Kotlin 中文开发者大会

回顾 2023 及 Kotlin Multiplatform 最新信息

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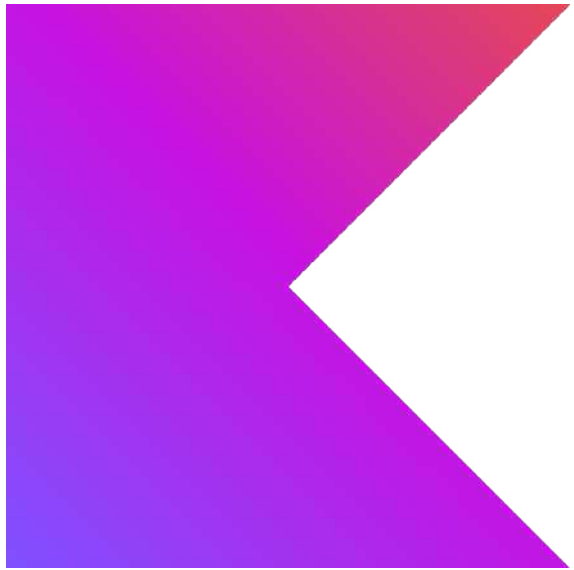
Kotlin 编程语言

- 2011 年由 JetBrains 团队发布
- 通用型、多用途语言
- 静态类型
- 面向对象 (OOP) + 函数式 (FP)
- 以 Apache 2.0 开源



Kotlin 发布周期


Months
0
1
2
3
4
5
6
Feature
Feature
Incremental
Incremental
Bug fix (if needed)
Feature release
Language changes
(1.4, 1.5)
1.X
Every 6 months
Not ready? Postpone
the feature, not the release.
Incremental release
Tooling improvements
(1.3.70, 1.4.20)
1.X.Y0
Every 2-3 months
in between feature releases
Bug fix release
Bug fixes
(1.3.72)
1.X.YZ
1-2 weeks
After an incremental release
if fixes are needed

v1.9.21

- 适用于所有目标的 K2 现已进入测试版阶段
- 稳定的 Kotlin Multiplatform
- 用于设置多平台项目的新默认层次结构模板
- Kotlin Multiplatform 中全面支持 Gradle 配置缓存
- Kotlin/Native 中默认启用自定义内存分配器
- Kotlin/Native 中垃圾回收器的性能改进
- Kotlin/Wasm 中的新目标和重命名目标，支持最新的 Wasm GC
- Kotlin/Wasm 的标准库中支持 WASI API

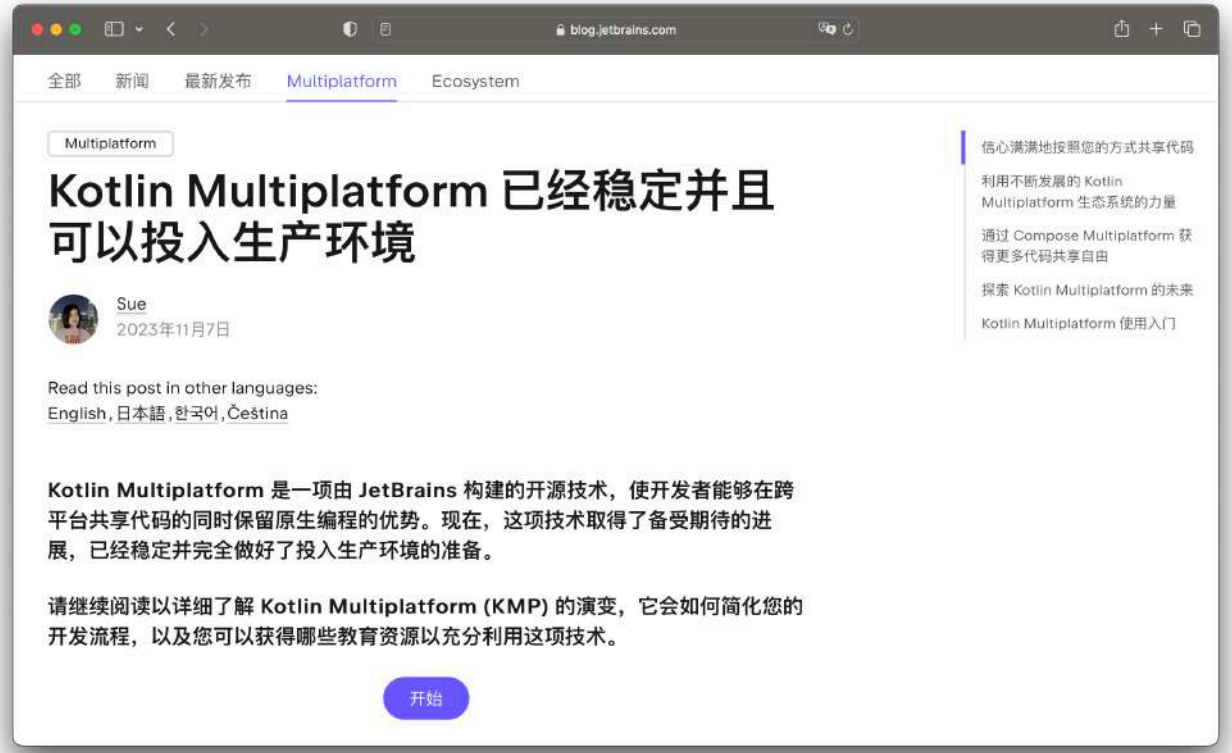
K2 编译器 (Beta)

```
// build.gradle.kts
kotlin {
    sourceSets.all {
        languageSettings {
            languageVersion = "2.0"
        }
    }
}
```

