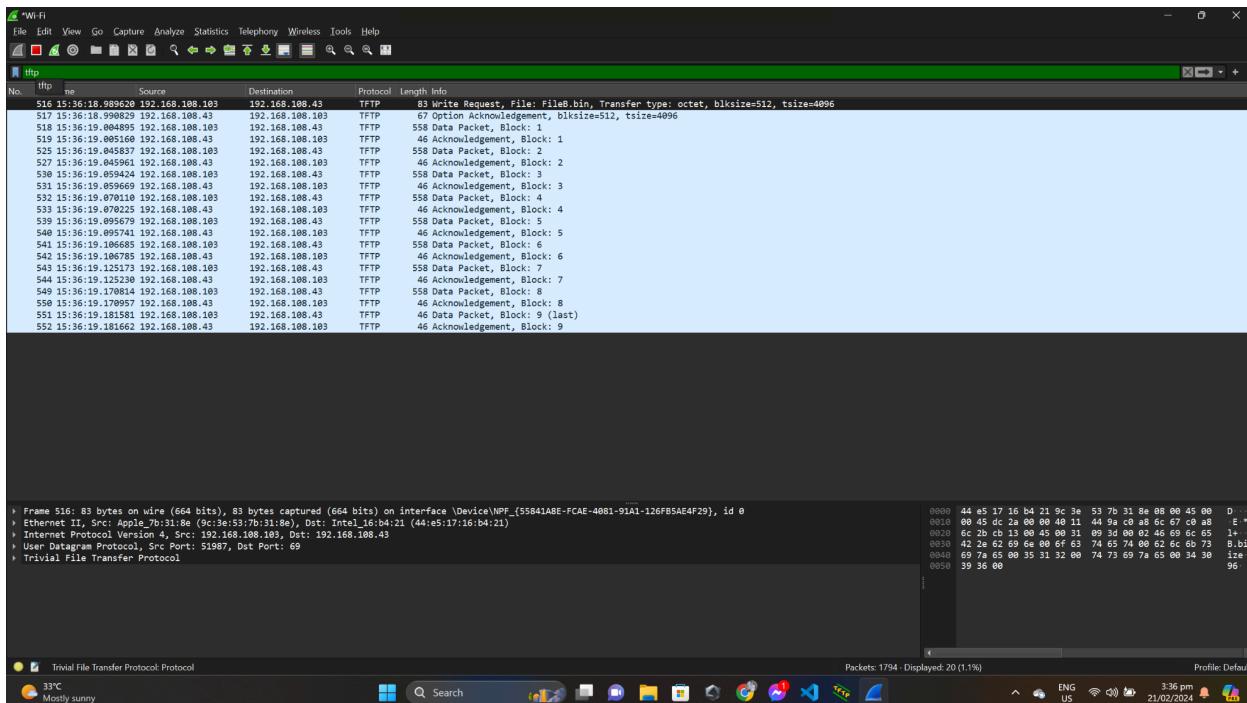


Figure 2.7 Upload "FileB.bin" to the server and capture and save all TFTP packets

