

Activitat 4

Código cliente, con tiempo de espera 5000 (5 segundos):

```
import java.net.*;
import java.io.*;

public class M9_Activitat4_UF3_cliente {

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

        while (true) {
            //FLUX PER A ENTRADA ESTÀNDARD
            BufferedReader in = new BufferedReader(new InputStreamReader(System.in));
            //Socket client
            DatagramSocket clientSocket = new DatagramSocket();
            byte[] enviats = new byte[1024];
            byte[] rebuts = new byte[1024];

            //DADES DEL SERVIDOR al qual s'envia el missatge
            InetAddress IPServidor = InetAddress.getLocalHost();
            int port = 9800;

            //INTRODUIR DADES PEL TECLAT
            System.out.print("Introdueix missatge: ");
            String cadena = in.readLine();
            enviats = cadena.getBytes();

            //ENVIANT DATAGRAMA AL SERVIDOR
            System.out.println("Enviant " + enviats.length + "bytes al servidor.");
            DatagramPacket enviament = new DatagramPacket(enviats, enviats.length, IPServidor, port);
            clientSocket.send(enviament);

            //REBENT DATAGRAMA DEL SERVIDOR
            DatagramPacket rebut = new DatagramPacket(rebuts, rebuts.length);
            clientSocket.setSoTimeout(5000);
            System.out.println("Esperant datagrama...");
            clientSocket.receive(rebut);
            String majuscula = new String(rebut.getData());

            //ACONSEGUINT INFORMACIÓ DEL DATAGRAMA
            InetAddress IPOrigen = rebut.getAddress();
            int portOrigen = rebut.getPort();
            System.out.println("\tProcedent de: " + IPOrigen + ":" + portOrigen);
            System.out.println("\tDades: " + majuscula.trim());
            //Tanca el socket
            clientSocket.close();
        }
    }
}
```

Código servidor, con bucle (while (true)) infinito:

```
package m9_activitat.pkg4.uf3_Servidor;

import java.net.DatagramPacket;
import java.net.DatagramSocket;
import java.net.InetAddress;

public class M9_Activitat4UF3_Servidor {

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

        //El servidor escolta pel port 9800
        DatagramSocket serverSocket = new DatagramSocket(9800);
        byte[] enviats = new byte[1024];
        byte[] rebuts = new byte[1024];
        String cadena;

        while (true) {
            System.out.println("Esperant datagrama... ");
            //REBUT DATAGRAMA
            rebuts = new byte[1024];
            DatagramPacket paqRebuts = new DatagramPacket(rebuts, rebuts.length);
            serverSocket.receive(paqRebuts);
            cadena = new String(paqRebuts.getData());

            //ADREÇA ORIGEN
            InetAddress IPOrigen = paqRebuts.getAddress();
            int port = paqRebuts.getPort();
            System.out.println("\tOrigem: " + IPOrigen + ":" + port);
            System.out.println("\tMissatge rebut: " + cadena.trim());

            //CONVERTIR CADENA A MAJÚSCULA
            String majuscula = cadena.trim().toUpperCase();
            enviats = majuscula.getBytes();

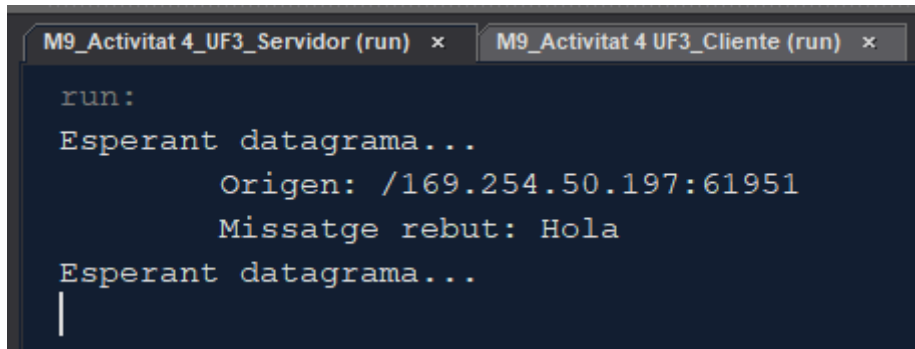
            //ENVIAMENT DATAGRAMA AL CLIENT
            DatagramPacket paqEnviats = new DatagramPacket(enviats, enviats.length, IPOrigen, port);
            serverSocket.send(paqEnviats);

            //Per acabar
            if (cadena.trim().equals("")) {
                break;
            }
        }
        serverSocket.close();
    }
}
```

Cliente envía mensaje con Servidor en ejecución.

```
M9_Activitat 4_UF3_Servidor (run) x M9_Activitat 4 UF3_Cliente (run) x
run:
Introdueix missatge: Hola
Enviant 4bytes al servidor.
Esperant datagrama...
    Procedent de: /169.254.50.197:9800
    Dades: HOLA
Introdueix missatge:
```

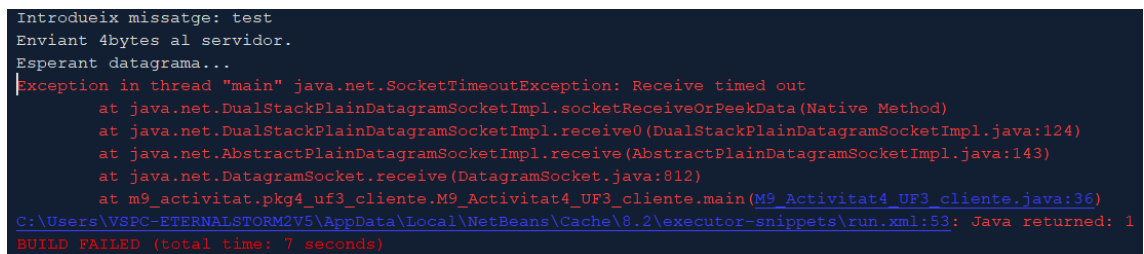
Servidor recibe el mensaje de cliente:



The screenshot shows an IDE with two tabs: 'M9_Activitat 4_UF3_Servidor (run)' and 'M9_Activitat 4 UF3_Cliente (run)'. The active tab is the server console, which displays the following text:

```
run:
Esperant datagrama...
    Origen: /169.254.50.197:61951
    Missatge rebut: Hola
Esperant datagrama...
|
```

Ejecuto cliente sin ejecutar servidor:



The screenshot shows an IDE with a console window displaying the following text:

```
Introdueix missatge: test
Enviant 4bytes al servidor.
Esperant datagrama...
Exception in thread "main" java.net.SocketTimeoutException: Receive timed out
    at java.net.DualStackPlainDatagramSocketImpl.socketReceiveOrPeekData(Native Method)
    at java.net.DualStackPlainDatagramSocketImpl.receive0(DualStackPlainDatagramSocketImpl.java:124)
    at java.net.AbstractPlainDatagramSocketImpl.receive(AbstractPlainDatagramSocketImpl.java:143)
    at java.net.DatagramSocket.receive(DatagramSocket.java:812)
    at m9_activitat.pkg4_uf3_cliente.M9_Activitat4_UF3_cliente.main(M9_Activitat4_UF3_cliente.java:36)
C:\Users\VSPC-ETERNALSTORM2V5\AppData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:53: Java returned: 1
BUILD FAILED (total time: 7 seconds)
```