

HarmonyOS 组件库使用实践

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引导视频



HarmonyOS发布16000+系统级接口

HarmonyOS Developer

设计开发分发文档支持

ark.annotation

Overview

Annotation

ark.system

ohos.aafwk.ability

ohos.aafwk.ability.continuation

ohos.aafwk.ability.delegation

ohos.aafwk.ability.fraction

ohos.aafwk.ability.startsetting

ohos.aafwk.abilityjet.activatedata

ohos.aafwk.abilityjet.databinding

ohos.aafwk.content

ohos.accessibility

ohos.accessibility.ability

ohos.account

ohos.account.app

ohos.ace.ability

ohos.agp.animation

ohos.agp.animation.styledsolutions

ohos.agp.animation.timelinecurves

ohos.agp.colors

ohos.agp.components

ohos.agp.components.element

Since:

1

Annotation Types Summary

Annotation Type	Description
Permanent	Annotates persistent memory objects.
Unowned	Annotates an object without ownership to eliminate circular reference.
UnownedLocal	Annotates a method or a single local variable.
UnownedOuter	Annotates a class to eliminate circular reference.
Weak	Annotates weak reference objects.

下一篇

Permanent

HarmonyOS应用开发难点



Java生态：百万级开源库

Android生态：十万级开源库

HarmonyOS开源组件库生态

分类	子类	开源库个数
UI	基础控件	800
	自定义view	
动画图形类	动画	73
框架类	框架类	139
安全类	权限请求	18
	加解密	
工具类	注入注解	172
	公共库	
	传感器	
	事件总线	
	插件化	
	手势类	
	二维码	
	日志	
	其他	

多设备形态可用

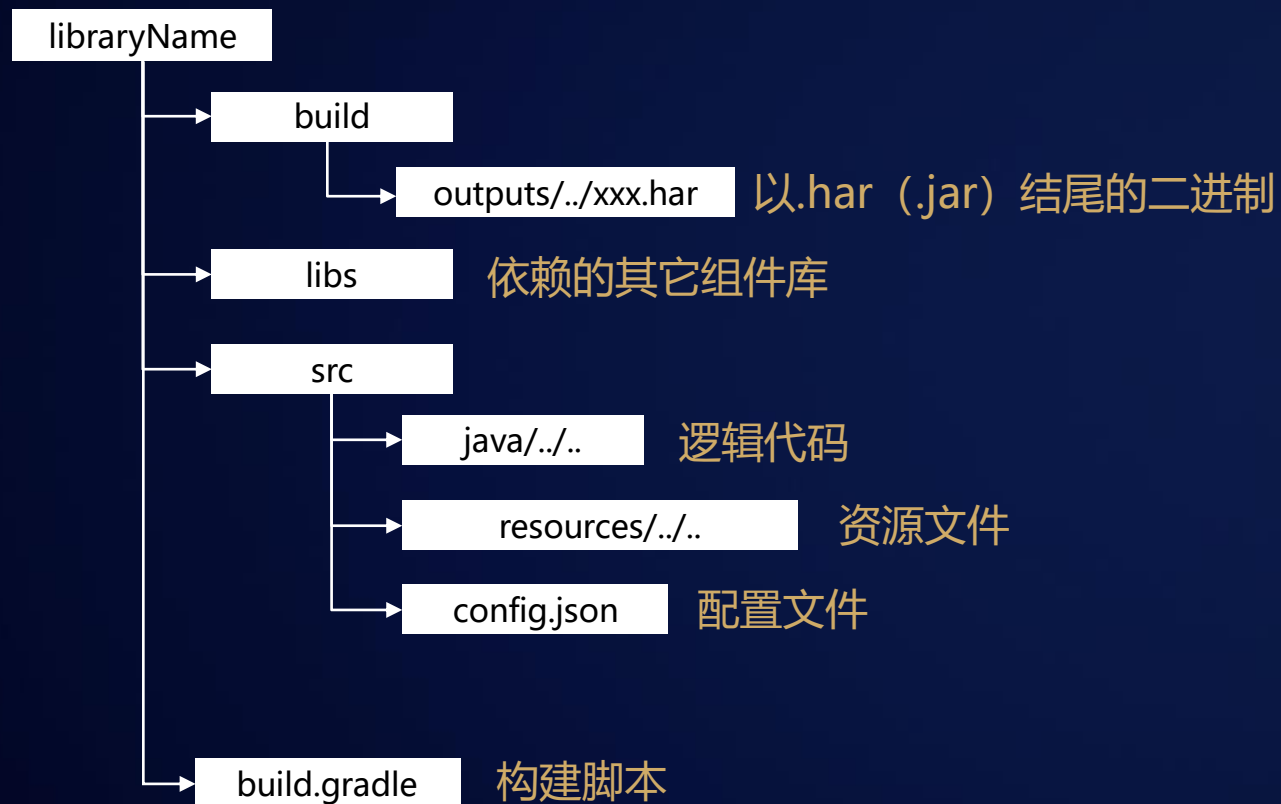
分类	子类	开源库个数
网络类	网络请求	55
	json	
	上传下载	
	异步通信	
文件数据类	后台处理	15
	数据库	
	序列化	
	映射	
多媒体	音频	23
	视频	
图片缓存	图片选择	9
	图片加载	
	图片压缩	
	图片处理	
基础功能	基础功能	27

