

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:background="#88E0EC"
        android:orientation="vertical">

        <EditText
            android:id="@+id/editText1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName" />

        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="보내기" />

        <ScrollView
            android:layout_width="match_parent"
            android:layout_height="match_parent">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="vertical" >

                <TextView
                    android:id="@+id/textView1"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
                    android:textSize="20sp"/>
            </LinearLayout>
        </ScrollView>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_weight="1"
        android:background="#F8D56B"
        android:orientation="vertical">

        <Button
            android:id="@+id/button2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="서버시작" />

        <ScrollView
            android:layout_width="match_parent"
            android:layout_height="match_parent">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="vertical" >

                <TextView
                    android:id="@+id/textView2"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
                    android:textSize="20sp"/>
            </LinearLayout>
        </ScrollView>
    </LinearLayout>

</LinearLayout>
```



```

public class MainActivity extends AppCompatActivity {
    EditText editText1;

    TextView textView1, textView2;
    Button button1, button2 ;

    // 안드로이드에서 네트워크는 반드시 스레드 처리 해야 된다.
    // 핸들러 사용 해야 된다.
    Handler handler = new Handler();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        editText1 = findViewById(R.id.editText1);
        textView1 = findViewById(R.id.textView1);
        button1 = findViewById(R.id.button1);

        textView2 = findViewById(R.id.textView2);
        button2 = findViewById(R.id.button2);

        button1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                final String data = editText1.getText().toString();
                new Thread(new Runnable() {
                    @Override
                    public void run() {
                        send(data);
                    }
                }).start();
            }
        });

        button2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                new Thread(new Runnable() {
                    @Override
                    public void run() {
                        startServer();
                    }
                }).start();
            }
        });

        public void send(String data){
            try {
                int port = 5001;
                Socket socket = new Socket("localhost", port);
                printClientLog("소켓 연결함");

                ObjectOutputStream outputStream = new
                ObjectOutputStream(socket.getOutputStream());
                outputStream.writeObject(data);
                outputStream.flush();
                printClientLog("데이터 전송함.");

                ObjectInputStream inputStream = new
                ObjectInputStream(socket.getInputStream());
                printClientLog("서버로 부터 받음 : " + inputStream.readObject());
                socket.close();
            }catch (Exception e){
            }

        }

        public void printClientLog(final String data){
            handler.post(new Runnable() {
                @Override
                public void run() {
                    textView1.append(data+"\n");
                }
            });
        }

        public void startServer(){
            try {
                int port = 5001;
                ServerSocket ss = new ServerSocket(port);
                printServerLog("서버시작함 : " + port);

                while (true){
                    Socket s = ss.accept();
                    InetAddress clientHost = s.getLocalAddress();
                    int clientPort = s.getPort();
                    printServerLog("클라이언트 연결됨 : " + clientHost +":"+clientPort);

                    ObjectInputStream inputStream = new ObjectInputStream(s.getInputStream());
                    Object obj = inputStream.readObject();
                    printServerLog("데이터 받음 : " + obj);

                    ObjectOutputStream outputStream = new
                    ObjectOutputStream(s.getOutputStream());
                    outputStream.writeObject(obj + " from server");
                    outputStream.flush();
                    printServerLog("데이터 보냄");

                    ss.close();
                }catch (Exception e){
                }
            }

            public void printServerLog(final String data){
                handler.post(new Runnable() {
                    @Override
                    public void run() {
                        textView2.append(data+"\n");
                    }
                });
            }
        }
    }

```

