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1 import java.io.*;
2 import java.net.ServerSocket;
3 import java.net.Socket;
4 import java.util.UUID;
5 import java.util.zip.GZIPOutputStream;
6
7 public class server {
8     public static void main(String[] args) {
9         try {
10             // Create a server socket listening on
port 8080
11             ServerSocket serverSocket = new
ServerSocket(8080);
12             System.out.println("Server is listening
on port 8080...");
13
14             // Wait for a client to connect
15             Socket clientSocket = serverSocket.accept
();
16             System.out.println("Client connected.");
17
18             // Create input stream for communication
with the client
19             BufferedReader in = new BufferedReader(
new InputStreamReader(clientSocket.getInputStream
()));
20
21             // Read the number of files to expect
22             int numFiles;
23             try {
24                 numFiles = Integer.parseInt(in.
readLine());
25             } catch (NumberFormatException e) {
26                 System.err.println("Error reading the
number of files from the client.");
27                 return;
28             }
29             System.out.println("Expecting " +
numFiles + " files from the client.");
30
31             // Receive files from the client
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32         for (int i = 0; i < numFiles; i++) {
33             // Generate a random file name
34             String fileName = UUID.randomUUID().
toString() + ".txt";
35
36             // Read the file content from the
client
37             StringBuilder fileContent = new
StringBuilder();
38             String line;
39             while ((line = in.readLine()) != null
&& !line.equals("END_OF_FILE")) {
40                 fileContent.append(line).append("
\n");
41             }
42
43             // Introduce a bug in the compression
algorithm
44             byte[] compressedContent =
corruptCompression(fileContent.toString());
45
46             // Save the corrupted file content to
a file
47             try (FileOutputStream
fileOutputStream = new FileOutputStream("received_"
+ fileName)) {
48                 fileOutputStream.write(
compressedContent);
49                 System.out.println("Corrupted
file content saved to received_" + fileName);
50             } catch (IOException e) {
51                 System.err.println("Error saving
corrupted file content to received_" + fileName);
52                 e.printStackTrace();
53             }
54         }
55
56         // Close the streams and sockets
57         in.close();
58         clientSocket.close();
59         serverSocket.close();

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60
61         } catch (IOException e) {
62             e.printStackTrace();
63         }
64     }
65
66     private static byte[] corruptCompression(String
data) {
67         try (ByteArrayOutputStream
byteArrayOutputStream = new ByteArrayOutputStream();
68             GZIPOutputStream gzipOutputStream = new
GZIPOutputStream(byteArrayOutputStream)) {
69
70             // Introduce a bug by not writing the
original data
71             gzipOutputStream.write("Corrupted data".
getBytes());
72
73             return byteArrayOutputStream.toByteArray
();
74         } catch (IOException e) {
75             System.err.println("Error in corrupting
compression.");
76             e.printStackTrace();
77             return new byte[0];
78         }
79     }
80 }
81
```