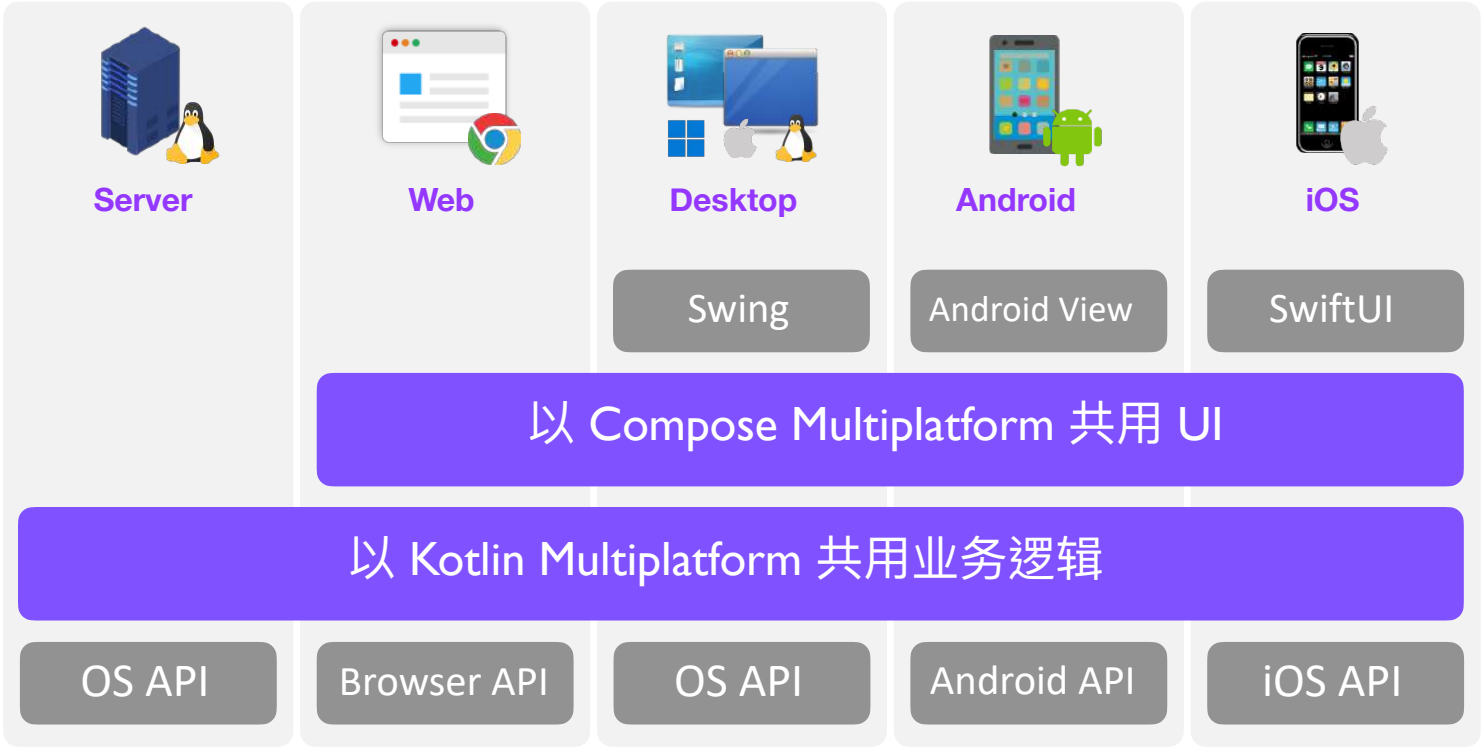
随着 1.9.20 版本的发布，新 K2 编译器已面向所有平台 (包括 JVM、Native、JS 和 Wasm) 进入测试版阶段，现在可以在任何 Kotlin 项目中试用 K2。

