

Broadcasts

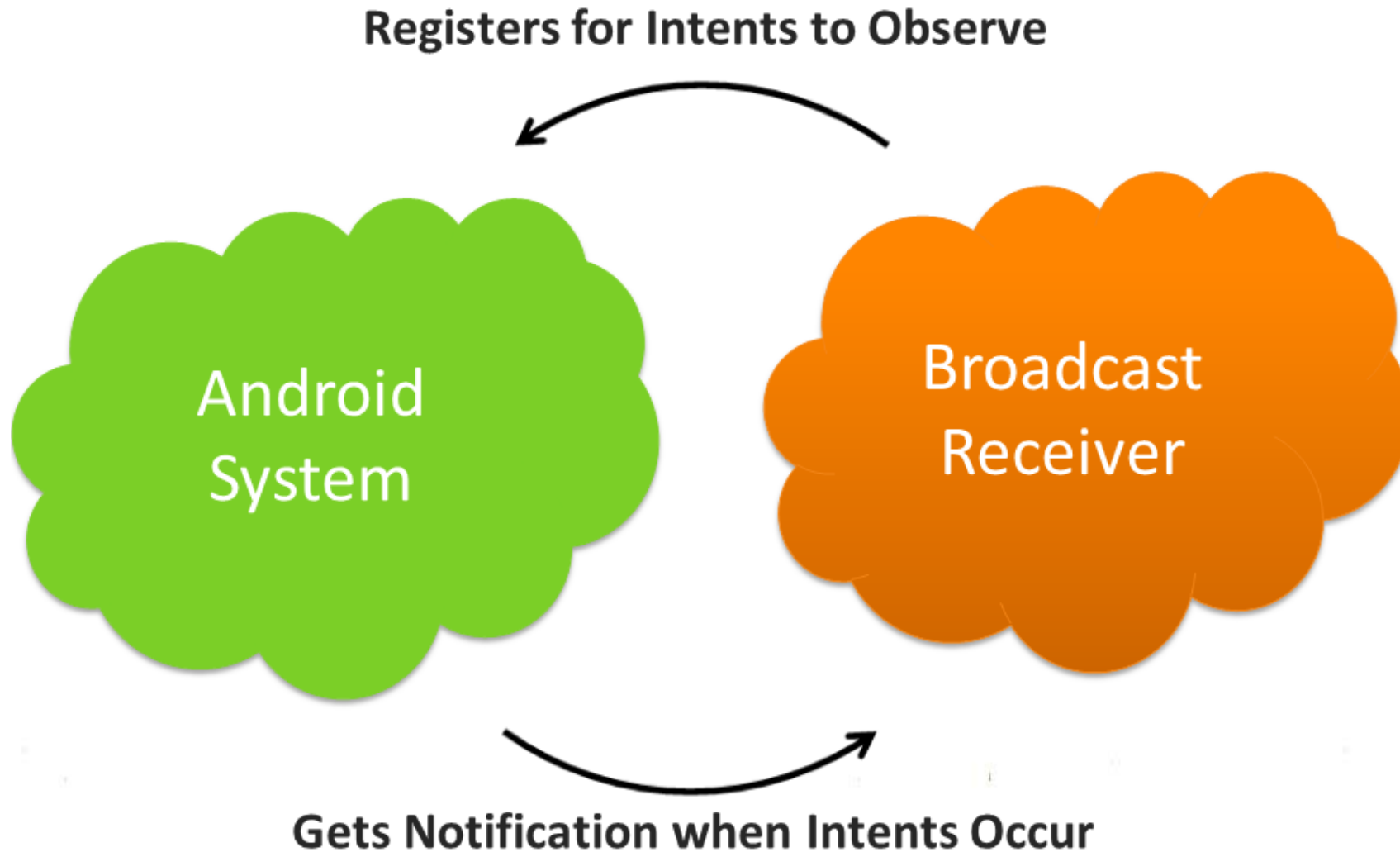
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Broadcasts – what is broadcast?

Broadcast – bu har qanday dastur qabul qilishi mumkin bo'lgan habardir. Tizim tizimdagi jarayonlar haqidagi habarlarni yuboradi. Masalan, tizim ishga tushgani, zaryadga ulangani haqidagi va hakazo. Habarlar **intent** objecti ko'rinishida [sendBroadcast\(\)](#), [sendOrderedBroadcast\(\)](#) yoki [sendStickyBroadcast\(\)](#) (bu API 21 dan eskirgan) metodlari orqali yuboriladi. Har bir habarni o'z nomi bo'ladi. Habar shu nom bilan tanib olinadi.

Broadcasts – what is broadcast?



Broadcasts - system broadcasts

- Tizim broadcastlari - tizimdagi jarayonlar haqida qabul qilish uchun ro'yhatdan o'tgan qabul qiluvchilarga yuboradi. Bunda habar jarayon sadir bo'lishi bilan tizim tomonidan yuboriladi. Bu kabi habarlarni o'zgarmas nomlari mavjud.

Broadcasts - system broadcasts

- `ACTION_BOOT_COMPLETED` — Sistema to'liq yuklanganidan keyin bir marotaba chaqiriladi. Ishlashi uchun `RECEIVE_BOOT_COMPLETED` ruxsatini talab qiladi.
- `ACTION_CAMERA_BUTTON` — foydalanuvchi tomonidan **Camera** tugmasi bosilganda chaqiriladi.
- `ACTION_DATE_CHANGED` и `ACTION_TIME_CHANGED` - qurilma yoki foydalanuvchi tomonidan vaqt o'zgartirilganda.
- `ACTION_SCREEN_OFF` и `ACTION_SCREEN_ON` — chaqiriladi qachonki ekran o'chganda yoki yonganda.
- `ACTION_TIMEZONE_CHANGED` — vaqt hududi o'zgarganda.