多端部署

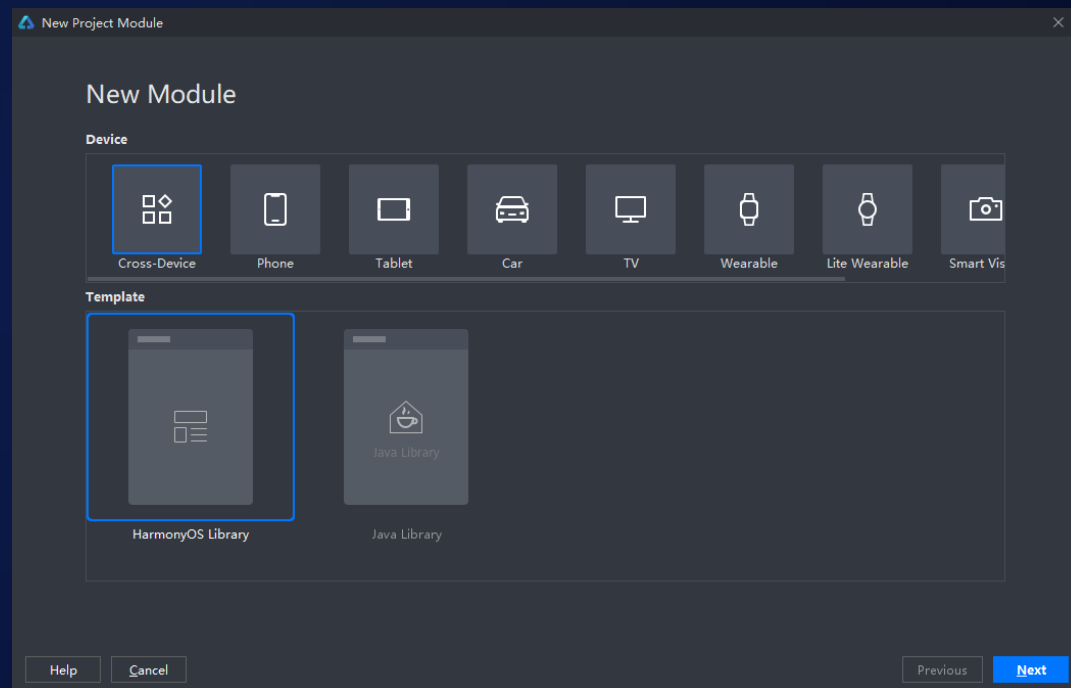
性能优化

HarmonyOS开源组件库格式介绍

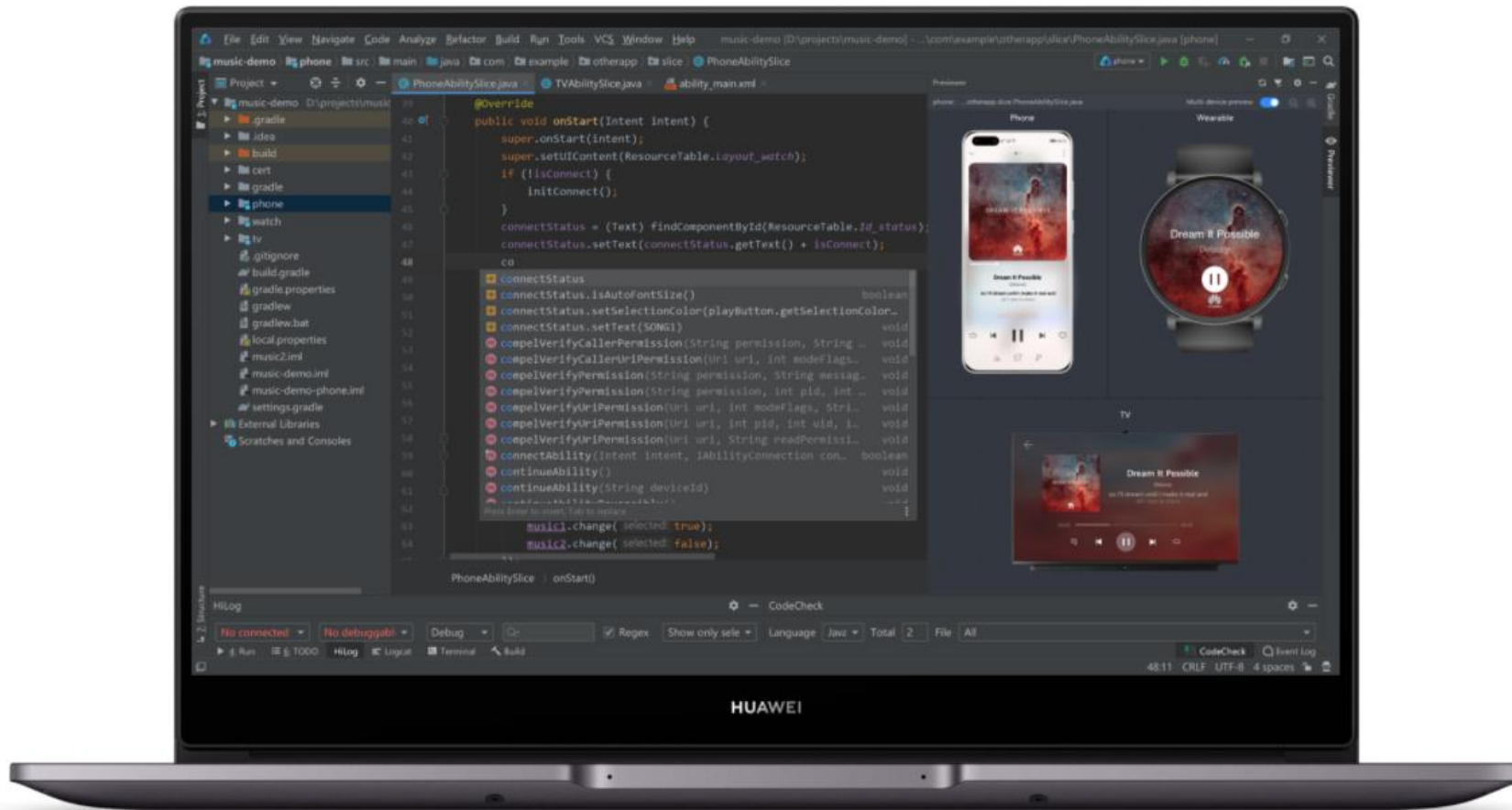
组件库目录结构



Devco IDE中的组件库开发模板



HarmonyOS应用开发



<https://developer.harmonyos.com/cn/develop/deveco-studio>

HarmonyOS组件库使用

1. Har包引用(build.gradle)

```
dependencies {  
    implementation fileTree(dir: 'libs', include: ['*.jar', '*.har'])  
}
```

2. 源文件引用(build.gradle)

```
dependencies {  
    implementation project(":library")  
}
```

