12-LABORATORIYA ISHI
FLUTTER: ANDROID STUDIODA MESSENJER YARATISH.

Ishdan maqsad: Flutter: Android Studioda messenjer yaratishni ishlatishni o’rganish.

NAZARIY QISM

Messenger **iPC (Inter-Process Communication) bilan boshqa jarayonda xabarlarni yuborish uchun ishlatiladi** va shu bilan mijoz va server o'rtasidagi aloqani ta'minlaydi. Messenger ishlovchiga (handler) ulanadi, shuning uchun barcha ishlar bitta ishlovchining oqimida bo'ladi.

Xizmatni bog'lash uchun Messenger exmeplyar-ga bog'lanishni usulga onBind()o'tkazish va Messenger misolini yaratishda ishlovchining havolasini yuborish kerak. Keling, ishlovchiga ulangan Messengerni ishlatib, boshqa jarayonda ishlaydigan xizmatni yaratishning kichik misolini ko'rib chiqaylik:

```
1  package com.javadevblog.messengerexampleapp;
2   import android.app.Service;
3  import android.content.Intent;
4  import android.os.Bundle;
5  import android.os.Handler;
6  import android.os.IBinder;
7  import android.os.Message;
8  import android.os.Messenger;
9  import android.os.RemoteException;
10 import android.support.annotation.Nullable;
11 import android.widget.Toast;
12  public class SimpleServiceIPC extends Service {
13     public static final int TASK_1 = 1;
14    public static final int TASK_RESPONSE_1 = 2;
15     Messenger messenger = new Messenger(new IncomingHandler());
16     @Nullable
```

```
17    @Override
18    public IBinder onBind(Intent intent) {
19        return messenger.getBinder();
20    }
21     class IncomingHandler extends Handler {
22        @Override
23        public void handleMessage(Message msg) {
24             Message message;
25            Bundle bundle = new Bundle();
26            String messageText;
27             switch (msg.what) {
28                case TASK_1:
29                    messageText = msg.getData().getString("message");
30                     message = Message.obtain(null, TASK_RESPONSE_1);
31                    Toast.ushbusaytga tashrif buyurib , siz qonuniy yoshga
32 To'lganligingizni tasdiqlaysiz va ushbu veb-saytga tashrif buyurganingiz mahalliy qonunchilikning buzilishi emasLENGTH_SHORT).show();
33                     bundle.putString("message_res", messageText);
34                    message.setData(bundle);
35                    Messenger activityMessenger = msg.replyTo;
36                    try {
37                        activityMessenger.send(message);
38                    } catch (RemoteException e) {
39                        e.printStackTrace();
40                    }
41                    break;
42                default:
43
```

```
44                  super.handleMessage(msg);
45              }
46          }
        }
```

Koddan ko'rinib turibdiki, xizmat Activity bilan muloqot qilish uchun Messengerni ishlatadi. Service va Acitivity o'rtasidagi barcha ma'lumotlar Bundle ob'ektlarida uzatiladi, bu esa har qanday ma'lumotni uzatish uchun juda qulaydir. Xizmatning o'zi incominghandler sinfidan foydalanadi — qabul qilingan xabarni qayta ishlash uchun Handler merosxo'ri.