Kotlin Multiplatform 已可投入生产环境

博文链接

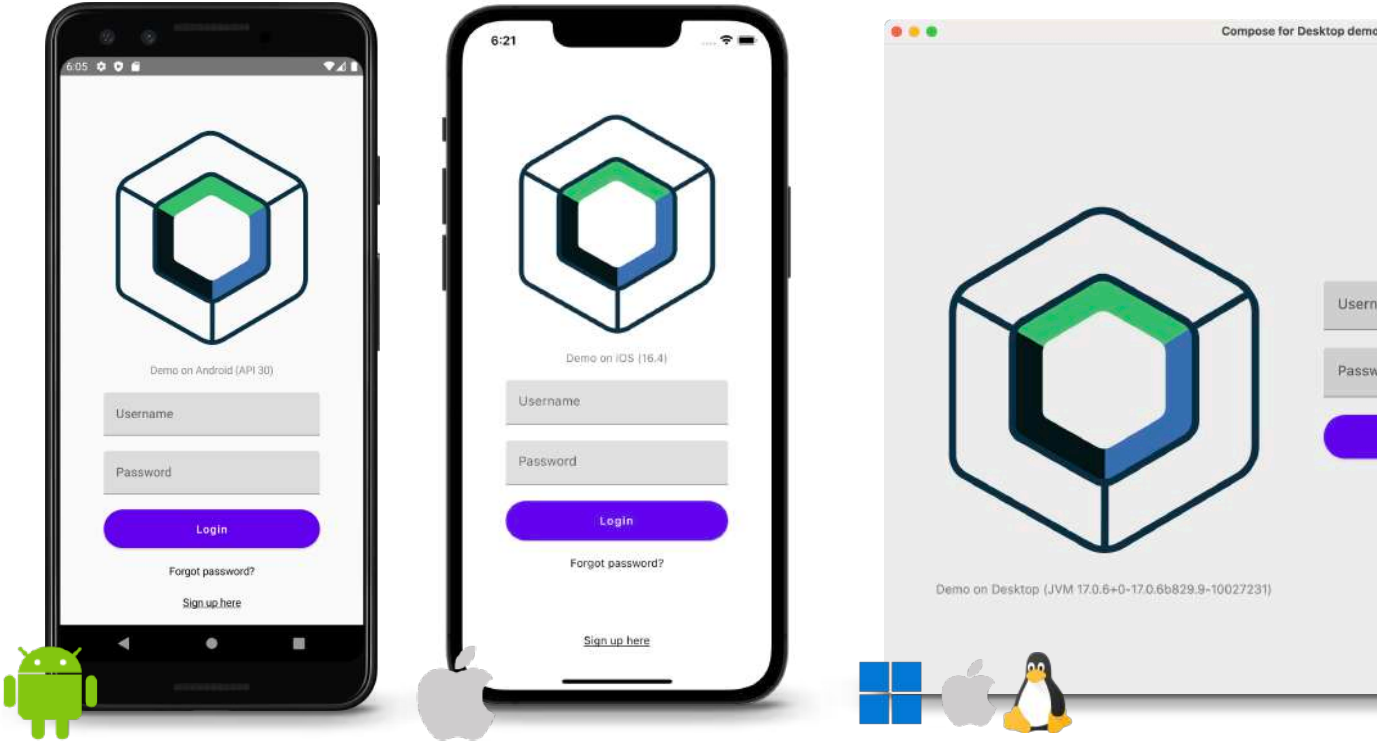


Kotlin Multiplatform 全版图



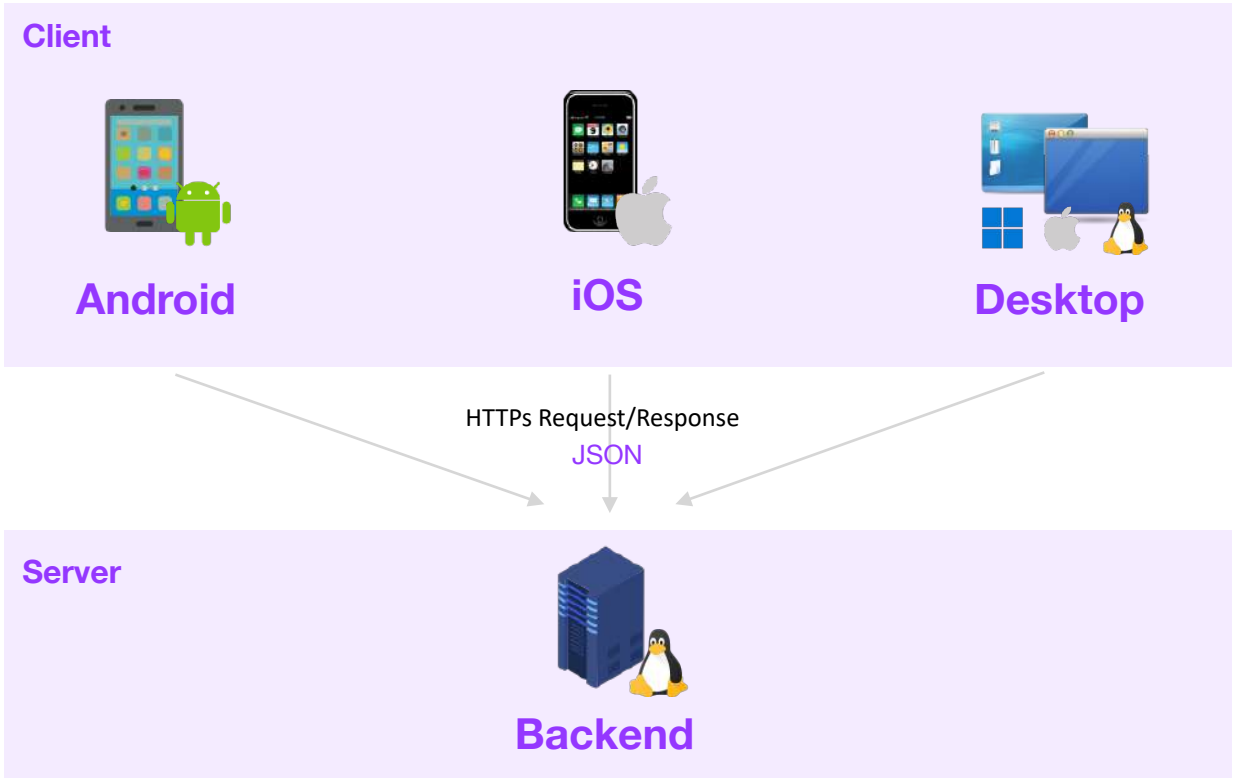
Kotlin Multiplatform 示例

- 集成多平台库
- 多平台共享 UI
- 平台专用 API
- 共用业务罗辑
- 后端 API 服务



4 个平台实现

- Android
- iOS
- Desktop