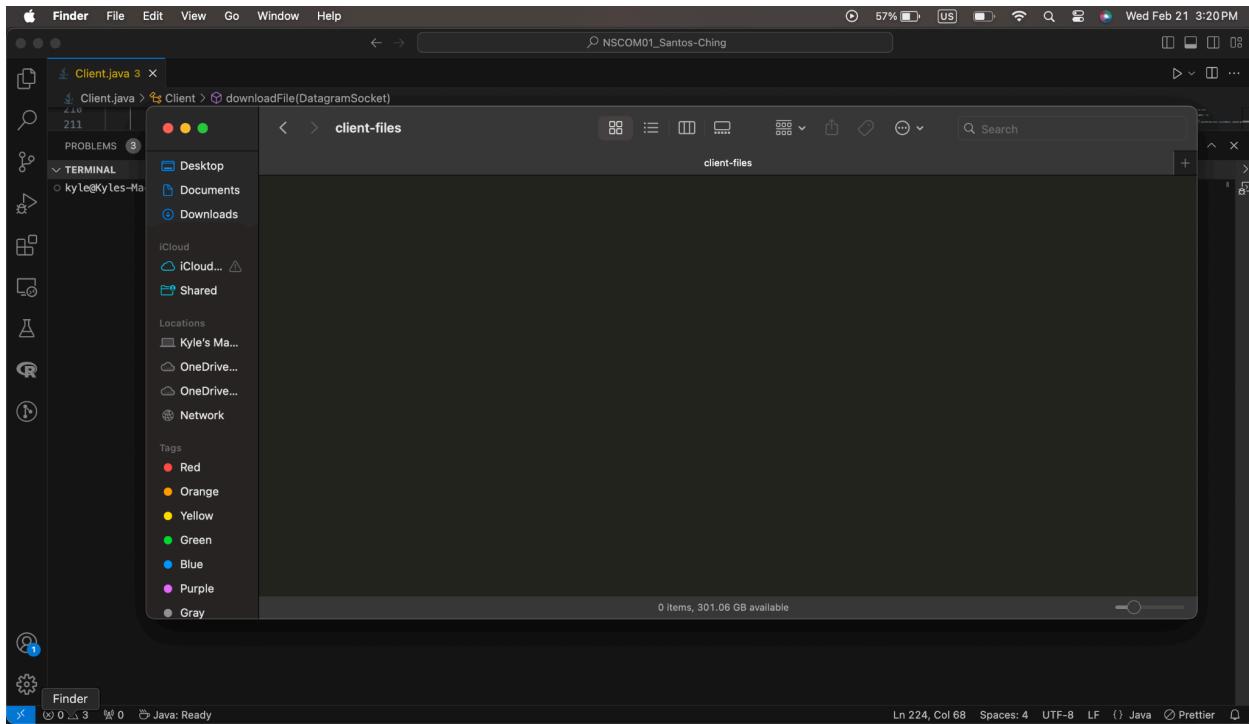


Figure 3.1 Target download directory on the client is empty

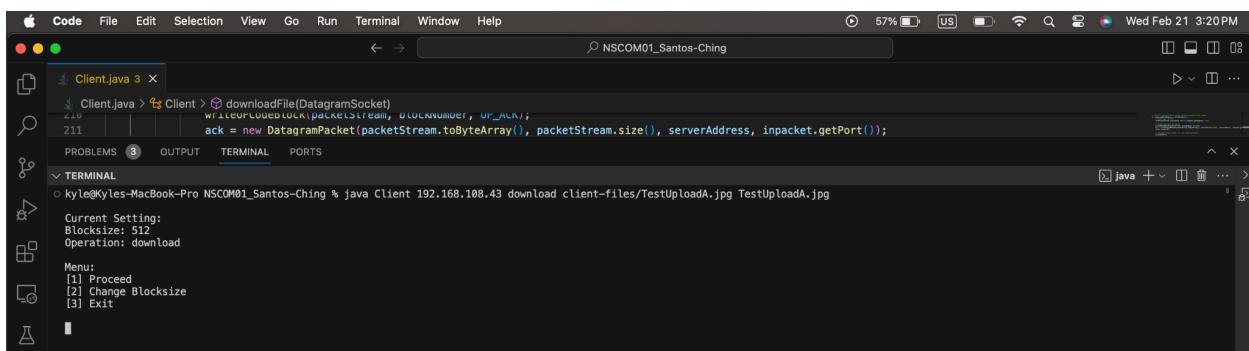


Figure 3.2. Inputting TFTP server address and name of file to be downloaded.

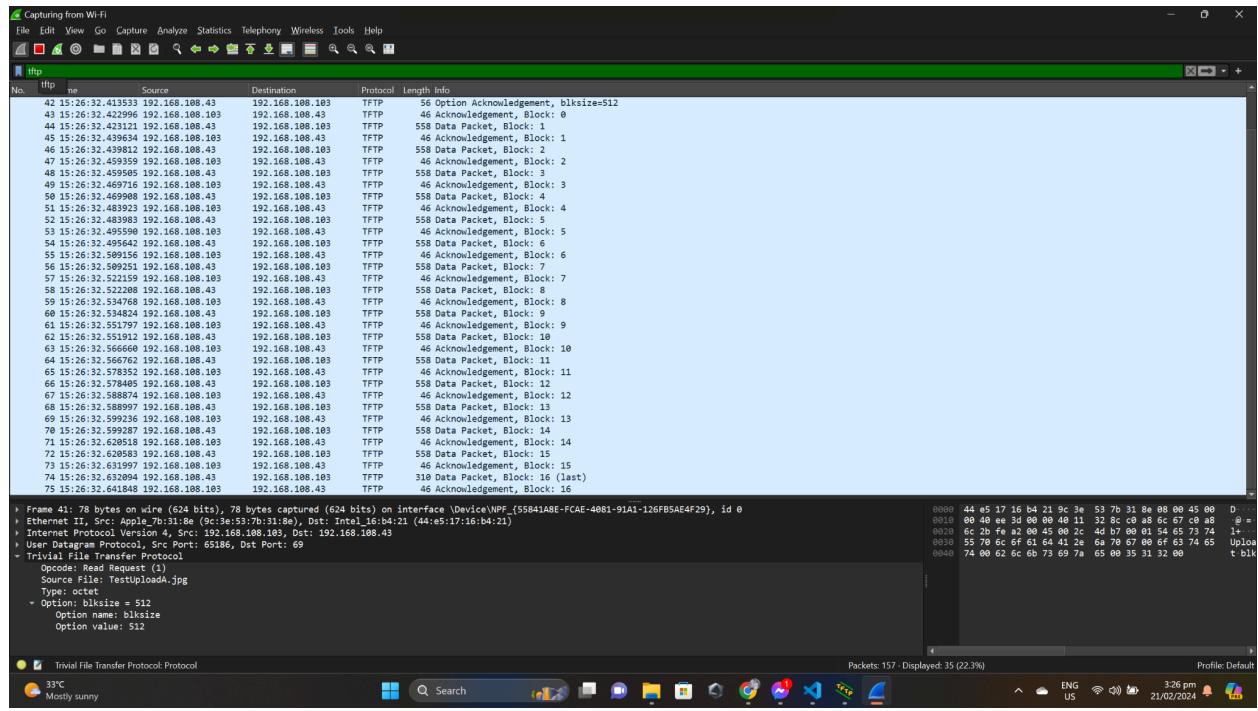


Figure 3.3 Capture and save all TFTP packets showing download

```

Code File Edit Selection View Go Run Terminal Window Help
Client.java 3 < - NSCOM01_Santos-Ching
Client.java > Client > downloadFile(DatagramSocket)
    writer.writeBlock(packetStream, BLOCKNUMBER, UR_BLOCK);
    ack = new DatagramPacket(packetStream.toByteArray(), packetStream.size(), serverAddress, inpacket.getPort());
TERMINAL
kyle@Kyles-MacBook-Pro NSCOM01_Santos-Ching % java Client 192.168.108.43 download client-files/TestUploadA.jpg TestUploadA.jpg
Current Setting:
  Blocksize: 512
  Operation: download
Menu:
 [1] Proceed
 [2] Change Blocksize
 [3] Exit
1
Downloading...
RRQ sent.
Packet count: 1
Packet count: 2
Packet count: 3
Packet count: 4
Packet count: 5
Packet count: 6
Packet count: 7
Packet count: 8
Packet count: 9
Packet count: 10
Packet count: 11
Packet count: 12
Packet count: 13
Packet count: 14
Packet count: 15
Packet count: 16
Download of the file is successful.
o kyle@Kyles-MacBook-Pro NSCOM01_Santos-Ching %

