Université Abou Bekr Belkaid –tlemcen
Faculté des sciences
Département d'informatique

3EME ANNEE LICENCE

TP N°=6 (les services liés)

But du TP

Ce TP contient 02 projets (serveur et client)

Le projet serveur permet de visualiser le cours des devises, il contient 02 classes (une activité et un service lié) l'activité contient un champ d'édition (de la devise) et un bouton (pour se connecter et lancer le service) (voir la fig 1)

Le projet client contient une seule activité (voir la fig 2) avec les boutons nécessaires pour interagir avec le service lié.

On vous demande de créer le code (dans la classe service, et dans le projet client) qui traitera le cours de l'indice de brent.

```java
package com.example.bserv2;
import android.support.v7.app.ActionBarActivity; import android.content.ComponentName; import android.content.Context;
import android.content.Intent; import android.content.ServiceConnection; import android.os.Bundle;
import android.os.Handler; import android.os.Message; import android.os.Messenger; import android.os.RemoteException;
import android.view.Menu; import android.view.MenuItem; import android.view.View; import android.widget.Button;
import android.widget.EditText; import android.widget.TextView; import android.os.IBinder;

public class MainActivity extends ActionBarActivity {
        private Button btn ;        private EditText  editText1;        private TextView textView1;
        private ServiceConnection sConn; private Messenger messenger;      Intent int1;

        public class ResponseHandler extends Handler {
                public void handleMessage(Message msg) {
                 int respCode = msg.what;
                switch (respCode) {
                case 1: {
                 String result = msg.getData().getString("devise");
                 textView1.setText(result +" DA");
                }                  }                  }                  }

               protected void onCreate(Bundle savedInstanceState) {
               super.onCreate(savedInstanceState);
               setContentView(R.layout.activity_main);
               Button btn=(Button)findViewById(R.id.button1);
               textView1=(TextView)findViewById(R.id.textView1);
                editText1=(EditText)findViewById(R.id.editText1);
        // Service Connection to handle system callbacks
        sConn = new ServiceConnection() {
                public void onServiceDisconnected(ComponentName name) {
          messenger = null;          }
         public void onServiceConnected(ComponentName name, IBinder service) {
                messenger = new Messenger(service);       }         };
               // We bind to the service
        int1=new Intent();
        int1.setComponent(new ComponentName("com.example.bserv2","com.example.bserv2.convertService"));
        bindService(int1, sConn,  Context.BIND_AUTO_CREATE);
        btn.setOnClickListener(new View.OnClickListener() {
                public void onClick(View v) {
                 String val = editText1.getText().toString();                      Message msg = Message.obtain(null, 1);
                 msg.replyTo = new Messenger(new ResponseHandler());
                Bundle b = new Bundle();                b.putString("devise", val);                msg.setData(b);
                try {
                 messenger.send(msg);            } catch (RemoteException e) {  e.printStackTrace(); } }       });
               } // fin  oncreate
}// fin activity
```

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```java
package com.example.bserv2;

import java.util.Random;

import android.os.Bundle;
import android.os.Handler;
import android.os.Message;
import android.os.RemoteException;

class ConvertHanlder extends Handler {

        double d, ecart1=40,min1=150,min2=120,ecart2=50;
         public void handleMessage(Message msg) {
         // This is the action
         int msgType = msg.what;

         switch(msgType) {
           case 1: {  // devise
             try {
              // Incoming data
              String data = msg.getData().getString("devise");
              Message resp = Message.obtain(null, 1);
              Bundle bResp = new Bundle();
              if (data.equalsIgnoreCase("euro")) {
              d= new Random().nextDouble()*ecart1+min1;} else
              { if (data.equalsIgnoreCase("dollar")) {
                    d= new Random().nextDouble()*ecart2+min2;} else {d=0;}}
              bResp.putString("devise", String.valueOf(d));
              resp.setData(bResp);

              msg.replyTo.send(resp);
             }
             catch (RemoteException e) {
              e.printStackTrace();
             }
             break;
           }
           default:
             super.handleMessage(msg);
         }
             } }