- Backend API

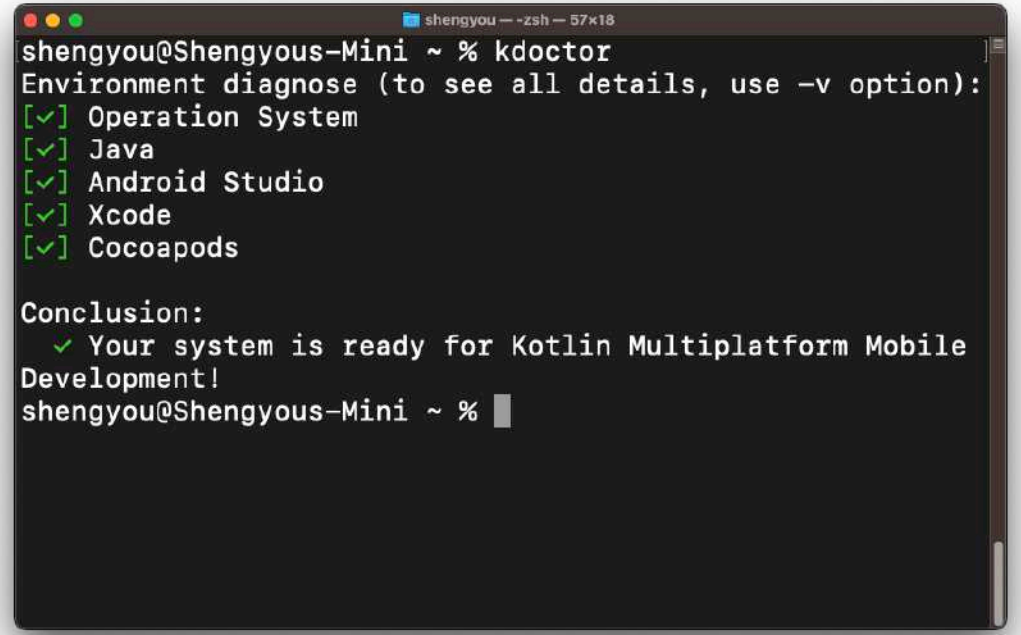


搭建开发环境

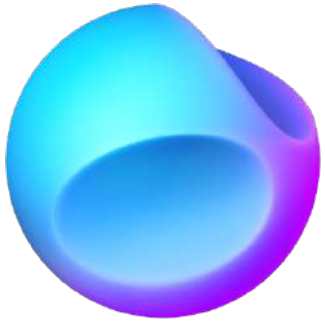
- Mac with macOS
- JDK
- Android Studio
- Xcode (+ SDK)
- Cocoapods

kdoctor 命令工具

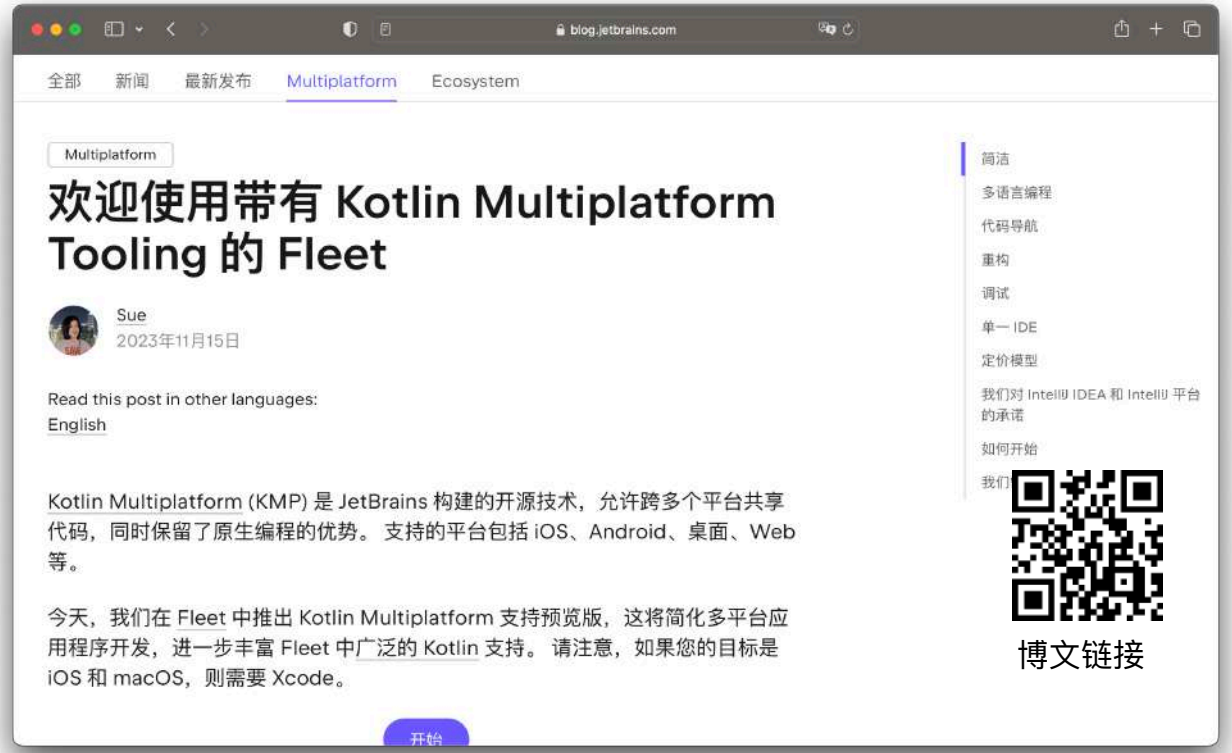
通过 Homebrew 安装 kdoctor，可检查环境是否符合开发 KMP 的需求？