```

Figure 3.4 Client informs user of successful download

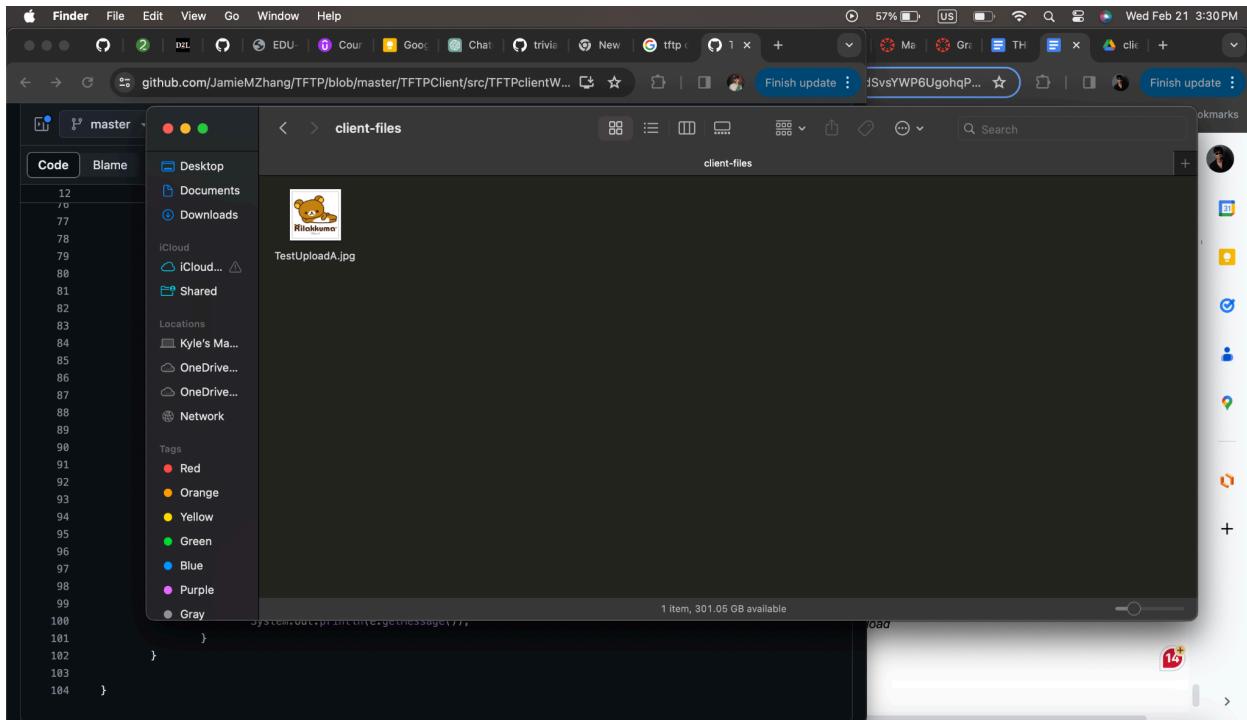


Figure 3.5 Directory showing that the downloaded file is present on the client

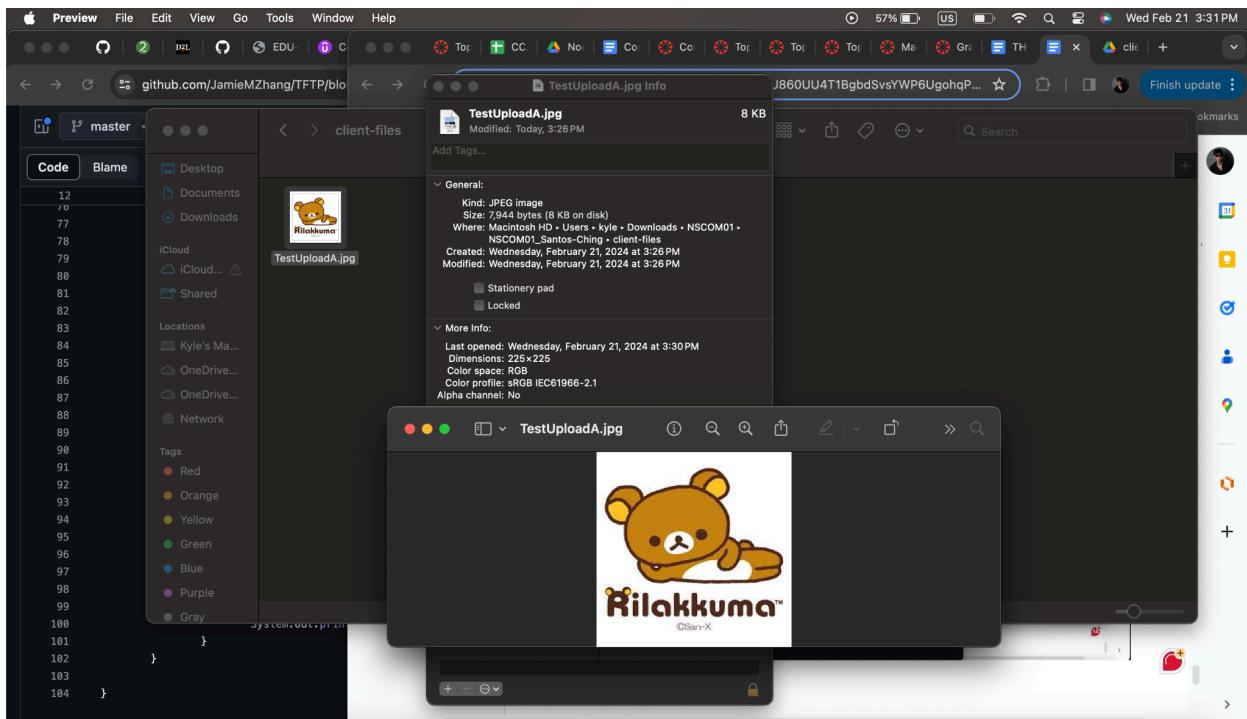