package com.example.bserv2;
import android.app.Service;
import android.content.Intent;
import android.os.IBinder;
import android.os.Messenger;

public class convertService extends Service {

        private Messenger msg = new Messenger(new ConvertHanlder());;

        public IBinder onBind(Intent arg0) {
         return msg.getBinder();          }    }
```

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```java
package com.example.client2;


import android.support.v7.app.ActionBarActivity;
import android.content.ComponentName;
import android.content.Context;
import android.content.Intent;
import android.content.ServiceConnection;
import android.os.Bundle;
import android.os.Handler;
import android.os.Message;
import android.os.Messenger;
import android.os.RemoteException;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import android.os.IBinder;

public class MainActivity extends ActionBarActivity {
        private Button btn1,btn2,btn3,btn4 ;
        private EditText  editText1;
        private TextView textView1;
        Intent int1;

        private ServiceConnection sConn;
        private Messenger messenger;

        public class ResponseHandler extends Handler {

                @Override
                public void handleMessage(Message msg) {
                  int respCode = msg.what;

                 switch (respCode) {
                  case 1: {
                   String result = msg.getData().getString("devise");
                   textView1.setText("resultat:"+result +" DA");
                  }
                 }
               }

              }


      protected void onCreate(Bundle savedInstanceState) {
            super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_main);
             btn1=(Button)findViewById(R.id.button1);
btn2=(Button)findViewById(R.id.button2);
            btn3=(Button)findViewById(R.id.button3);
btn4=(Button)findViewById(R.id.button4);
            textView1=(TextView)findViewById(R.id.textView1);
             editText1=(EditText)findViewById(R.id.editText1);
        // Service Connection to handle system callbacks
        sConn = new ServiceConnection() {
```

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```java
        public void onServiceDisconnected(ComponentName name) {
        messenger = null;
      }


     public void onServiceConnected(ComponentName name, IBinder service) {
       // We are conntected to the service
       messenger = new Messenger(service);
      }
    };

    btn2.setOnClickListener(new View.OnClickListener() {

            public void onClick(View v) {
            String val = editText1.getText().toString();
            Message msg = Message.obtain(null, 1);
            msg.replyTo = new Messenger(new ResponseHandler());
            Bundle b = new Bundle();
            b.putString("devise", val);

            msg.setData(b);

            try {
             messenger.send(msg);
            } catch (RemoteException e) {
              e.printStackTrace();
            }
        }          });

    btn1.setOnClickListener(new View.OnClickListener() {

                 public void onClick(View v) {
    int1=new Intent();

     int1.setComponent(new
ComponentName("com.example.bserv2","com.example.bserv2.convertService"));
      bindService(int1, sConn,        Context.BIND_AUTO_CREATE);
      }

        });