开发工具 - JetBrains Fleet



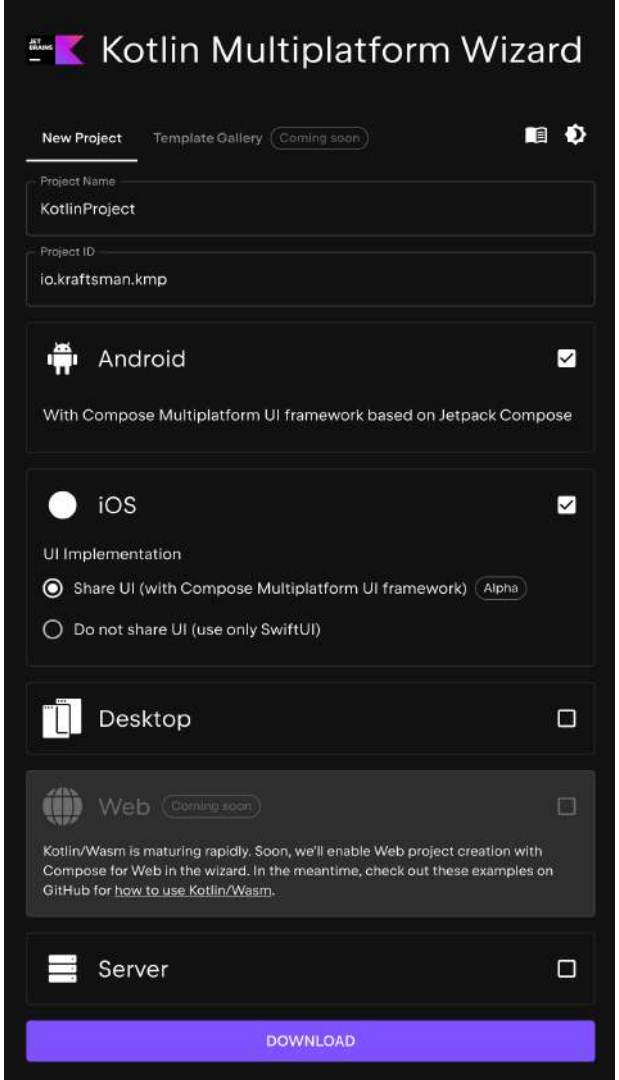
文档链接



博文链接

创建项目

- 开启 Kotlin Multiplatform Wizard
  https://kmp.jetbrains.com
- 选择目标平台
- 下载 Zip 文件
- 解开 Zip 文件
- 以 JetBrains Fleet 开启项目



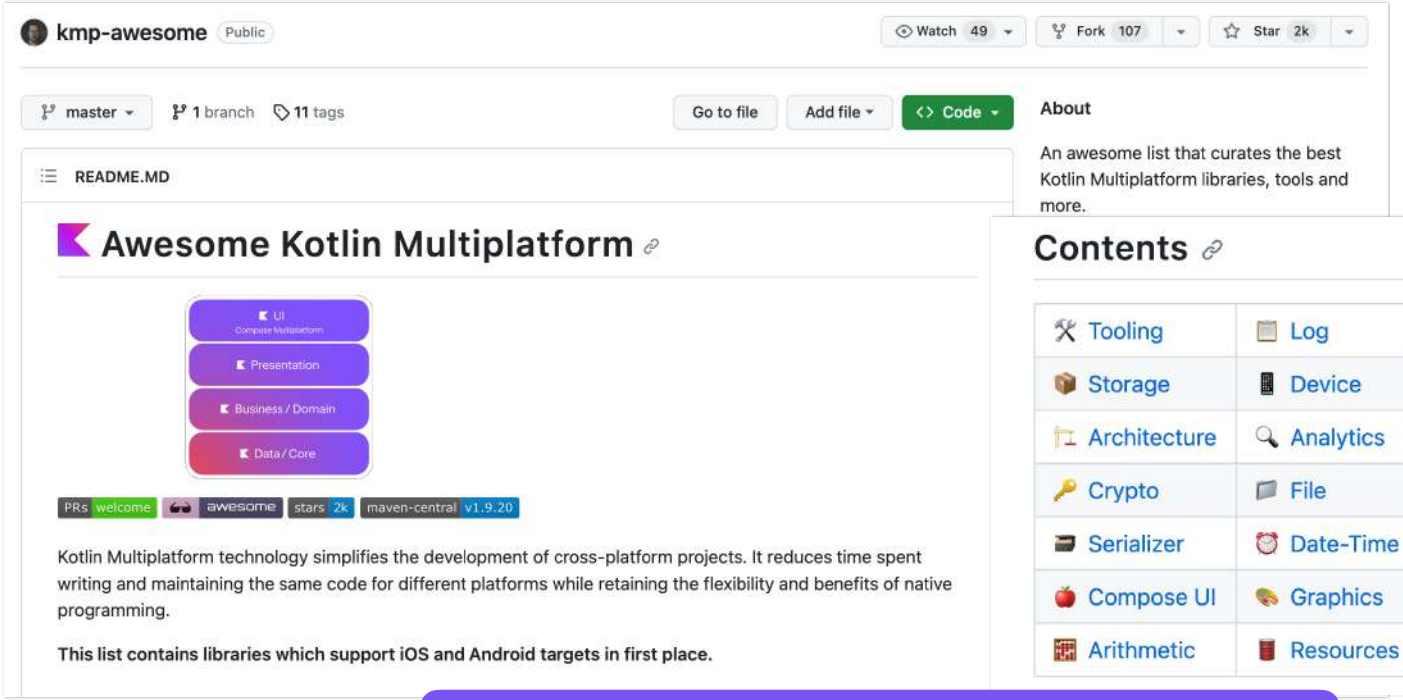
工程结构

- composeApp → Compose 多平台代码
  - commonMain → 多平台共用代码 
  - androidMain → Android 平台专用代码
  - iosMain → iOS 平台专用代码
  - desktopMain → JVM/Desktop 平台专用代码
- iosApp → iOS 主程序进入点
- server → 后端 API 代码