3. Maven仓引用(build.gradle)

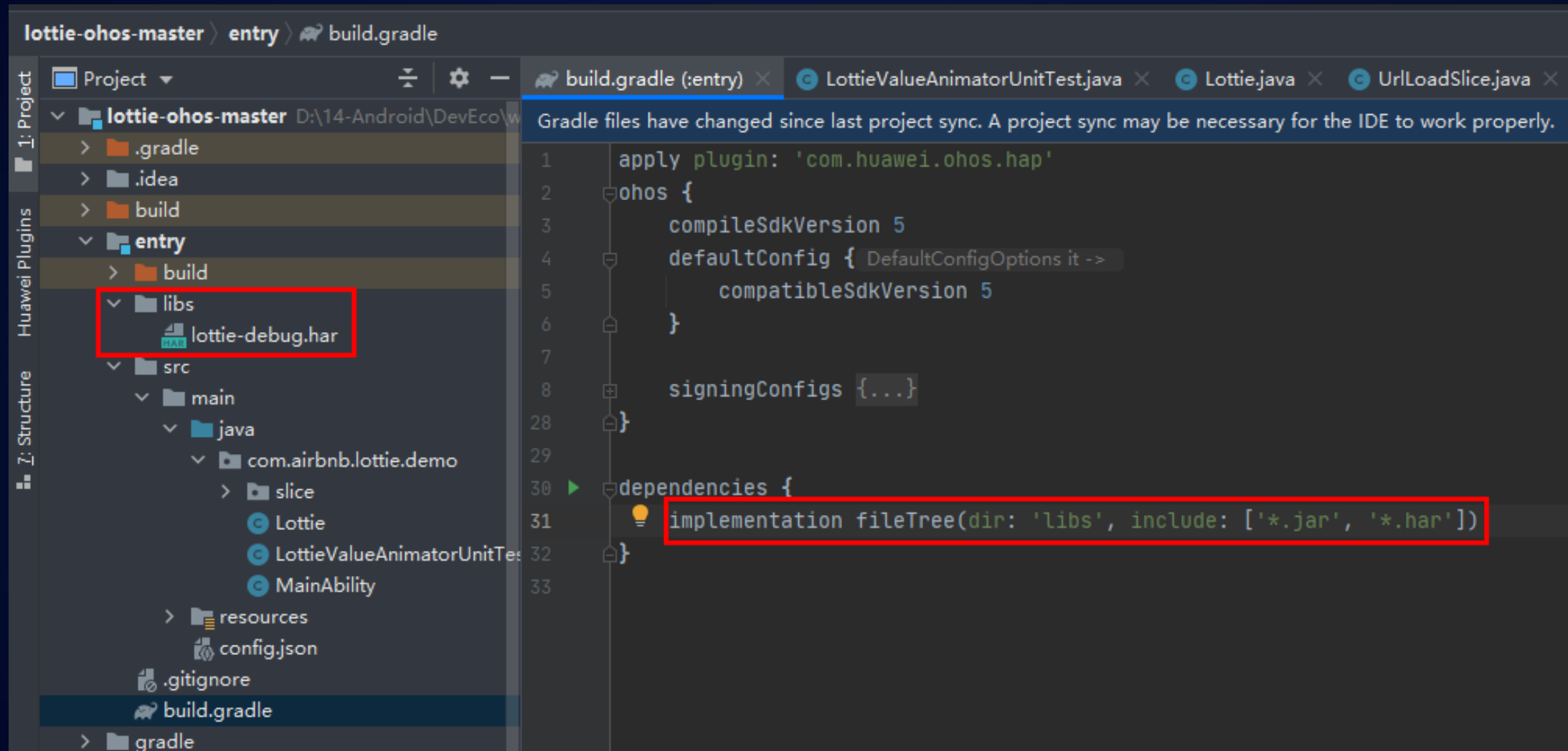
方式一:

```
dependencies {  
    implementation 'com.huawei.har:mylibrary:1.0.1'  
}
```

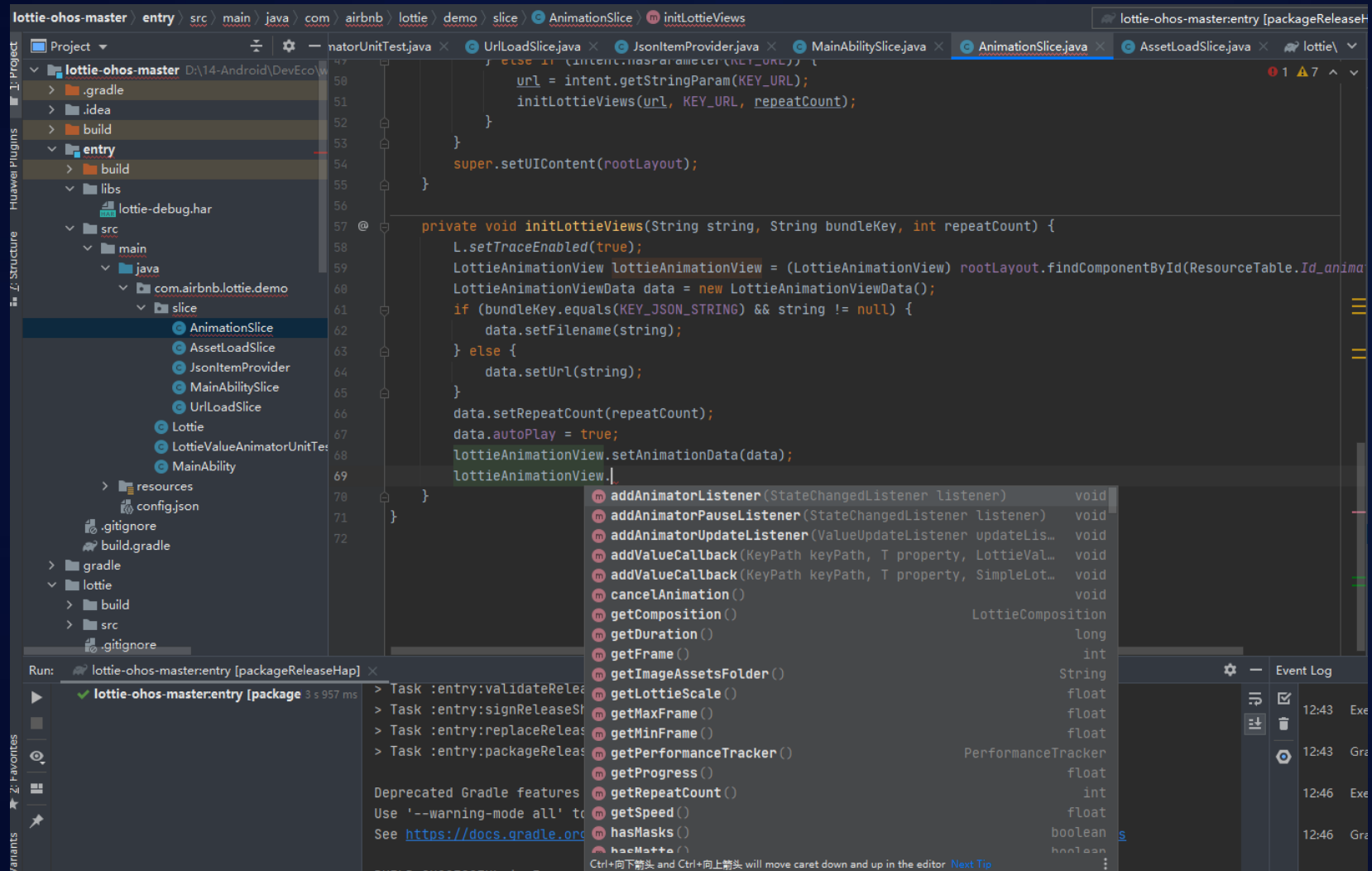
方式二:

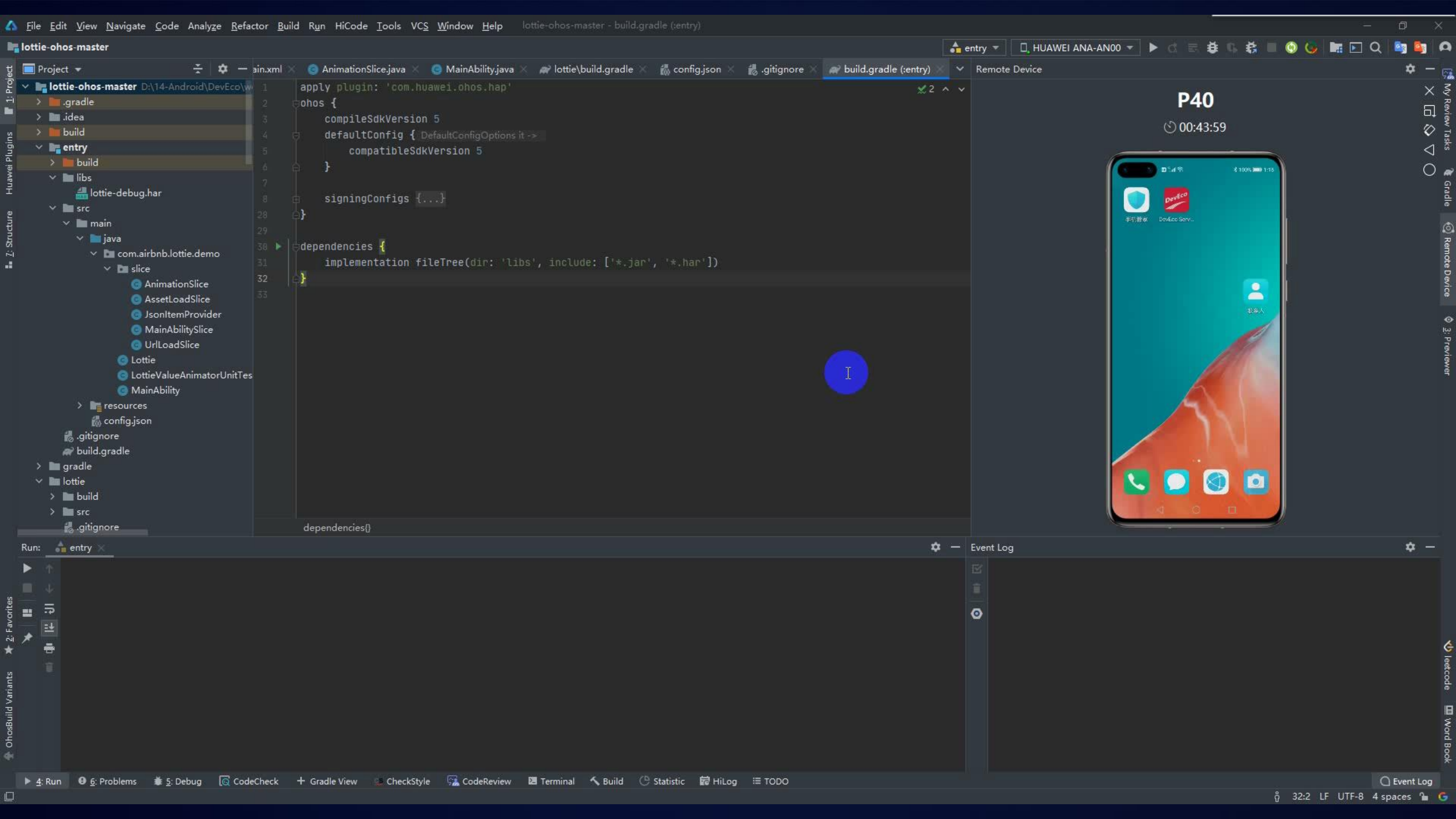
```
allprojects {  
    repositories {  
        maven {  
            url 'file:///D:/01.localMaven/' //本地或远程Maven仓  
        }  
    }  
}
```