Keling, ushbu xizmatni serverga xabar yuborish va Messenger ishlovchisini ishlatib, serverga javob berish uchun faollashtirish yarataylik:

```
1   package com.javadevblog.messengerexampleapp;
2    import android.content.ComponentName;
3   import android.content.Context;
4   import android.content.Intent;
5   import android.content.ServiceConnection;
6   import android.os.Bundle;
7   import android.os.Handler;
8   import android.os.IBinder;
9   import android.os.Message;
10  import android.os.Messenger;
11  import android.os.RemoteException;
12  import android.support.annotation.Nullable;
13  import android.support.v7.app.AppCompatActivity;
14  import android.view.View;
15  import android.widget.Button;
16  import android.widget.EditText;
17  import android.widget.Toast;
```

```
18  public class MainActivity extends AppCompatActivity {
19      private final Messenger mActivityMessenger = new Messenger(new
20  ResponseHandler(this));
21      private Button mButtonSend;
22      private EditText mEditTextMessage;
23      private Messenger mMessenger;
24      private boolean isBound;
25      ServiceConnection serviceConnection = new ServiceConnection() {
26          @Override
27          public void onServiceConnected(ComponentName name, IBinder
28  service) {
29              mMessenger = new Messenger(service);
30              isBound = true;
31          }
32          @Override
33          public void onServiceDisconnected(ComponentName name) {
34              isBound = false;
35              mMessenger = null;
36          }
37      };
38      @Override
39      protected void onCreate(@Nullable Bundle savedInstanceState) {
40          super.onCreate(savedInstanceState);
41          setContentView(R.layout.activity_main);
42          mEditTextMessage = (EditText) findViewById(R.id.et_message);
43          mButtonSend = (Button) findViewById(R.id.btn_send);
44          mButtonSend.setOnClickListener(new View.OnClickListener() {
```

```
45          @Override
46          public void onClick(View v) {
47              String messageText = mEditTextMessage.getText().toString();
48              if (messageText.isEmpty()) {
49                  Toast.makeText(MainActivity.bu, " xabar kiriting!",
Toast.LENGTH_LONG).show();
50              } else {
51                  Message message = Message.obtain(null,
SimpleServiceIPC.TASK_1);
52                  Bundle bundle = new Bundle();
53                  bundle.putString("message", messageText);
54                  message.setData(bundle);
55                  message.replyTo = mActivityMessenger;
56                  try {
57                      mMessenger.send(message);
58                  } catch (RemoteException e) {
59                      e.printStackTrace();
60                  }
61              }
62          }
63      });
64  }
65
66  @Override
67  protected void onStart() {
68      super.onStart();
69      if (!isBound) {
70
71
```

```
72            // start service here
73            Intent intent = new Intent(MainActivity.this, SimpleServiceIPC.class);
74            bindService(intent, serviceConnection,
Context.BIND_AUTO_CREATE);
75        }
76    }
77     @Override
78    protected void onStop() {
79        super.onStop();
80        isBound = false;
81        mMessenger = null;
82    }
83     private static class ResponseHandler extends Handler {
84        private Context mContext;
85         ResponseHandler(Context context) {
86            mContext = context;
87        }
88         @Override
89        public void handleMessage(Message msg) {
90             switch (msg.what) {
91                case SimpleServiceIPC.TASK_RESPONSE_1:
92                    String result = msg.getData().getString("message_res");
93                    Toast.makeText(mContext, "iPC xizmatidan keldi:" + result,
Toast.LENGTH_LONG).show();
94                    break;
95                default:
96                    super.handleMessage(msg);
97
98
```

```
99              }
100         }
101     }
      }
```

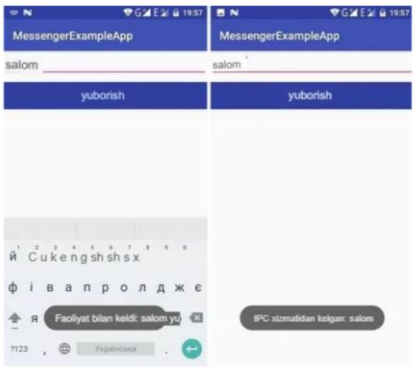
Ushbu ilovada biz ham bo'lishi kerak ServiceConnection mijoz va server o'rtasidagi aloqani yaratish uchun xizmatga. ResponseHandler-Handler vorisi Messenger'a javobini qayta ishlaydi va foydalanuvchi tajribasini yangilaydi.
Endi ilova bo'limda bizning xizmat qo'shishAndroidManifest.xml:

```
1 <service android:name=".SimpleServiceIPC" android:process=":remote"/>
```

Layout fayliga faqat kirish maydonini va xabarni yuborish uchun tugmani qo'shing:

```
1
2  <?xml version="1.0" encoding="utf-8"?>
3  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
4      xmlns:tools="http://schemas.android.com/tools"
5      android:layout_width="match_parent"
6      android:layout_height="match_parent"
7      android:orientation="vertical"
8      tools:context="com.javadevblog.messengerexampleapp.MainActivity">
9       <EditText
10         android:id="@+id/et_message"
11         android:layout_width="match_parent"
12         android:layout_height="wrap_content"
13         android:hint="xabarni kiriting..." />
14      <Button
15         android:id="@+id/btn_send"
16         android:layout_width="match_parent"
17         android:layout_height="wrap_content"
18         android:layout_marginTop="10dp"
19         android:background="@color/colorPrimaryDark"
20         android:matn="yuborish"
21         android:textColor="#fff"/>
22
23 </LinearLayout>
24
```

Endi dasturimizni ishga tushiramiz va natijani ko'rib chiqamiz:



Ko'rib turganingizdek, Messenger server va mijoz o'rtasida muloqot qilishning ajoyib usuli.

LABORATORIYA ISHINI TOPSHIRISH TARTIBI:

1. Ushbu mavzu bo'yicha ma'ruza darsida, laboratoriya ishining nazariy ko'rsatmalar qismida, shuningdek tavsiya etilgan adabiyotlarda ko'rilgan mavzu ma'lumotlarini yaqindan o'rganib, o'zlashtirib, nazorat savollariga javob berishga tayyor bo'ling.
2. Topshiriq sifatida har bir talaba Messenjer yaratadi va yaratish jarayonini hisobot ko’rinishida shakllantiradi.