集成 Kotlin Multiplatform 库

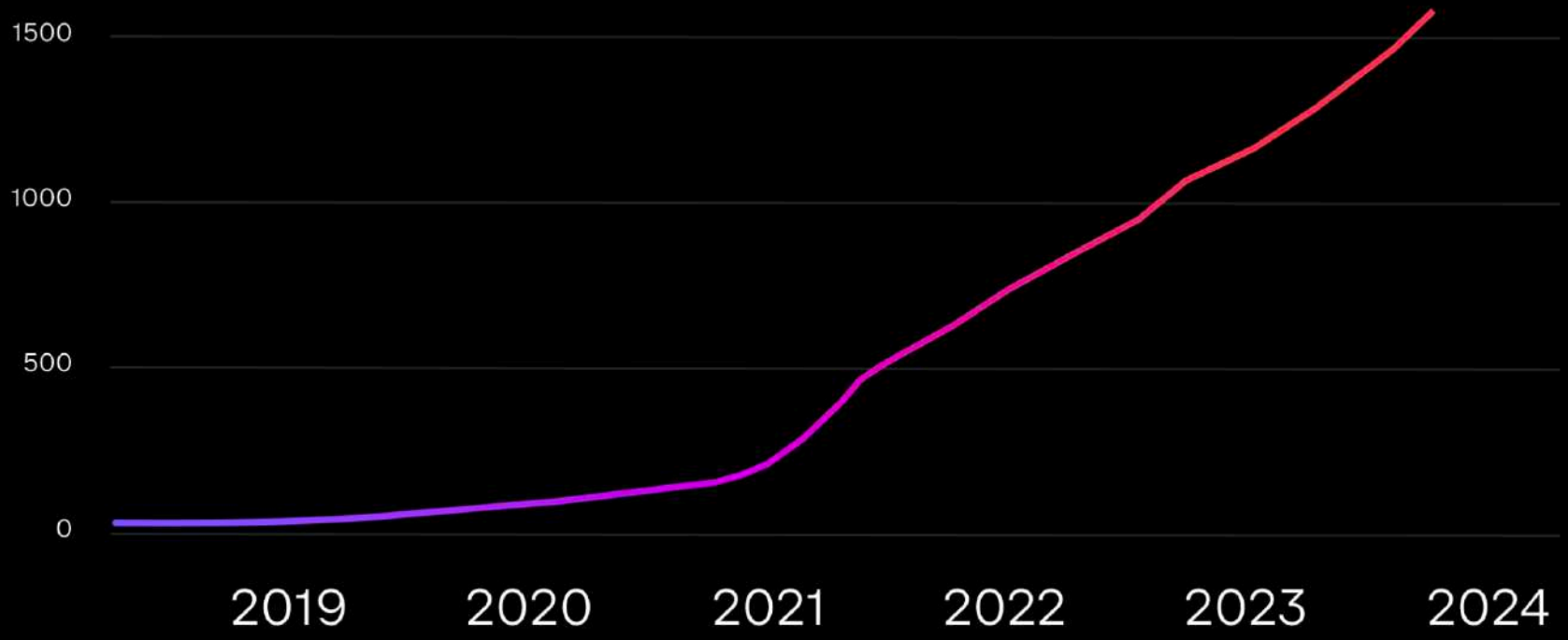
- Ktor - HTTP Client
- kotlinx.serialization - JSON serialization/deserialization
- kotlinx.coroutines - Coroutine
- Voyager - Navigation、ViewModel
- Kamel - Asynchronous Media Loading