Lottie开源组件库的引用 – har包引用



在代码中导入Lottie相关功能类后，直接调用对应的功能接口





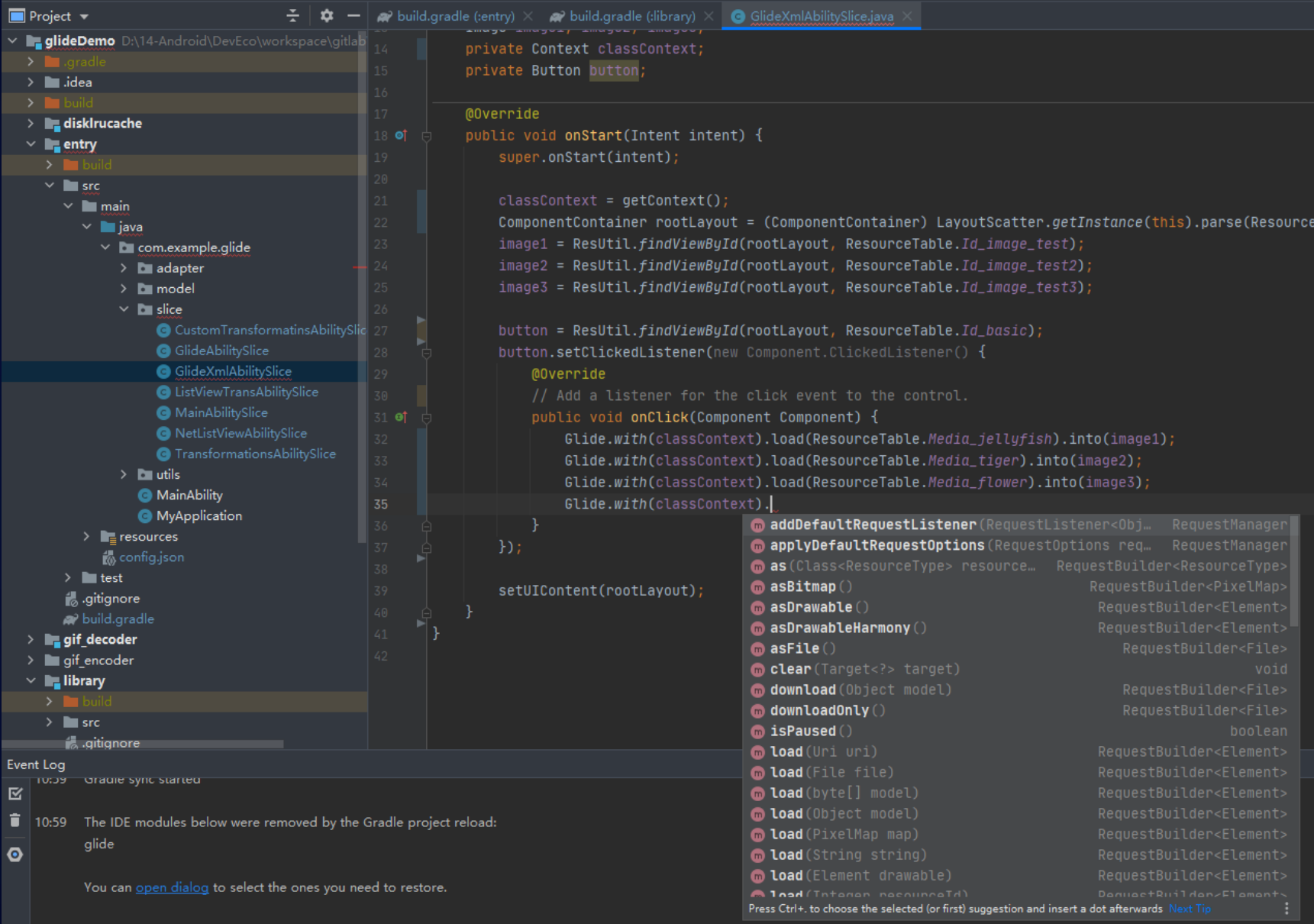
glide开源组件库的引用 - 源文件引用

The screenshot shows the IDE interface with the following components:

- Project Structure:** The left sidebar shows the project hierarchy. The 'entry' module is selected, and its 'build.gradle' file is highlighted in blue.
- Code Editor:** The main editor displays the 'build.gradle' file for the 'entry' module. The code is as follows:

```
1  apply plugin: 'com.huawei.ohos.hap'
2  ohos {...}
9
10 dependencies {
11     implementation fileTree(dir: 'libs', include: ['*.jar', '*.har'])
12     implementation 'org.jetbrains:annotations:20.1.0'
13     testCompile 'junit:junit:4.12'
14     // 依赖glide核心库
15     implementation project(":library")
16 }
17
```
- Red Boxes:** Two red boxes highlight specific lines of code:
 - The first box highlights the line `implementation project(":library")` (line 15).
 - The second box highlights the lines `// 依赖gif解码库` (line 18), `implementation project(':gif_decoder')` (line 19), and `implementation project(':disklrucache')` (line 20).
- Red Arrow:** A red arrow points from the 'build.gradle' file in the project structure to the second red box.

在代码中导入glide类后，直接调用对应的功能接口



FileEditViewNavigateCodeAnalyzeRefactorBuildRunHiCodeToolsVCSWindowHelp

glideDemo - build.gradle (entry)

entryHUAWEI ANA-AN00

entrybuild.gradle (entry)build.gradle (library)GlideXmlAbilitySlice.java

ProjectglideDemoD:\14-Android\DevEco\workspace\gitlab\...>.gradle>.idea>.build>.diskrucache>entry>.build>src>main>java>com.example.glide>adapter>model>slice>CustomTransformatinsAbilitySlice>GlideAbilitySlice>GlideXmlAbilitySlice>ListViewTransAbilitySlice>MainAbilitySlice>NetListViewAbilitySlice>TransformationsAbilitySlice>utils>MainAbility>MyApplication>resources>config.json>test>.gitignore>build.gradle>gif_decoder>gif_encoder>library>.build>src

1apply plugin: 'com.huawei.ohos.hap'

2ohos {...}

9

10dependencies {

11implementation fileTree(dir: 'libs', include: ['*.jar', '*.har'])

12implementation 'org.jetbrains:annotations:20.1.0'

13testCompile 'junit:junit:4.12'

14// 依赖glide核心库

15implementation project(":library")

16}

17

Remote Device

P40

00:56:34

手机管家

DevEco Servi...

联系人

Build: SyncBuild OutputBuild Analyzer

Build: finished at 2021/4/16 12:3557 s 532 ms

Deprecated Gradle features were used in this build, making it incompatible with Gradle 7.0.
Use '--warning-mode all' to show the individual deprecation warnings.
See https://docs.gradle.org/6.3/userguide/command_line_interface.html#sec:command_line_warnings

BUILD SUCCESSFUL in 57s
60 actionable tasks: 60 executed

Build Analyzer results available

Event Log

12:33Login Success!

12:33P40 connected successfully.

12:34Executing tasks: [:entry:assembleDebug] in project D:\14-Android\DevEc

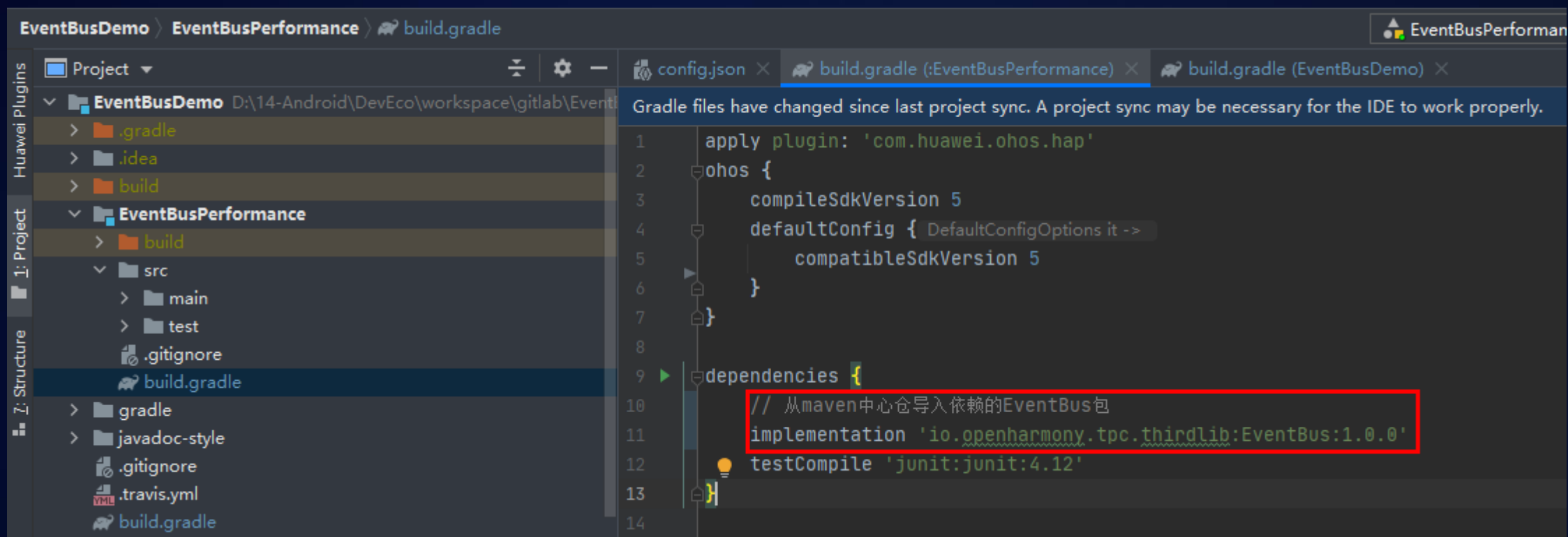
12:35Gradle build finished in 57 s 704 ms

