# Android Broadcast Receiver – prijemnici poruka

Android Broadcast Receiver je Android komponenta koja se koristi za emitiranje poruka u sustav ili druge aplikacije. Emitirana poruka se naziva događaj ili namjera. Prijemnici za emitiranje, za razliku od aktivnosti, nemaju korisničko sučelje. Djeluje slično kao kod obrasca dizajna za objavljivanje i pretplatu. Koristi se za asinkronu međuprocesnu komunikaciju.

Pogledajmo neke namjere generirane sustavom koje su važne i koje se općenito koriste:

**android.intent.action.BATTERY\_CHANGED** – Ovo prati stanje napunjenosti baterije, postotak i druge informacije o bateriji.

**android.intent.action.BATTERY\_LOW** – Označava stanje niske baterije.

**android.intent.action.POWER\_CONNECTED** – Označava da je napajanje priključeno na uređaj.

**android.intent.action.POWER\_DISCONNECTED** – Napajanje je isključeno iz uređaja.

**android.intent.action.BOOT\_COMPLETED** – Ovo emitiranje se prikazuje samo jednom kada se uređaj prvi put pokrene.

**android.intent.action.CALL** – Ova namjera je izvršiti poziv nekoj određenoj osobi, prema podacima.

**android.intent.action.DATE\_CHANGED** – To znači da se datum uređaja promijenio.

**android.intent.action.REBOOT** – To znači da se uređaj ponovno pokrenuo.

**android.intent.action.CONNECTIVITY\_CHANGE** – Ovo pokazuje da se mrežna povezanost uređaja promijenila.

**android.intent.action.BUG\_REPORT** – Ovo izvješćuje o greškama ako ih ima.

**android.intent.action.CALL\_BUTTON** – Korisnik je pritisnuo gumb za pozivanje kako bi uputio poziv, što ga vodi na odgovarajuće korisničko sučelje.

Primjer LocalBroadcastManager.

Ovaj primjer sadrži dvije android aplikacije App One i App Two. Izrađuju se u različitim android projektima i izvode se u istom android emulatoru.

Izvorni kod dviju aplikacija gotovo je sličan. Svi imaju gumb, kada korisnik klikne gumb, on će poslati emitiranje registriranom prijamniku emitiranja.

Ako aplikacije pošalju globalno emitiranje, svi primatelji emitiranja registrirani u App One i App Two mogu primiti emitiranje, a svaka će aplikacija prikazati skočnu poruku na dnu zaslona.

U ovom projektu kreirat ćemo dinamički prilagođeni događaj emitiranja. Emitiranje događaja registrira se metodom Context.registerReceiver(). U primjeru ispod, emitiranje se šalje kada se klikne na gumb. Klasa BroadcastReciever tada prima događaj Broadcast i prikazuje poruku Toast.

Primjer komunikacije između aplikacija: dva ista projekta koja međusobno komuniciraju

activity\_main.xml

<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/battery\_level"** />  
  
 <**ProgressBar  
 android:id="@+id/progressBar"  
 style="?android:attr/progressBarStyleHorizontal"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="12dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginRight="12dp"  
 android:max="100"** />  
</**LinearLayout**>

activity\_local\_broadcast\_one

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"**>  
  
 <**Button  
 android:id="@+id/send\_local\_broadcast\_one\_button"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="50dp"  
 android:text="Send Broadcast In Activity One"//Two  
 app:layout\_constraintTop\_toTopOf="parent"** />  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**package** com.example.myapplication14;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** androidx.localbroadcastmanager.content.LocalBroadcastManager;  
  
**import** android.content.BroadcastReceiver;  
**import** android.content.Context;  
**import** android.content.Intent;  
**import** android.content.IntentFilter;  
**import** android.os.Bundle;  
  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.Toast;  
  