多平台生态



github.com/terrakok/kmp-awesome

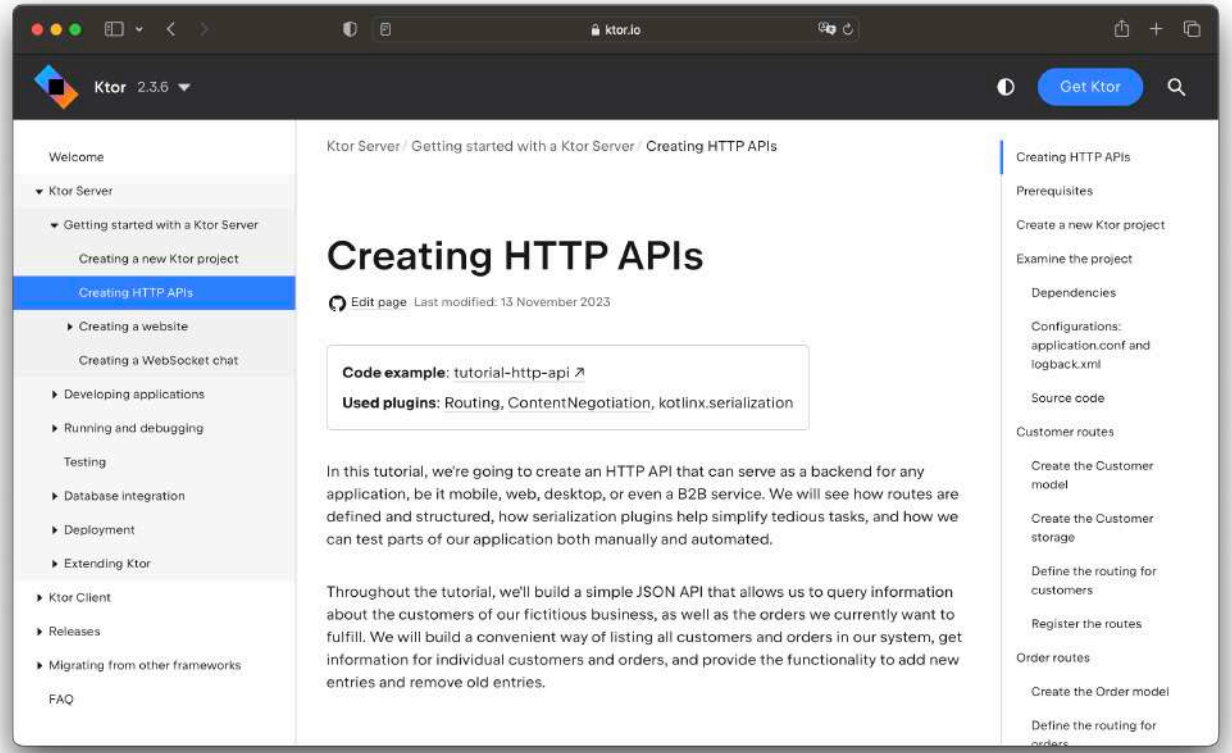
逐年成长的多平台库



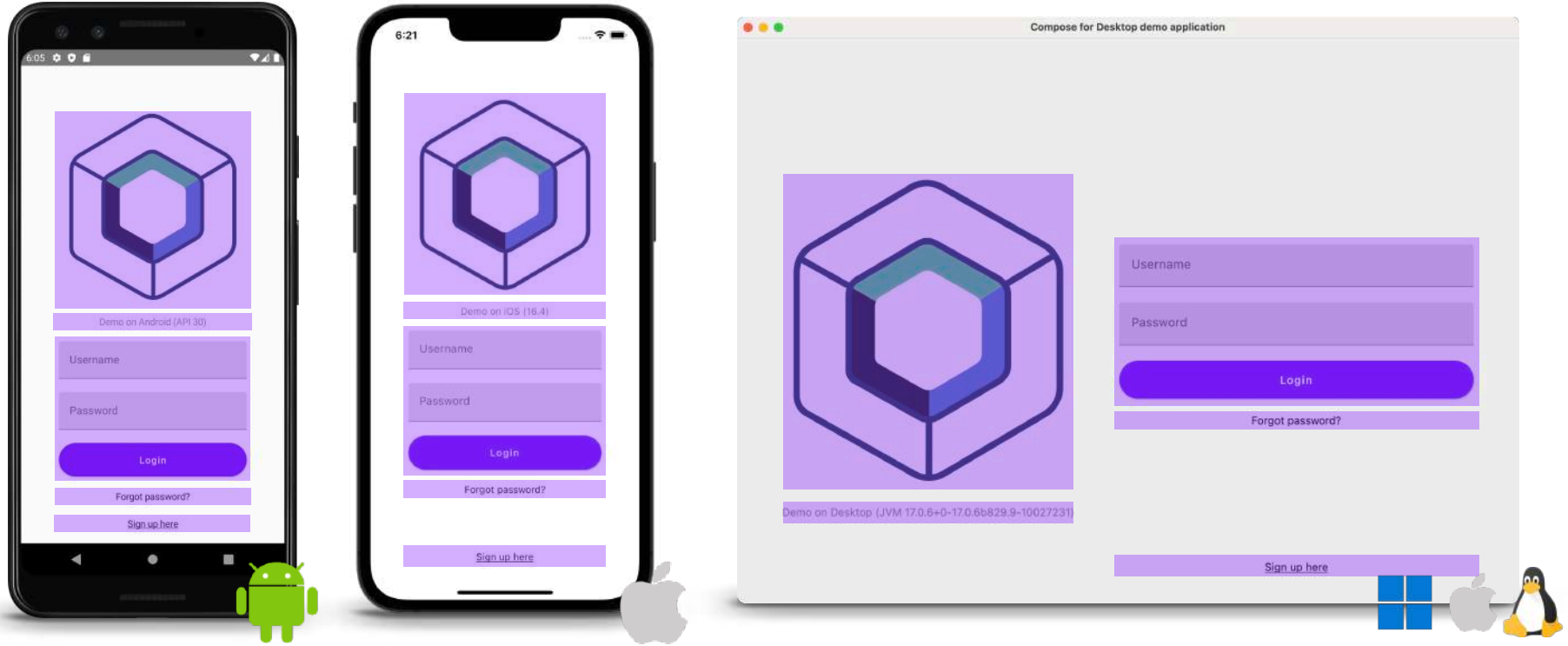