4Run6ProblemsCodeCheck+Gradle ViewCheckStyleCodeReview9GitTerminalBuildHiLogStatisticTODO

Gradle build finished in 57 s 704 ms (a minute ago)

15:39CRLFUTF-84 spacesmaster

eventbus开源组件库的引用 – maven引用

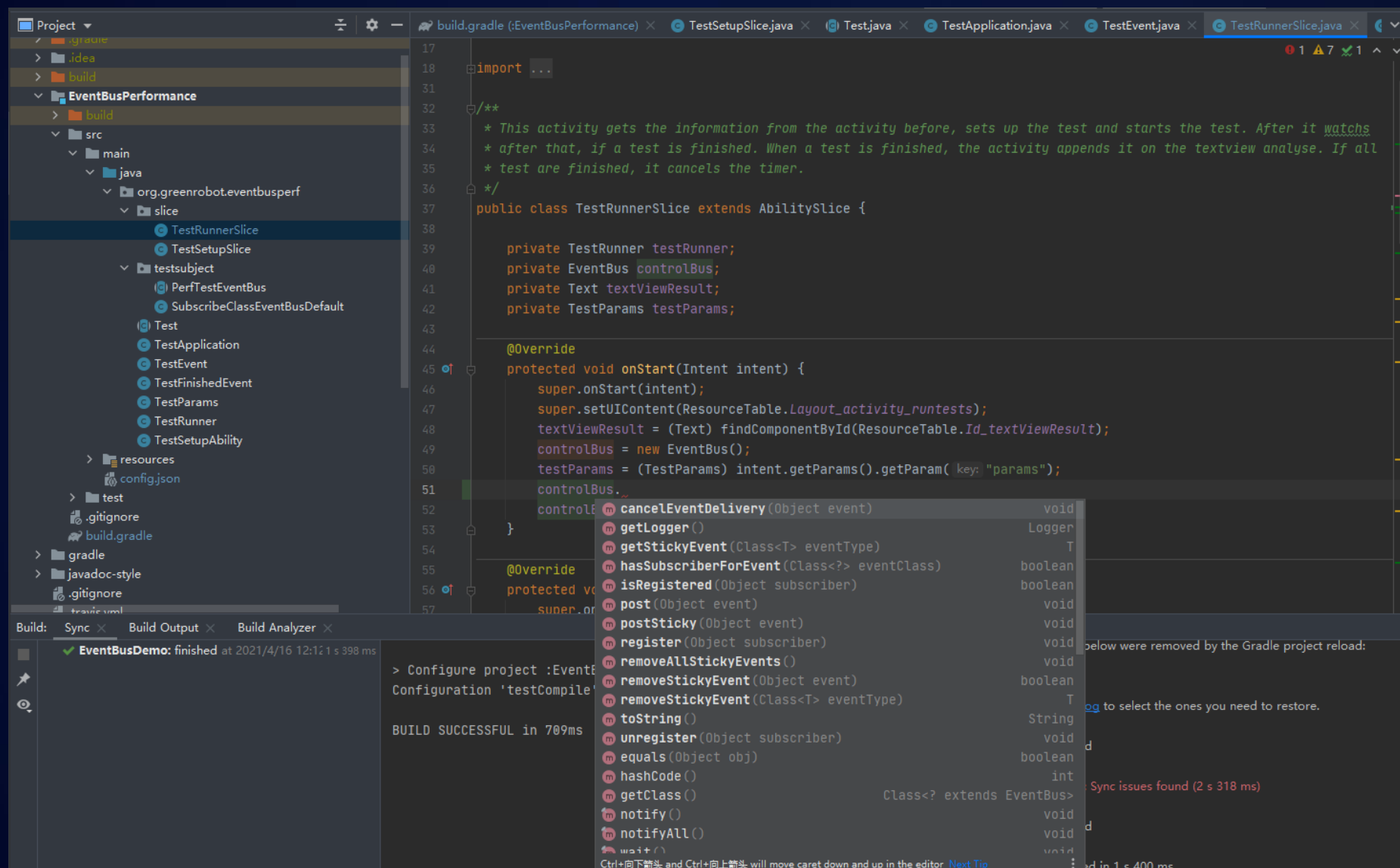


The screenshot shows an IDE interface with the following components:

- Project Structure:** The left sidebar shows the project hierarchy. The 'EventBusPerformance' module is selected, and its 'build.gradle' file is highlighted.
- Build File:** The main editor displays the 'build.gradle' file for the 'EventBusPerformance' module. The file contains the following code:

```
1  apply plugin: 'com.huawei.ohos.hap'
2
3  ohos {
4      compileSdkVersion 5
5      defaultConfig { DefaultConfigOptions it ->
6          compatibleSdkVersion 5
7      }
8  }
9
10 dependencies {
11     // 从maven中心仓导入依赖的EventBus包
12     implementation 'io.openharmony.tpc.thirdlib:EventBus:1.0.0'
13     testCompile 'junit:junit:4.12'
14 }
```
- Dependencies:** The dependency on the EventBus library is highlighted with a red box. The dependency is: `implementation 'io.openharmony.tpc.thirdlib:EventBus:1.0.0'`.
- Notifications:** A message at the top of the editor states: "Gradle files have changed since last project sync. A project sync may be necessary for the IDE to work properly."