  
  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
  
 **public static final** String ***LOCAL\_BROADCAST\_ACTION*** = **"com.example.broadcast.activity.LOCAL\_BROADCAST"**;  
 **public static final** String ***LOCAL\_BROADCAST\_SOURCE*** = **"LOCAL\_BROADCAST\_SOURCE"**;  
 **private** LocalBroadcastManager **localBroadcastManager** = **null**;  
 **private** LocalBroadcastReceiverOne **receiverOne** = **null**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_local\_broadcast\_one***);  
 setTitle(**" Local Broadcast Manager Example."**);  
 *// Get local broadcast manager object.* **localBroadcastManager** = LocalBroadcastManager.*getInstance*(**this**);  
 *// Create local broadcast receiver one.* **receiverOne** = **new** LocalBroadcastReceiverOne();  
 *// Create intent filter, add filter action.* IntentFilter intentFilter = **new** IntentFilter();  
 intentFilter.addAction(***LOCAL\_BROADCAST\_ACTION***);  
 *// Register receiver one to local broadcast manager.* **localBroadcastManager**.registerReceiver(**receiverOne**, intentFilter);  
 *//registerReceiver(receiverOne, intentFilter);* Button sendBroadcastOneButton = (Button)findViewById(R.id.***send\_local\_broadcast\_one\_button***);  
 sendBroadcastOneButton.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View view) {  
 *// When being clicked, it will send a local broadcast with the sender info.* Intent intent = **new** Intent(***LOCAL\_BROADCAST\_ACTION***);  
 intent.putExtra(***LOCAL\_BROADCAST\_SOURCE***, **"Activity One"**);  
 **localBroadcastManager**.sendBroadcast(intent);  
 *//sendBroadcast(intent);* }  
 });  
 }  
 @Override  
 **protected void** onDestroy() {  
 **super**.onDestroy();  
 **if**(**localBroadcastManager**!=**null**)  
 {  
 *// Do not forget unregister the local broadcast receiver in onDestroy method.* **localBroadcastManager**.unregisterReceiver(**receiverOne**);  
 *//unregisterReceiver(receiverOne);* }  
 }  
  
  
 **private class** LocalBroadcastReceiverOne **extends** BroadcastReceiver {  
 @Override  
 **public void** onReceive(Context context, Intent intent) {  
 String action = intent.getAction();  
 **if**(MainActivity.***LOCAL\_BROADCAST\_ACTION***.equals(action)) {  
 String fromActivity = intent.getStringExtra(MainActivity.***LOCAL\_BROADCAST\_SOURCE***);  
 Toast.*makeText*(context, **"Receiver one receive broadcast from "** + fromActivity, Toast.***LENGTH\_LONG***).show();  
 }  
 }  
 }  
  
 }

Primjer 1:

<**LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/battery\_level"** />  
  
 <**ProgressBar  
 android:id="@+id/progressBar"  
 style="?android:attr/progressBarStyleHorizontal"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="12dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginRight="12dp"  
 android:max="100"** />  
</**LinearLayout**>

**package** com.example.myapplication14;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
**import** android.content.BroadcastReceiver;  
**import** android.content.Context;  
**import** android.content.Intent;  
**import** android.content.IntentFilter;  
**import** android.os.BatteryManager;  
**import** android.os.Bundle;  
  
**import** android.widget.ProgressBar;  
**import** android.widget.TextView;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 **private** TextView **mBatteryLevelText**;  
 **private** ProgressBar **mBatteryLevelProgress**;  
 **private** BroadcastReceiver **mReceiver**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **mBatteryLevelText** = findViewById(R.id.***textView***);  
 **mBatteryLevelProgress** =findViewById(R.id.***progressBar***);  
  
 **mReceiver** = **new** BatteryBroadcastReceiver();  
 }  
  
 @Override  
 **protected void** onStart() {  
 registerReceiver(**mReceiver**, **new** IntentFilter(Intent.***ACTION\_BATTERY\_CHANGED***));  
 **super**.onStart();  
 }  
  
 @Override  
 **protected void** onStop() {  
 unregisterReceiver(**mReceiver**);  
 **super**.onStop();  
 }  
  
 **private class** BatteryBroadcastReceiver **extends** BroadcastReceiver {  
  
 @Override  
 **public void** onReceive(Context context, Intent intent) {  
 **int** level = intent.getIntExtra(BatteryManager.***EXTRA\_LEVEL***, 0);  
  
 **mBatteryLevelText**.setText(getString(R.string.***battery\_level***) + **" "** + level);  
 **mBatteryLevelProgress**.setProgress(level);  
 }  
 }  
 }

<**resources**>  
 <**string name="app\_name"**>My Application14</**string**>  
 <**string name="battery\_level"**>Battery level:</**string**>  
  
</**resources**>

Primjer 2

**package** com.example.myapplication14;  
  
 **import** androidx.appcompat.app.AppCompatActivity;  
**import** android.content.BroadcastReceiver;  
**import** android.content.Context;  
**import** android.content.Intent;  
  
 **import** android.content.IntentFilter;  
 **import** android.os.BatteryManager;  
 **import** android.os.Bundle;  
 **import** android.widget.TextView;  
  
**public class** MainActivity **extends** AppCompatActivity {  
 TextView **text1**,**text2**,**text3**,**text4**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **text1**=findViewById(R.id.***textView***);  
 **text2**=findViewById(R.id.***textView2***);  
 **text3**=findViewById(R.id.***textView3***);  
 **text4**=findViewById(R.id.***textView4***);  
 }  
  
