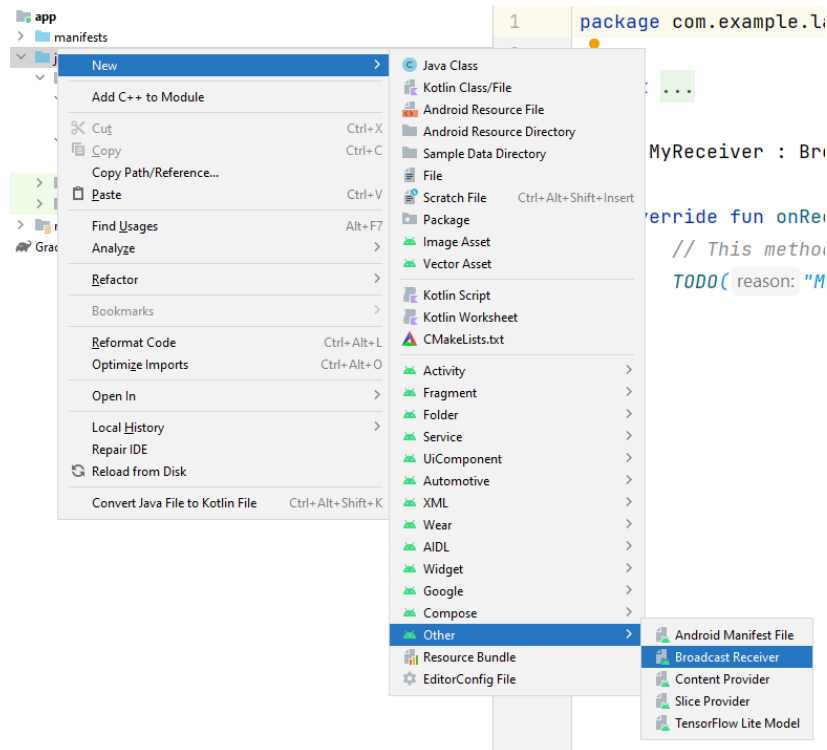


Android Broadcast Receivers

In this lab, you will learn how to create and register a broadcast receiver in your Android app using Kotlin.

1. Create a EmptyActivity Project in Android Studio
2. Create a new Broadcast Receiver named MyReceiver



3. Observe the manifest file

```
<receiver  
    android:name=".MyReceiver"  
    android:enabled="true"  
    android:exported="true"></receiver>
```

4. Add the following in between the receiver tags

```
<intent-filter>
    <action android:name="com.example.labbroadcast.MY_CUSTOM_ACTION" />
</intent-filter>
```

5. Implement the following code in the MainActivity onCreate method

```
private lateinit var myBroadcastReceiver: MyReceiver
override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    setContentView(R.layout.activity_main)
    myBroadcastReceiver = MyReceiver()
    // Register the receiver to listen for broadcast intents with the custom action
    val filter = IntentFilter("com.example.labbroadcast.MY_CUSTOM_ACTION")
    val listenToBroadcastsFromOtherApps = false
    val receiverFlags = if (listenToBroadcastsFromOtherApps) {
        ContextCompat.RECEIVER_EXPORTED
    } else {
        ContextCompat.RECEIVER_NOT_EXPORTED
    }

    ContextCompat.registerReceiver(this, myBroadcastReceiver, filter, receiverFlags)

    GlobalScope.launch {
        delay(5000)
        val intent = Intent()
        intent.action = "com.example.labbroadcast.MY_CUSTOM_ACTION"
        sendBroadcast(intent)
    }
}
```

6. Note that the intent.action should contain <<your package name>>.MY_CUSTOM_ACTION
7. Now, handle that broadcast in onReceive Method of the MyReceiver

```
override fun onReceive(context: Context, intent: Intent) {

    if (intent?.action == "com.example.labbroadcast.MY_CUSTOM_ACTION") {
        Toast.makeText(context, "5 seconds passed", Toast.LENGTH_LONG).show()
    }

}
```

8. Let's add some system broadcast receivers as well.

9. Add the following lines before the GlobalScope

```
val systemFilter = IntentFilter()
systemFilter.addAction(Intent.ACTION_SCREEN_ON)
systemFilter.addAction(Intent.ACTION_SCREEN_OFF)
systemFilter.addAction(Intent.ACTION_BATTERY_LOW)
ContextCompat.registerReceiver(this, myBroadcastReceiver, systemFilter, receiverFlags)
```

10. Add the following to the MyReciver

```
if (intent?.action == "com.example.labbroadcast.MY_CUSTOM_ACTION") {
    Toast.makeText(context, "5 seconds passed", Toast.LENGTH_LONG).show()
} else if (intent?.action == Intent.ACTION_SCREEN_ON) {
    Toast.makeText(context, "Screen On", Toast.LENGTH_LONG).show()
} else if (intent?.action == Intent.ACTION_SCREEN_OFF) {

} else if (intent?.action == Intent.ACTION_BATTERY_LOW) {

}
}
```

11. Now you can use these codes to register any kind of Broadcast Receiver.