在代码中导入eventbus相关功能类后，直接调用对应的功能接口



FileEditViewNavigateCodeAnalyzeRefactorBuildRunHiCodeToolsVCSWindowHelp

EventBusDemo - build.gradle (EventBusPerformance)

EventBusDemo

Project

EventBusDemo

build.gradle (EventBusPerformance)

TestSetupSlice.java

Test.java

TestApplication.java

TestEvent.java

TestRunnerSlice.j

Remote Device

P40

00:24:40

build.gradle (EventBusPerformance)

```
1  apply plugin: 'com.huawei.ohos.hap'
2  ohos {
3      compileSdkVersion 5
4      defaultConfig { DefaultConfigOptions it ->
5          compatibleSdkVersion 5
6      }
7  }
8
9  dependencies {
10     // 从maven中心仓导入依赖的EventBus包
11     implementation 'io.openharmony.tpc.thirdlib:EventBus:1.0.0'
12     testCompile 'junit:junit:4.12'
13 }
14
```

dependencies()

Build: Sync Build Output Build Analyzer

EventBusDemo: finished at 2021/4/16 12:12 1 s 398 ms

> Configure project :EventBusPerformance
Configuration 'testCompile' is obsolete and has been replaced with 'testImplementation'.

BUILD SUCCESSFUL in 709ms

Event Log

12:04 The IDE modules below were removed by the Gradle project reload:
EventBusTestJava

You can [open dialog](#) to select the ones you need to restore.

12:08 Gradle sync started

12:08 Gradle sync failed: Sync issues found (2 s 318 ms)

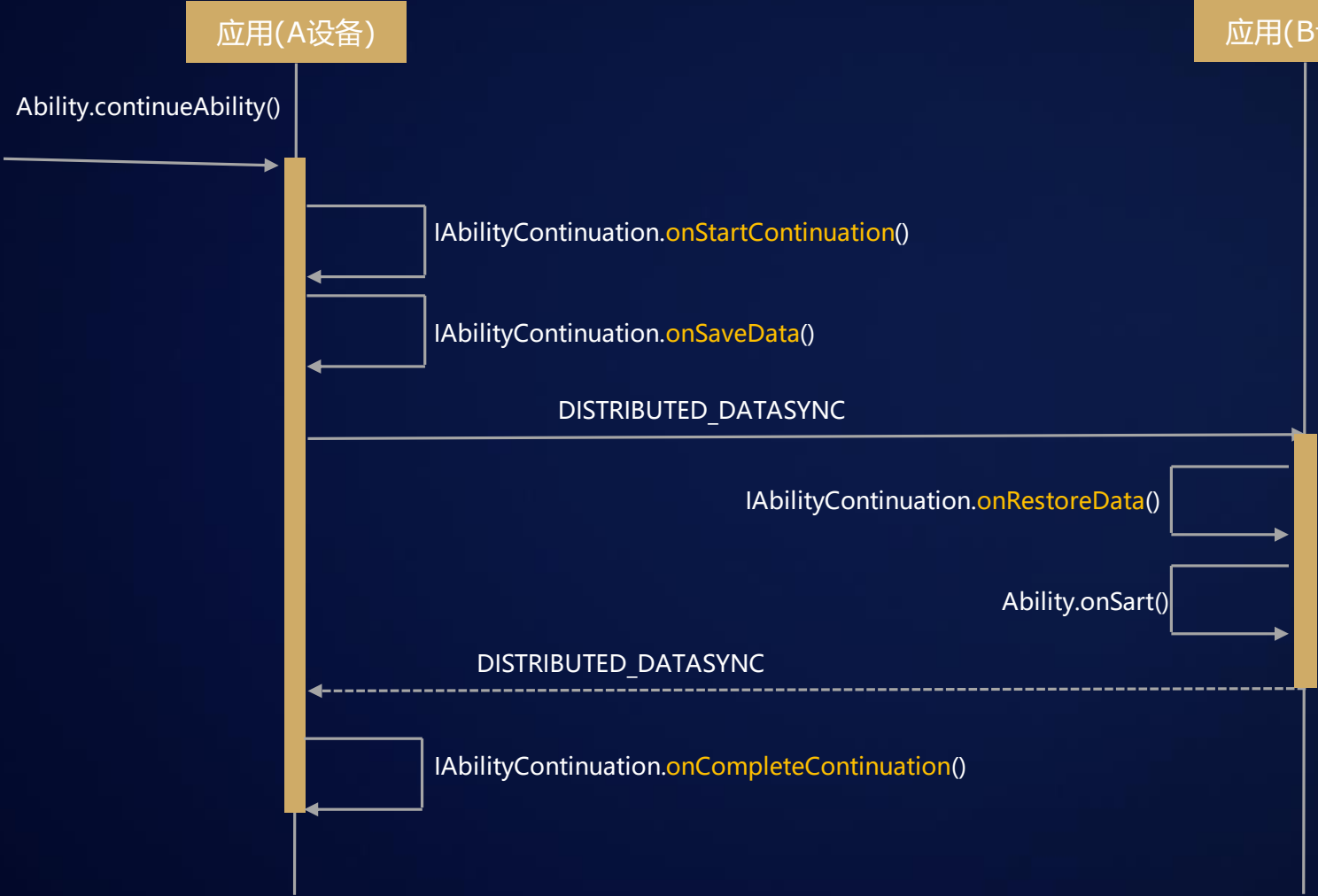
12:12 Gradle sync started

12:12 Gradle sync finished in 1 s 400 ms

4: Run 6: Problems 9: Git + Gradle View CheckStyle Terminal CodeCheck CodeReview HiLog Build Statistic TODO

Gradle sync finished in 1 s 400 ms (13 minutes ago)

HarmonyOS多设备的流转



Ability: 是 HarmonyOS 应用程序可以提供的功能的抽象

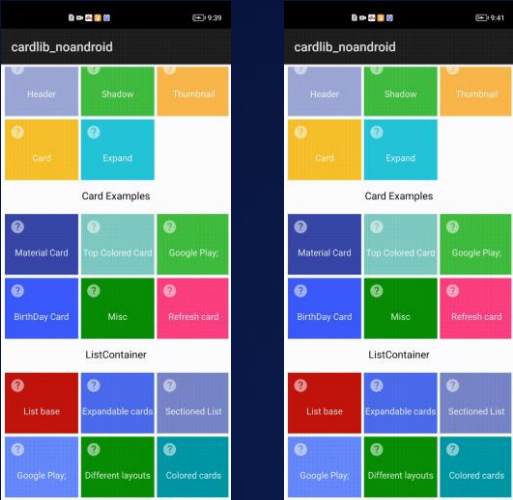
IAbilityContinuation: 启用在分布式系统中实施迁移的 Ability