Figure 3.6 Downloaded file can be opened on the client. Size and Date modified of file must be visible

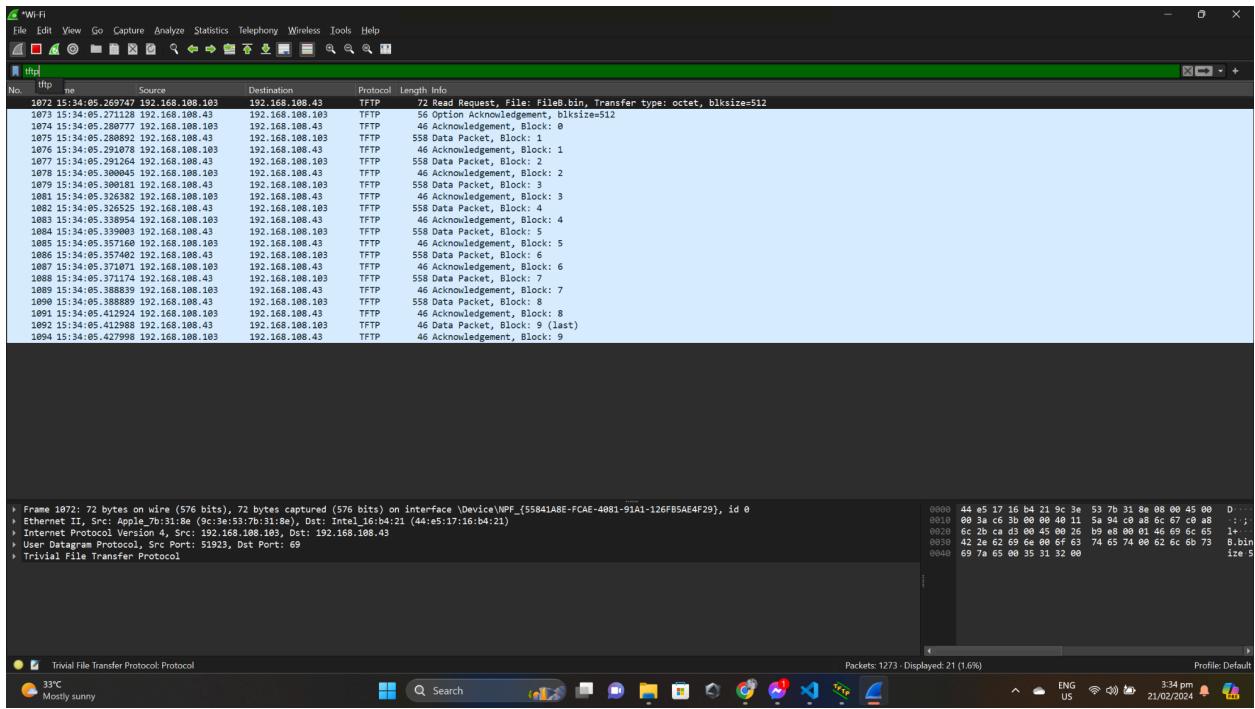


Figure 3.7 Download “FileB.bin” to the server and capture and save all TFTP packets

