

CS 380  
Exercise 2

My repository for this class is under CS 380 – Computer Networks  
<https://github.com/jarodNakamoto/College-CS-Courses.git>

Source Code Below:

```
import java.io.InputStream;
import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.io.OutputStream;
import java.io.PrintStream;
import java.net.Socket;
import java.util.Scanner;
import java.util.Random;
import java.io.IOException;
import java.util.zip.CRC32;

public final class Ex2Client {

    public static void main(String[] args) throws Exception {

        try (Socket socket = new Socket("18.221.102.182", 38102)) {

            //display that server connection was successful
            String address = socket.getInetAddress().getHostAddress();
            System.out.printf("Connected to: %s\n", address);

            //recieves bytes
            InputStream is = socket.getInputStream();

            System.out.print("Received bytes:");
            byte[] bytesTranslated = new byte[100];

            for(int i = 0; i < 100; i++)
            {
                if(i%10 == 0)
                {
                    System.out.println();
                    System.out.print(" ");
                }
                int halfByte1 = is.read();
```

```

        int halfByte2 = is.read();
        halfByte1 = halfByte1 << 4;
        bytesTranslated[i] = (byte)(halfByte1 ^ halfByte2);
        System.out.print(String.format("%02X", bytesTranslated[i]));
    }

    //create CRC-32 value
    CRC32 crc32 = new CRC32();
    crc32.update(bytesTranslated);

    Long crcVal = new Long(crc32.getValue());
    byte[] crcValBytes = new byte[4];
    Integer copy = new Integer(crcVal.intValue());

    //take the long and make it into four bytes
    for(int i = 3; i >= 0; i--)
    {
        crcValBytes[i] = copy.byteValue();
        copy = copy >> 8;
    }

    System.out.println("\nGenerated CRC32: " + String.format("%08X",
crcVal.intValue()) + ".");

    //sends bytes to server
    OutputStream os = socket.getOutputStream();
    os.write(crcValBytes);

    //receive if crc is correct
    if(is.read() == 1)
        System.out.println("Response good");
    else
        System.out.println("Response bad");
    System.out.println("Disconnected from server.");
    is.close();
}
}
}

```