    btn4.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View v) {
                unbindService(sConn);
                Toast.makeText(getApplicationContext(), "deconnection ",
Toast.LENGTH_SHORT).show();
            }        });
}// fin oncreate
}// fin activity
```

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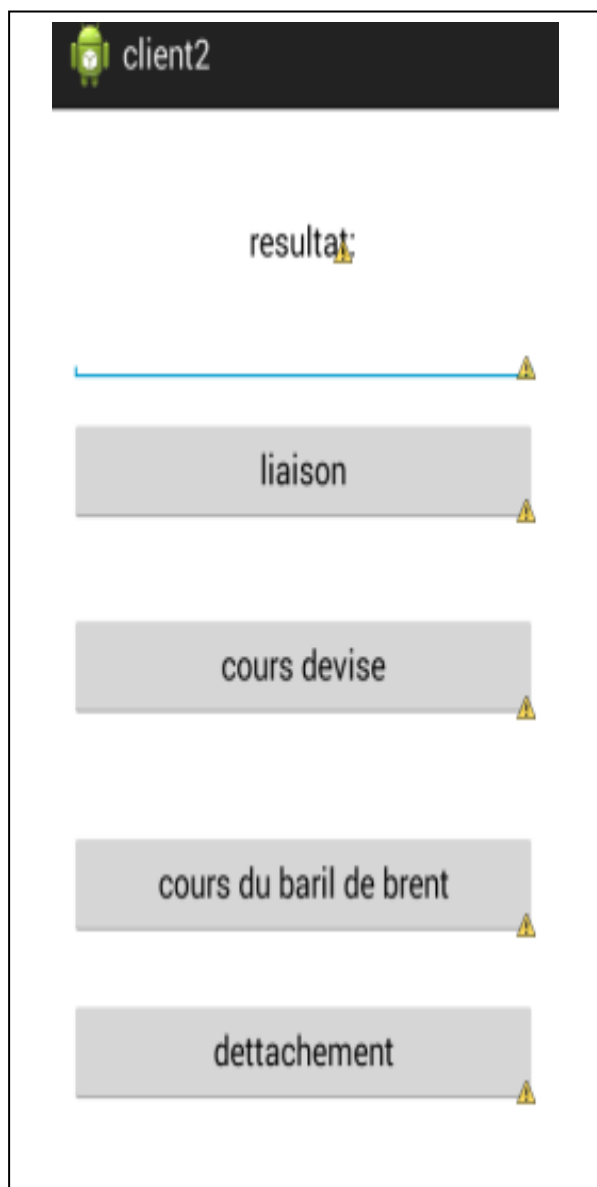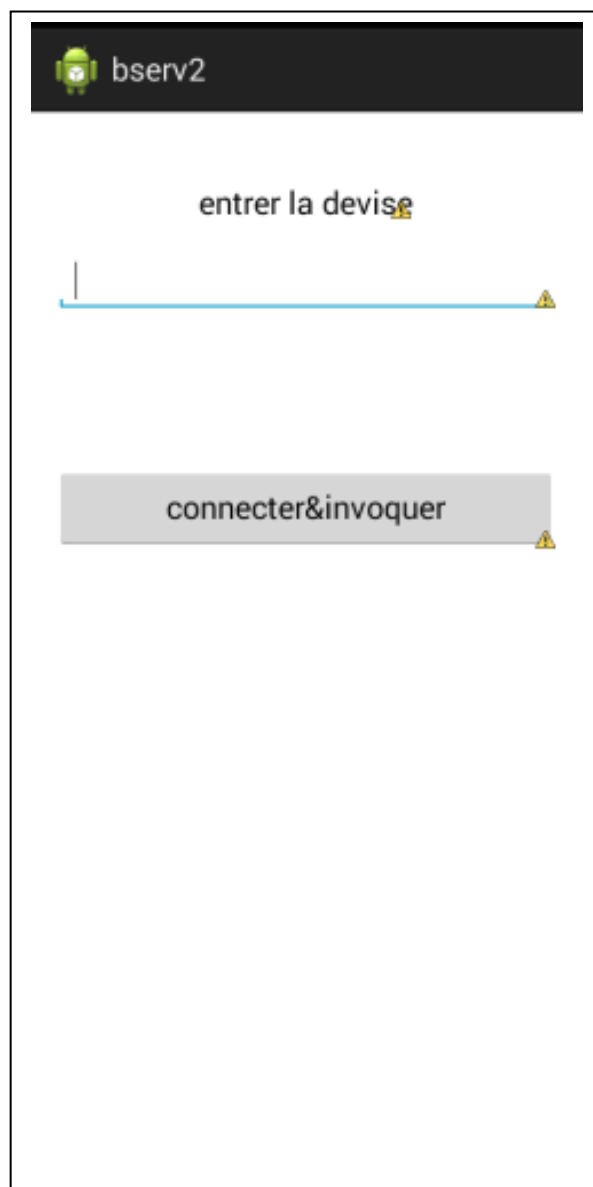**Département d'informatique**

Fig 2 :layout de MainActivity
du projet client2

Fig 1 :layout de MainActivity
du projet bserv2