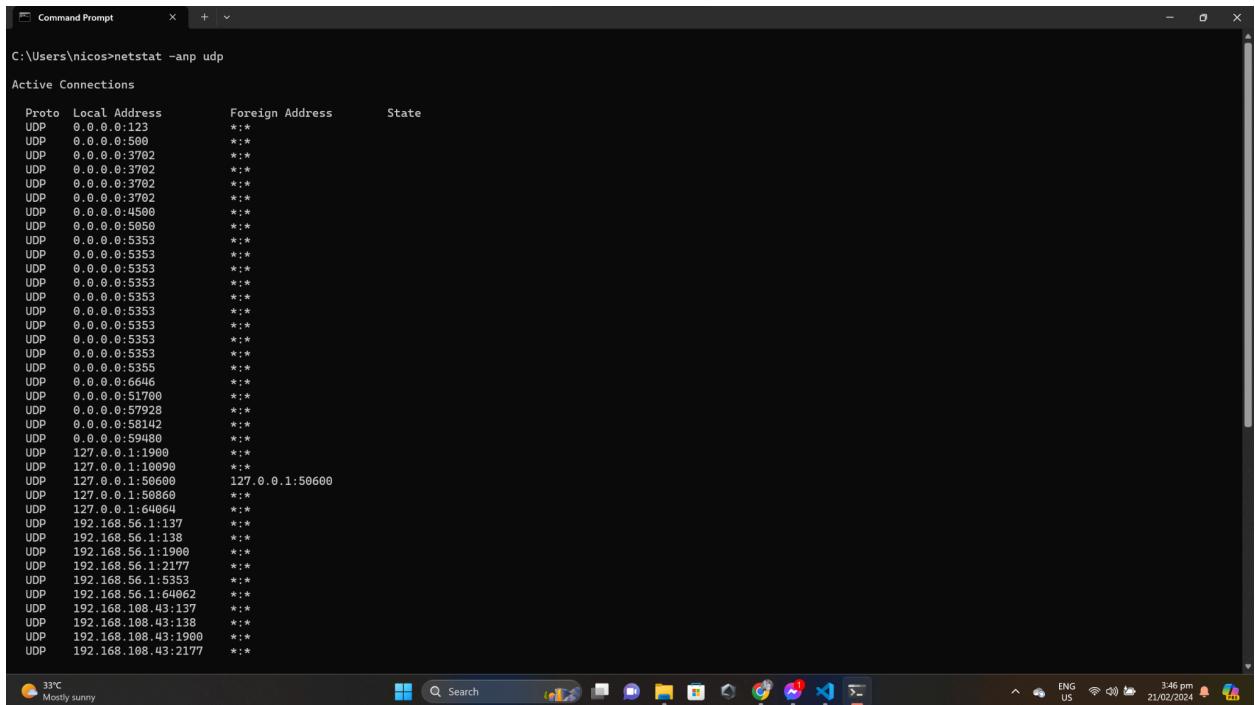


Figure 4.1.2 netstat -anp udp output shows that UDP 69 is not open on the server

The screenshot shows a macOS desktop environment with a terminal window open. The terminal title bar reads "NSCOM01\_Santos-Ching". The terminal content displays the following:

```
Client.java 3 x
Client.java > ↵ Client > ⌂ TIMEOUT
          datagramSocket.inpacket, outpacket ;
PROBLEMS ③ OUTPUT TERMINAL PORTS

TERMINAL
kyle@Kyles-MacBook-Pro NSCOM01_Santos-Ching % java Client 192.168.108.43 download client-files/FileB.bin FileB.bin

Current Setting:
Blocksize: 512
Operation: download

Menu:
[1] Proceed
[2] Change Blocksize
[3] Exit
```

*Figure 4.1.3 Inputting TFTP server address and starting a download*

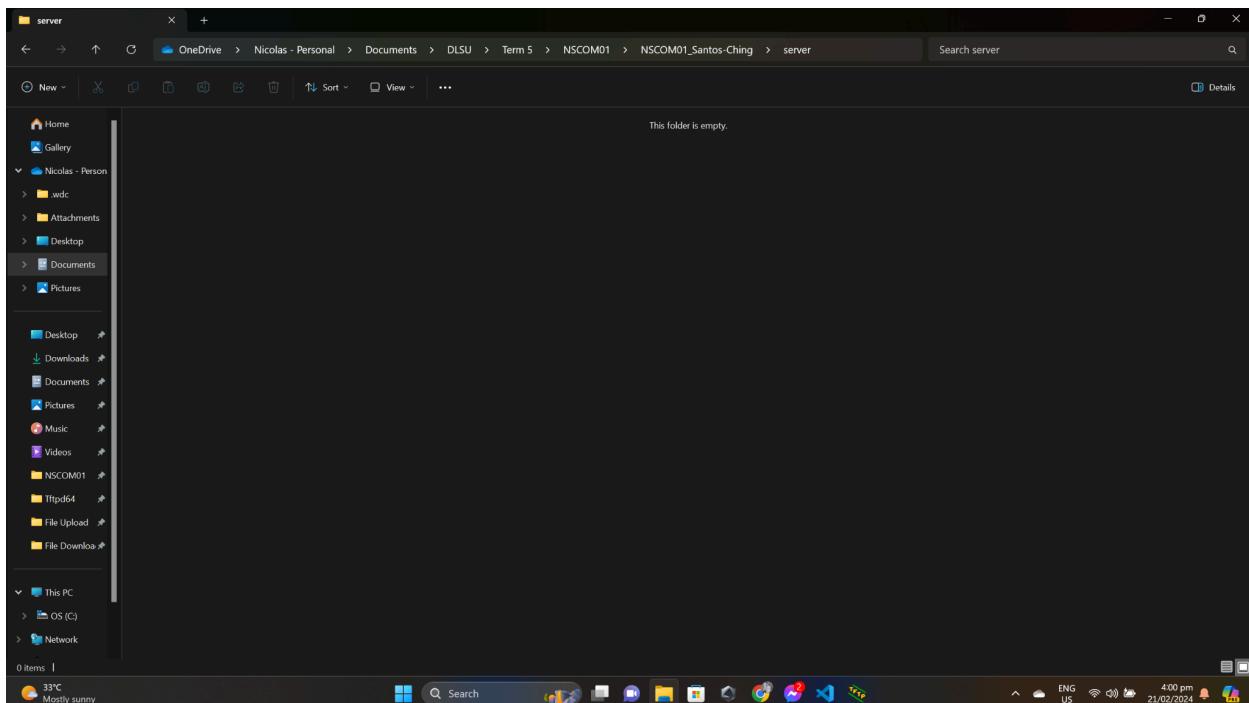
```
Client.java 3 x
Client.java > Client > TIMEOUT
    DatagramSocket inputsocket, outputsocket ;
PROBLEMS ③ OUTPUT TERMINAL PORTS
TERMINAL
kyle@Kyles-MacBook-Pro NSCOM01_Santos-Ching % java Client 192.168.108.43 download client-files/FileB.bin FileB.bin

Current Setting:
Blocksize: 512
Operation: download

Menu:
[1] Proceed
[2] Change Blocksize
[3] Exit

1
Downloading...
RRQ sent.
Error: Failed to contact server.
kyle@Kyles-MacBook-Pro NSCOM01_Santos-Ching %
```