其它开源组件库Demo效果展示

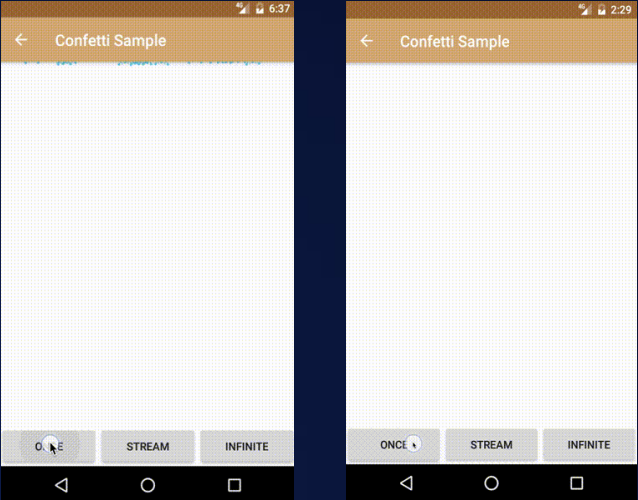
BezierMaker 简单的贝赛尔曲线绘制方法



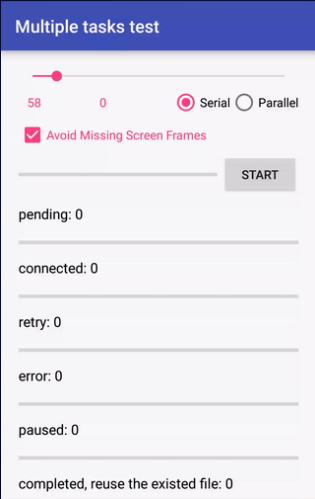
cardslib 卡片式布局库



confetti 模仿雪花飘落的动画



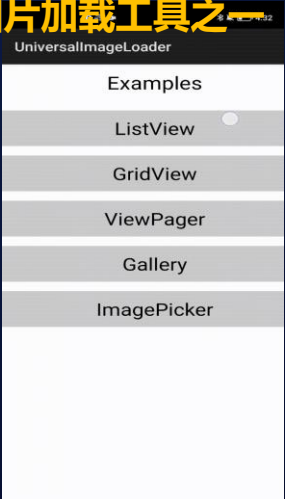
FileDownloader 文件下载库



FlycoTabLayout 自定义TabLayout组件



ohos-Universal-Image-Loader 常用图片加载工具之一



开源组件库获取路径

Gitee 开源链接:

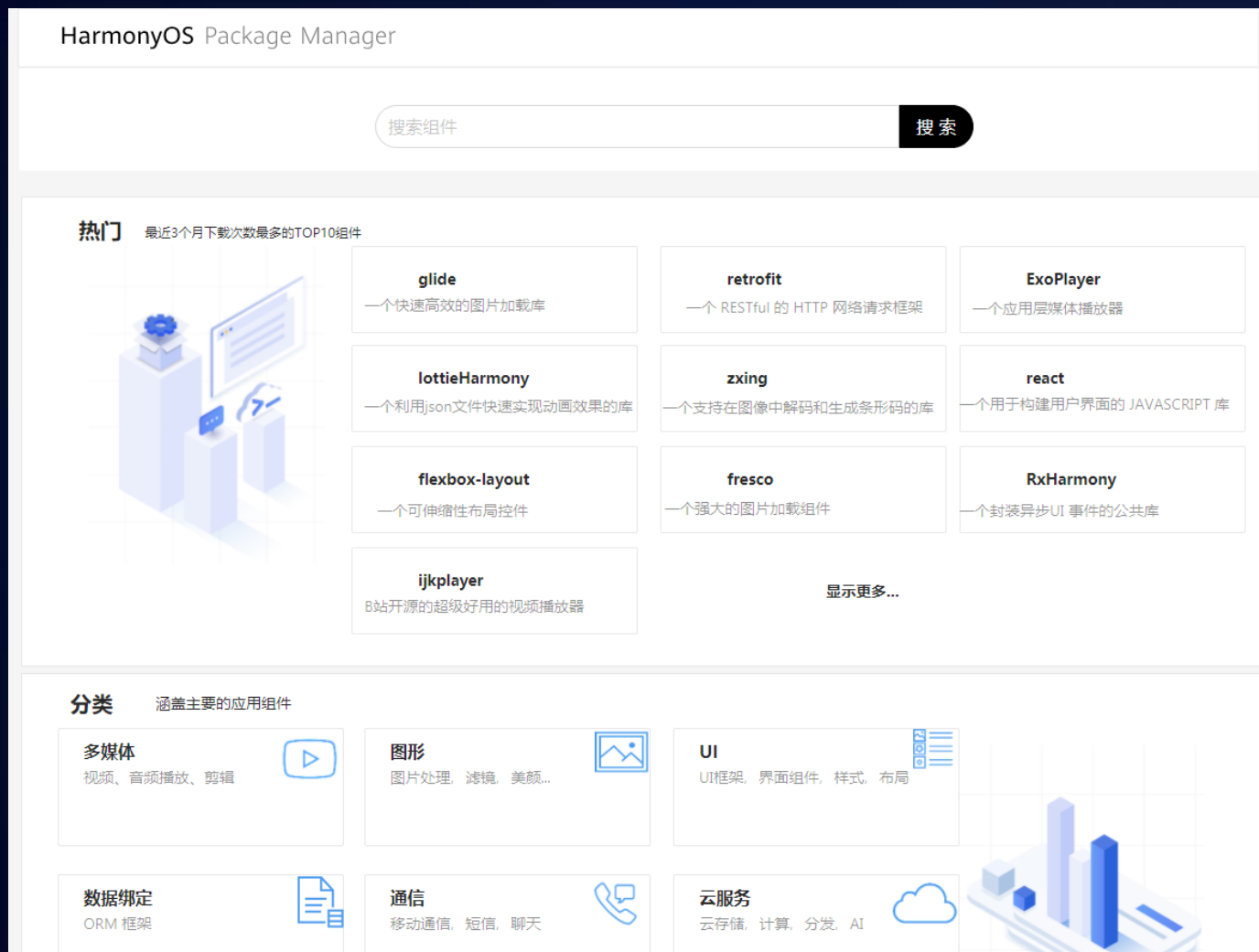
<https://gitee.com/openharmony-tpc>



开发者联盟开源组件库详情



Har包管理平台供开发者统一获取HarmonyOS开源组件二进制



<https://hpm.harmonyos.com/hapm/>