Broadcasts – send broadcast

Broadcastlar habarlarni almashish quyidagi turlarga bo'linadi:

- **Normal broadcast** – bu turdagi asinxron tarzda yuboriladi. Bunda habarni qabul qiluvchilar bir paytda aniqlanmagan tartibda qabul qilishadi. Bundan usulda habarni qaytarish(bekor qilish) ishlatilmaydi.
- **Ordered broadcasts** – bu turdagi habarlar sinxron bo'lib, habar kutuvchilarga tartib bilan yuboriladi. Habar bekor qilinganda yuborilishdan to'xtaydi. Buning uchun ***abortBroadcast()*** methodidan foydalaniladi.

Broadcasts – normal broadcast

Normal broadcastlarni ikki turi bor:

- **SendBroadcast** – bu turda habarlar tizimga yuboriladi, tizimda habarni eshitish uchun ro'hatdan o'tgan barcha tizim tomonidan yetkaziladi.
- **LocalBroadcastManager** – bu turda habarlar local ya'ni ilova ichida yuborish uchun mo'ljallangan.

Broadcasts – create broadcast

Intent objecti ko'rinishida habar yaratish:

- `Intent intent = new Intent(BROADCAST_NAME);`
- `Intent intent = new Intent();`
`Intent.setAction(BROADCAST_NAME);`

Broadcasts – send broadcast

Habar yaratilganidan keyin `putExtra(String key, value)` methodi orqali kalit-qiyamat ko'rinishida ma'lumot yuboriladi:

```
Intent intent = new Intent();  
intent.setAction(NAME);  
    intent.putExtra("title", "Habar");  
    intent.putExtra("message", "Yangi habar yuborish");  
sendBroadcast(intent); //Normal broadcast
```

Broadcasts – create BroadcastReceiver

Habarlarni qabul qilish uchun **BroadcastReceiver** sinfidan voris qolib habar qabul qiluvchi sinf yaratiladi. Uning `onReceive(Context context, Intent intent)` metodi orqali kelgan habarni o'qish mumkin. Argument bo'lib kelgan intent o'zgaruvchi orqali yuborilgan ma'lumotlar olinadi:

```
public class MyReceiver extends BroadcastReceiver{

    @Override
    public void onReceive(Context context, Intent intent){

    }

}
```

Broadcasts – register BroadcastReceiver

Ro'yhatdan o'tkazish AndroidManifest.xml yoki Java qism orqali amalga oshiriladi.

- **AndroidManifest.xml** - Har bir habar qabul qiluvchi sinf AndroidManifest.xml da ko'rsatilishi kerak. Buning uchun **<Application> ... </Application>** ichida **<receiver> ... </receiver>** bilan amalga oshiriladi.

<receiver

android:name=".MyReceiver"

android:enabled="true"

android:exported="true" >

</receiver>

Broadcasts – register BroadcastReceiver

Har bir habar qabul qiluvchilarni ro'hatdan o'tkazish kerak. Buning uchun qabul qiluvchi sinfdan object olib, o'sha objectni ro'yhatdan o'tkazish kerak bo'ladi. Dastur yakunlanayotganda yoki habarni qabul qilish zarurati tugaganida ro'yhatdan chiqarish tavsiya qilinadi:

```
registerReceiver (mObjectBroadCastReceiver, new IntentFilter (ACTION) ;
```

```
unregisterReceiver (mObjectBroadCastReceiver) ;
```

Broadcasts – custom broadcast

Yangi turdagi habar yaratish uchun yangi **action** nom yaratish kerak. Habar yuborilayotganda **action** sifatida shu nomni yuborish kerak

```
<receiver
    android:name=".MyReceiver"
    android:enabled="true"
    android:exported="true">
    <intent-filter>
        <action android:name="uz.xsoft.action.NEW_MESSAGE" />
    </intent-filter>
</receiver>
```

Broadcasts – multiple actions

Agar bir necha action uchun bitta habar qabul qiluvchi bo'lsa quyidagi kabi izohlanadi:

```
<receiver android:name=".MyBroadcastReceiver" android:exported="true">
    <intent-filter>
        <action android:name="android.intent.action.BOOT_COMPLETED" />
        <action android:name="android.intent.action.INPUT_METHOD_CHANGED" />
    </intent-filter>
</receiver>
```

Broadcasts – Example

Tizim yuklanganda dasturimizni ishga tushuraylik. Buning uchun tizim yuklanganlik habarini yuborganida habar qabul qiluvchi orqali kerakli activitini ishga tushuramiz:

```
<uses-permission android:name="android.permission.RECEIVE_BOOT_COMPLETED" />
<application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/AppTheme">
    <activity android:name=".MainActivity">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
    <receiver android:name=".MyReceiver">
        <intent-filter>
            <action android:name="android.intent.action.BOOT_COMPLETED" />
        </intent-filter>
    </receiver>
</application>
```

Broadcasts – Example

Tizim yuklangandagi yuborilgan habarni qabul qiluvchi:

```
public class MyReceiver extends BroadcastReceiver{  
    @Override  
    public void onReceive(Context context, Intent intent) {  
        Intent intent1 = new Intent(context, MainActivity.class);  
        intent1.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK  
                           | Intent.FLAG_ACTIVITY_NEW_TASK);  
        context.startActivity(intent1);  
    }  
}
```