*Figure 4.1.4 Client indicates failure to contact server*



**Figure 4.2.2 Target download directory on the server is empty**

```

Client.java 3 < -> NSCOM01_Santos-Ching
Client.java > handleTFTPError(DatagramPacket)
return packetStream;
PROBLEMS OUTPUT TERMINAL PORTS
TERMINAL
kyle@Kyles-MacBook-Pro NSCOM01_Santos-Ching % java Client 192.168.108.43 download client-files/TestDownload.jpg TestDownload.jpg
Current Setting:
Blocksize: 512
Operation: download
Menu:
[1] Proceed
[2] Change Blocksize
[3] Exit
1
Downloading...
RRQ sent.

```

Figure 4.2.3 Inputting TFTP server address and name of file to be downloaded then starting the download

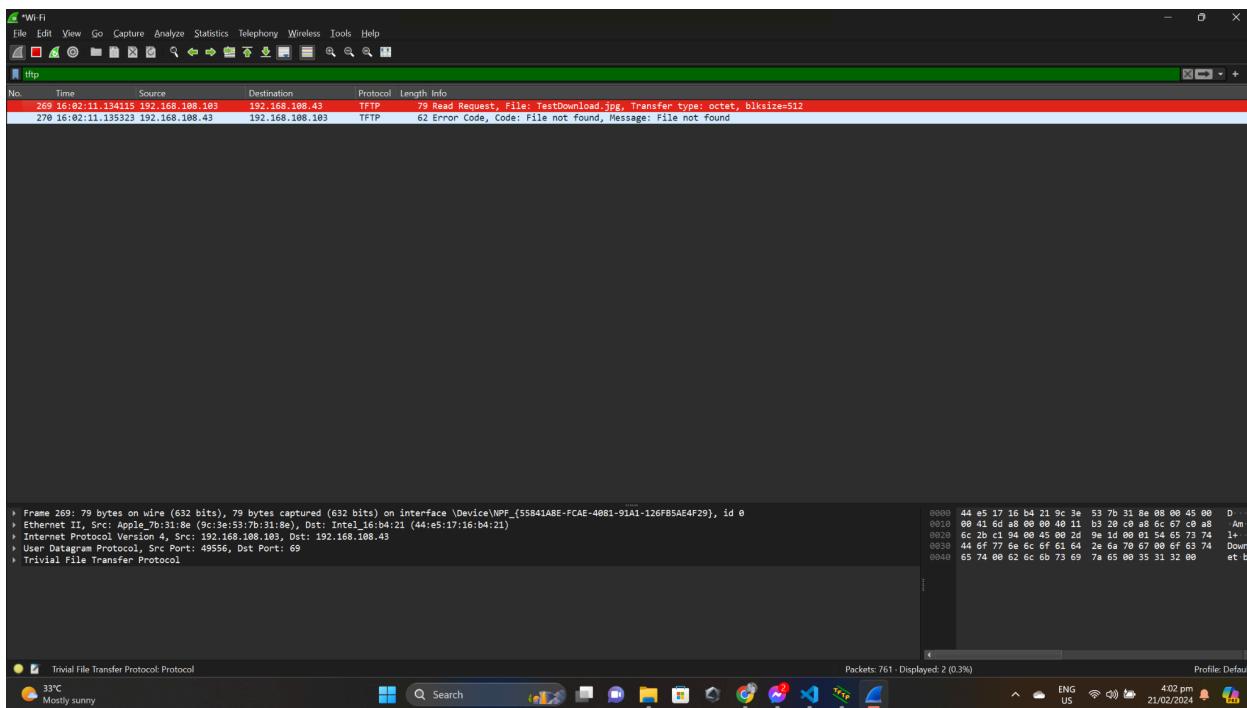


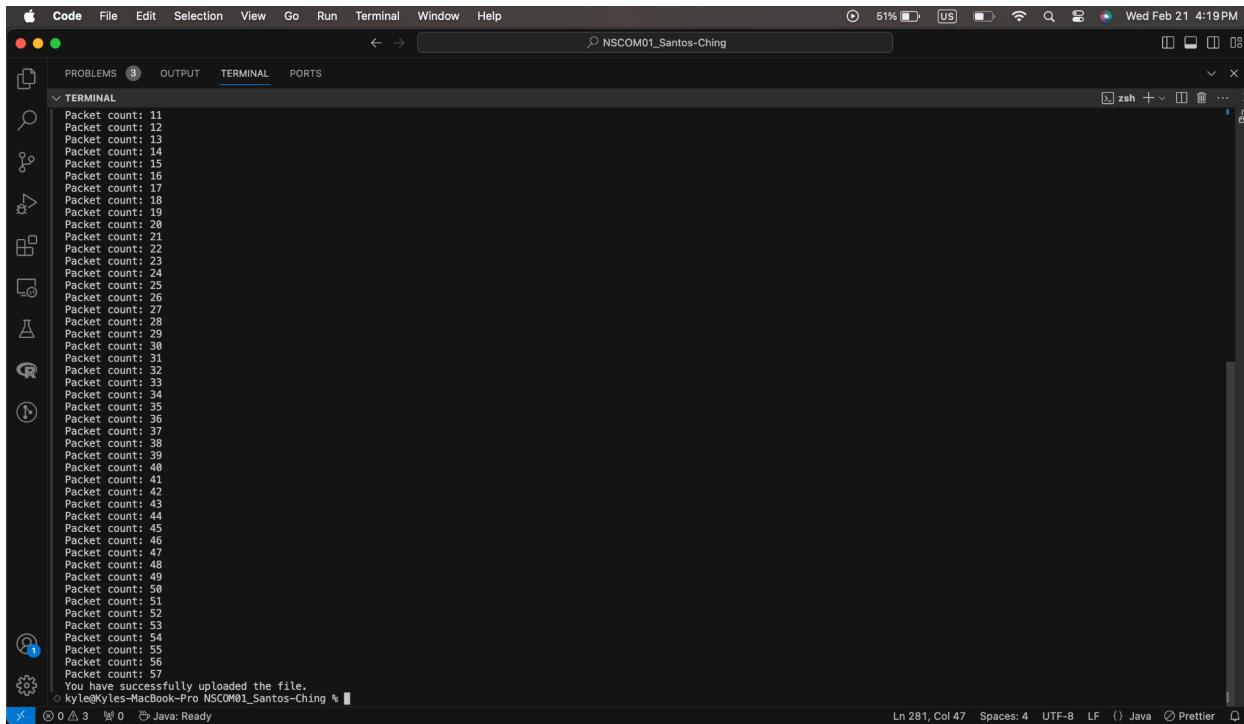
Figure 4.2.4 Capture and save all TFTP packets showing download attempt of file from server

A screenshot of a terminal window titled "NSCOM01\_Santos-Ching". The window shows the output of a Java Client application. The user has run the command "java Client 192.168.108.43 download client-files/TestDownload.jpg TestDownload.jpg". The application