 @Override  
 **protected void** onResume() {  
 **super**.onResume();  
 registerReceiver(**getBatteryPlugStatus**,**new** IntentFilter(Intent.***ACTION\_BATTERY\_CHANGED***));  
 registerReceiver(**getBatteryTemp**,**new** IntentFilter(Intent.***ACTION\_BATTERY\_CHANGED***));  
 registerReceiver(**getBatteryLevel**,**new** IntentFilter(Intent.***ACTION\_BATTERY\_CHANGED***));  
 registerReceiver(**getBatteryHealth**,**new** IntentFilter(Intent.***ACTION\_BATTERY\_CHANGED***));  
 }  
  
 @Override  
 **protected void** onPause() {  
 **super**.onPause();  
  
 unregisterReceiver(**getBatteryPlugStatus**);  
 }  
 **private** BroadcastReceiver **getBatteryTemp** = **new** BroadcastReceiver() {  
 @Override  
 **public void** onReceive(Context context, Intent intent) {  
 **int** temp=intent.getIntExtra(BatteryManager.***EXTRA\_TEMPERATURE***,0);  
 **text2**.setText(**"Temperature:\n"**+(temp/10)+**"°"**);  
 }  
 };  
 **private** BroadcastReceiver **getBatteryLevel**=**new** BroadcastReceiver() {  
 @Override  
 **public void** onReceive(Context context, Intent intent) {  
 **int** level=intent.getIntExtra(BatteryManager.***EXTRA\_LEVEL***,0);  
 **text3**.setText(**"Battery Level:\n"**+level);  
 }  
 };  
 **private** BroadcastReceiver **getBatteryPlugStatus** =**new** BroadcastReceiver() {  
 @Override  
 **public void** onReceive(Context context, Intent intent) {  
 **int** status=intent.getIntExtra(BatteryManager.***EXTRA\_PLUGGED***,0);  
  
 **if**(status!=0)  
 {  
 **text1**.setText(**"Battery Plugged:\nOn"**);  
 }  
 **else** {  
 **text1**.setText(**"Battery Plugged:\nOf"**);  
 }  
 }  
 };  
 **private** BroadcastReceiver **getBatteryHealth**= **new** BroadcastReceiver() {  
 @Override  
 **public void** onReceive(Context context, Intent intent) {  
 **int** health=intent.getIntExtra(BatteryManager.***EXTRA\_HEALTH***,0);  
 **switch** (health)  
 {  
 **case** BatteryManager.***BATTERY\_HEALTH\_UNKNOWN***:  
 **text4**.setText(**"Battery Health:\nUnknown"**);  
 **break**;  
 **case** BatteryManager.***BATTERY\_HEALTH\_COLD***:  
 **text4**.setText(**"Battery Health:\nCold"**);  
 **break**;  
 **case** BatteryManager.***BATTERY\_HEALTH\_DEAD***:  
 **text4**.setText(**"Battery Health:\nDead"**);  
 **break**;  
 **case** BatteryManager.***BATTERY\_HEALTH\_GOOD***:  
 **text4**.setText(**"Battery Health:\nGood"**);  
 **break**;  
 **case** BatteryManager.***BATTERY\_HEALTH\_OVER\_VOLTAGE***:  
 **text4**.setText(**"Battery Health:\nOverVoltage"**);  
 **break**;  
 **case** BatteryManager.***BATTERY\_HEALTH\_OVERHEAT***:  
 **text4**.setText(**"Battery Health:\nOverHeat"**);  
 **break**;  
 **case** BatteryManager.***BATTERY\_HEALTH\_UNSPECIFIED\_FAILURE***:  
 **text4**.setText(**"This information\nis not found"**);  
 **break**;  
 }  
  
 }  
 };  
  
}

*<?***xml version="1.0" encoding="utf-8"***?>*<**RelativeLayout 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"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentStart="true"  
 android:layout\_alignParentTop="true"  
 android:layout\_marginTop="165dp"  
 android:textSize="22sp"  
 android:textColor="@android:color/black"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"** />  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentTop="true"  
 android:layout\_alignParentEnd="true"  
 android:layout\_marginTop="162dp"  
 android:layout\_marginEnd="16dp"  
 android:textColor="@android:color/black"  
 android:textSize="22sp"** />  
  
 <**TextView  
 android:id="@+id/textView2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentStart="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginBottom="227dp"  
 android:textColor="@android:color/black"  
 android:textSize="22sp"** />  
  
 <**TextView  
 android:id="@+id/textView3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentEnd="true"  
 android:layout\_alignParentBottom="true"  
 android:layout\_marginBottom="233dp"  
 android:textColor="@android:color/black"  
 android:textSize="22sp"** />  
  
  
</**RelativeLayout**>