displays its current settings: Blocksize: 512 and Operation: download. It then presents a menu with three options: [1] Proceed, [2] Change Blocksize, and [3] Exit. The user selects option 1. The application begins the download process, indicating "Downloading...". However, it immediately receives an error from the server: "RRQ sent. Error received from server: 1 - File not found".

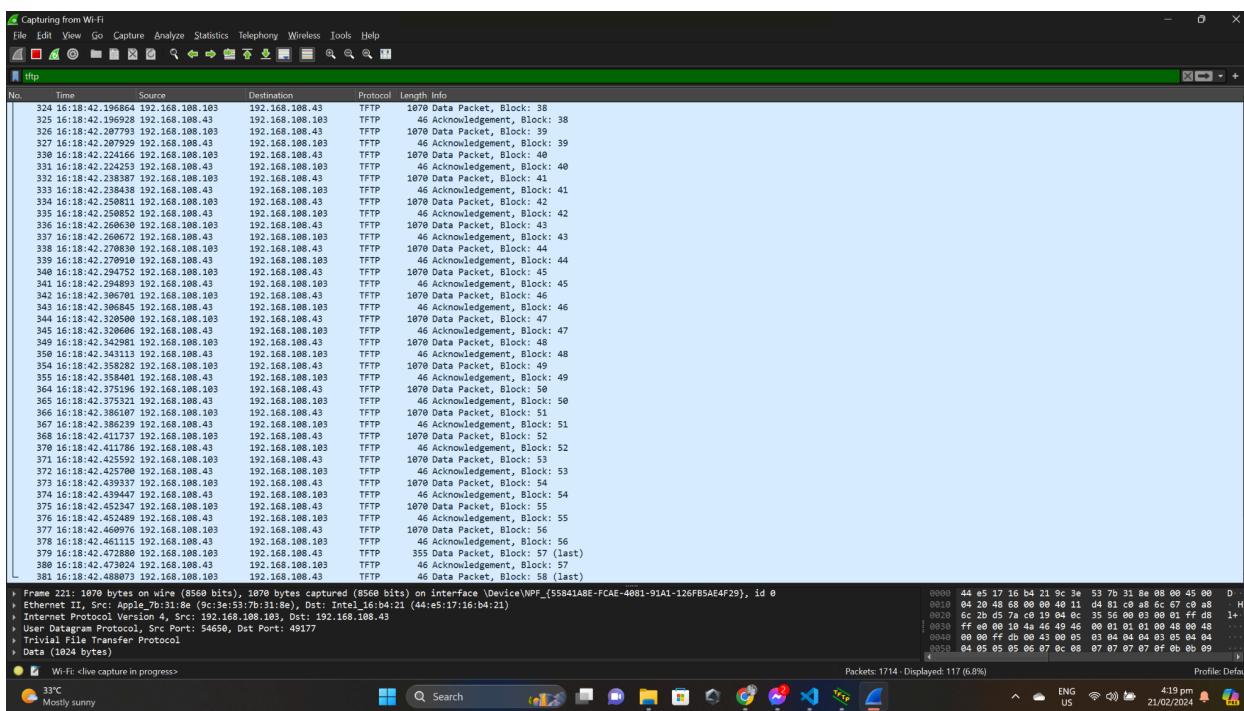
Figure 4.2.5 Client indicates a file not found error

A screenshot of a terminal window titled "NSCOM01\_Santos-Ching". The window shows the output of a Java Client application. The user has run the command "java Client 192.168.108.43 upload client-files/valo.jpg BonusUpload.jpg". The application displays its current settings: Blocksize: 512 and Operation: upload. It then presents a menu with three options: [1] Proceed, [2] Change Blocksize, and [3] Exit. The user selects option 2 and enters a new block size of 1024. The application then displays its new settings: Current Setting: Blocksize: 1024 and Operation: upload. It presents the same menu again.

Figure 5.1 Changing the transfer block size to another value other than 512 bytes



*Figure 5.2 File selection on client, inputting filename to be saved as on server "BonusUpload.jpg" and starting an upload*



*Figure 5.3 Capture and save all packets showing download of file from server using the new block size*

```

Apple Code File Edit Selection View Go Run Terminal Window Help
PROBLEMS OUTPUT TERMINAL PORTS
TERMINAL
NSCOM01_Santos-Ching
kyle@Kyles-MacBook-Pro:~/NSCOM01_Santos-Ching$ java Client 192.168.108.43 download client-files/BonusUpload.jpg BonusUpload.jpg
Current Setting:
Blocksize: 512
Operation: download
Menu:
[1] Proceed
[2] Change Blocksize
[3] Exit
2
Enter new blocksize: 2048
Current Setting:
Blocksize: 2048
Operation: download
Menu:
[1] Proceed
[2] Change Blocksize
[3] Exit
1
Downloading...
PDU sent:
Packet count: 1
Packet count: 2
Packet count: 3
Packet count: 4
Packet count: 5
Packet count: 6
Packet count: 7
Packet count: 8
Packet count: 9
Packet count: 10
Packet count: 11
Packet count: 12
Packet count: 13
Packet count: 14
Packet count: 15
Packet count: 16
Packet count: 17
Packet count: 18
Packet count: 19
Packet count: 20
Packet count: 21
Packet count: 22
Packet count: 23
Packet count: 24
Packet count: 25
Packet count: 26
Packet count: 27
Packet count: 28
Packet count: 29
Download of the file is successful.
kyle@Kyles-MacBook-Pro:~/NSCOM01_Santos-Ching$ 

```

Figure 5.4 Inputting filename “BonusUpload.jpg” to be downloaded from the server and starting download

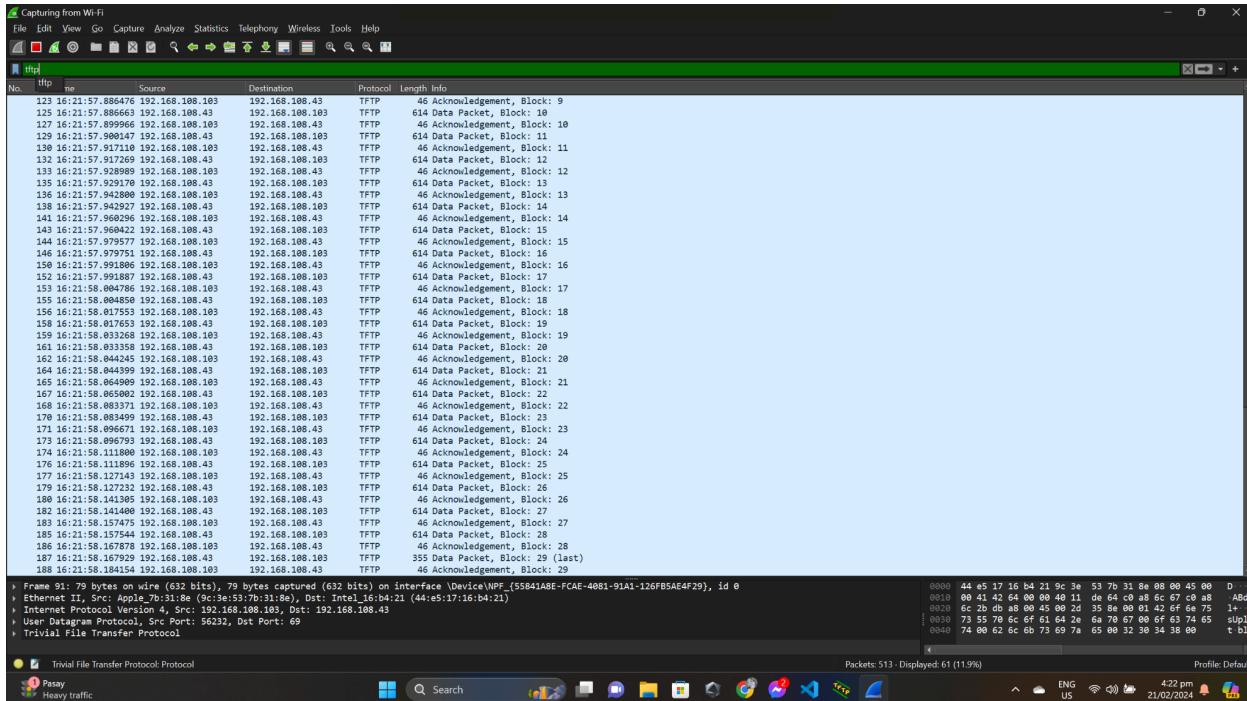


Figure 5.5 Capture and save all packets showing upload of file from server using the new block size