Ktor 后端实现

- 语法简单易学
- 轻量 Web 框架
- 支持 Async

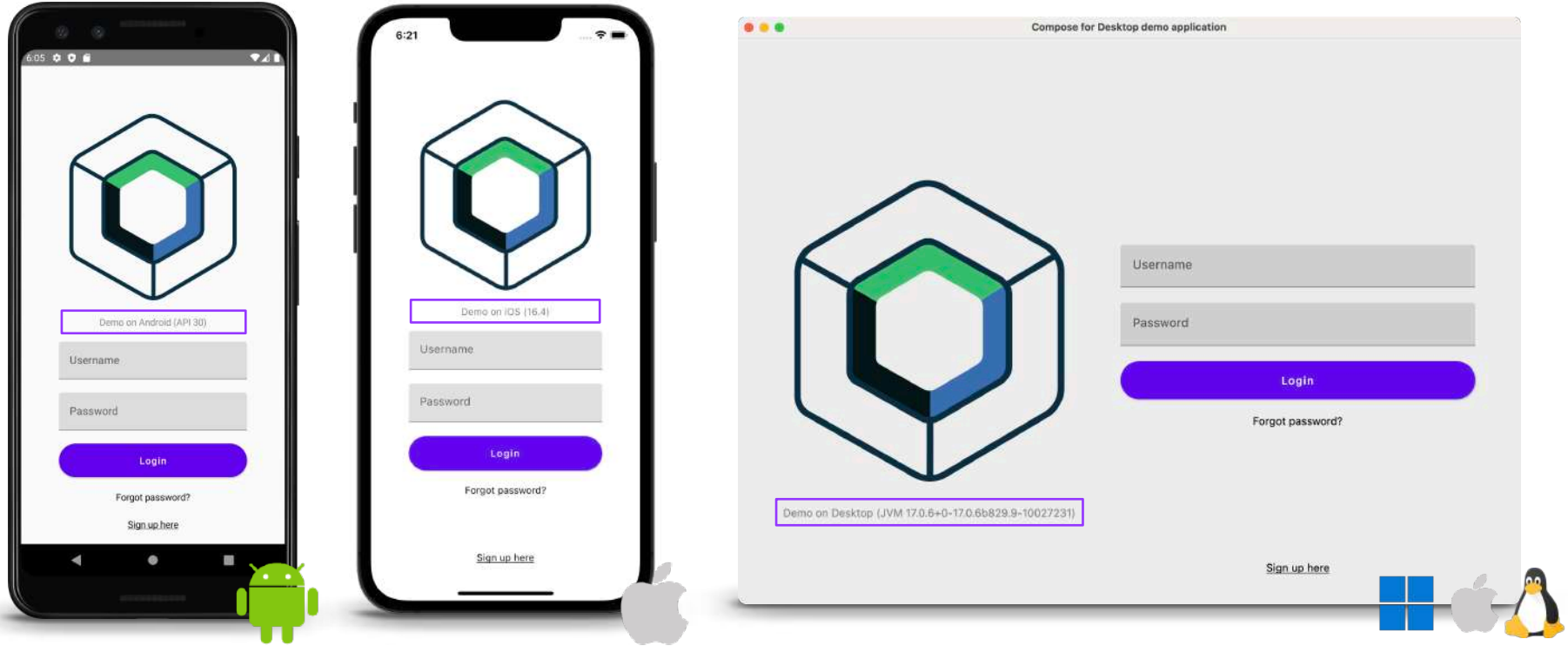
文档链接



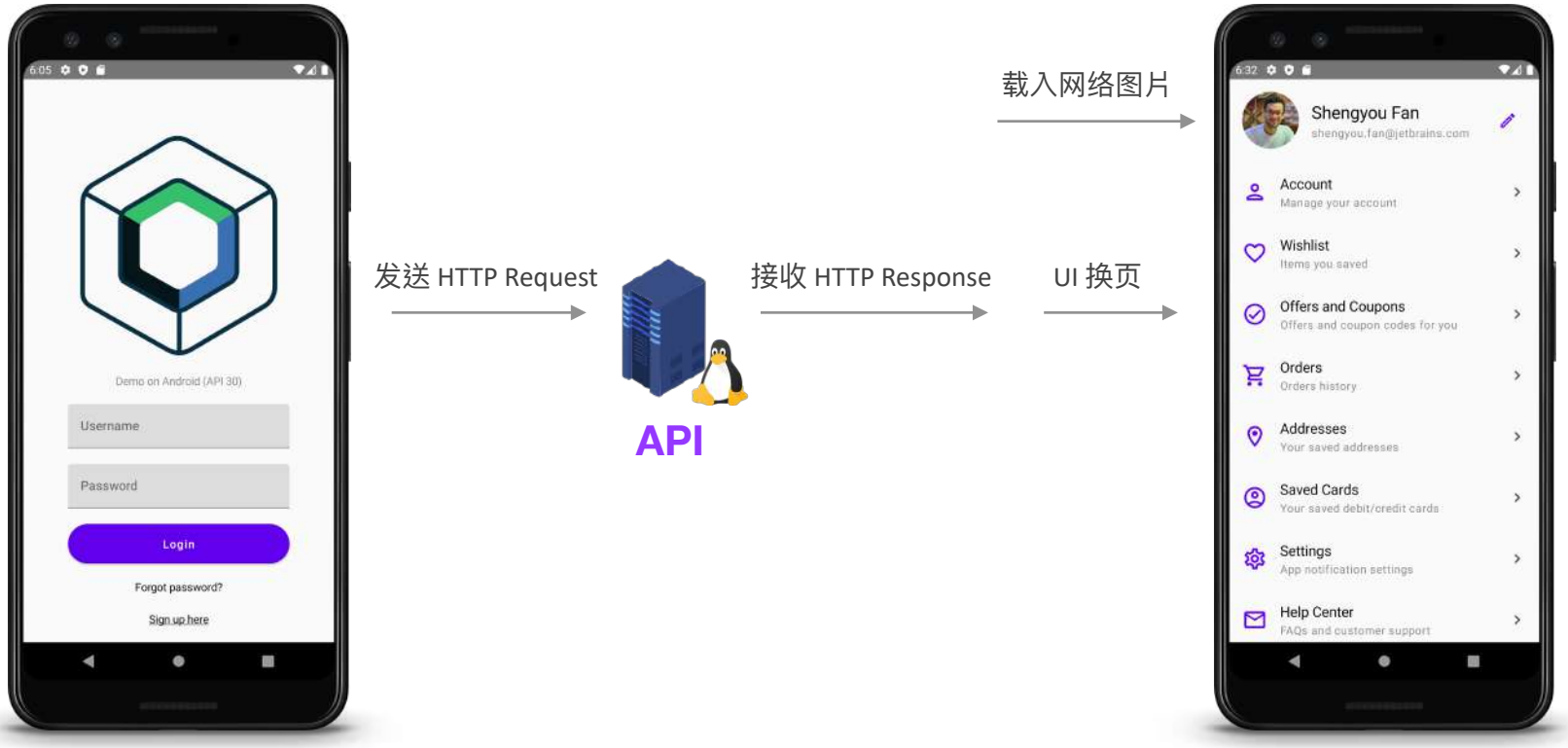
多平台间共用 UI

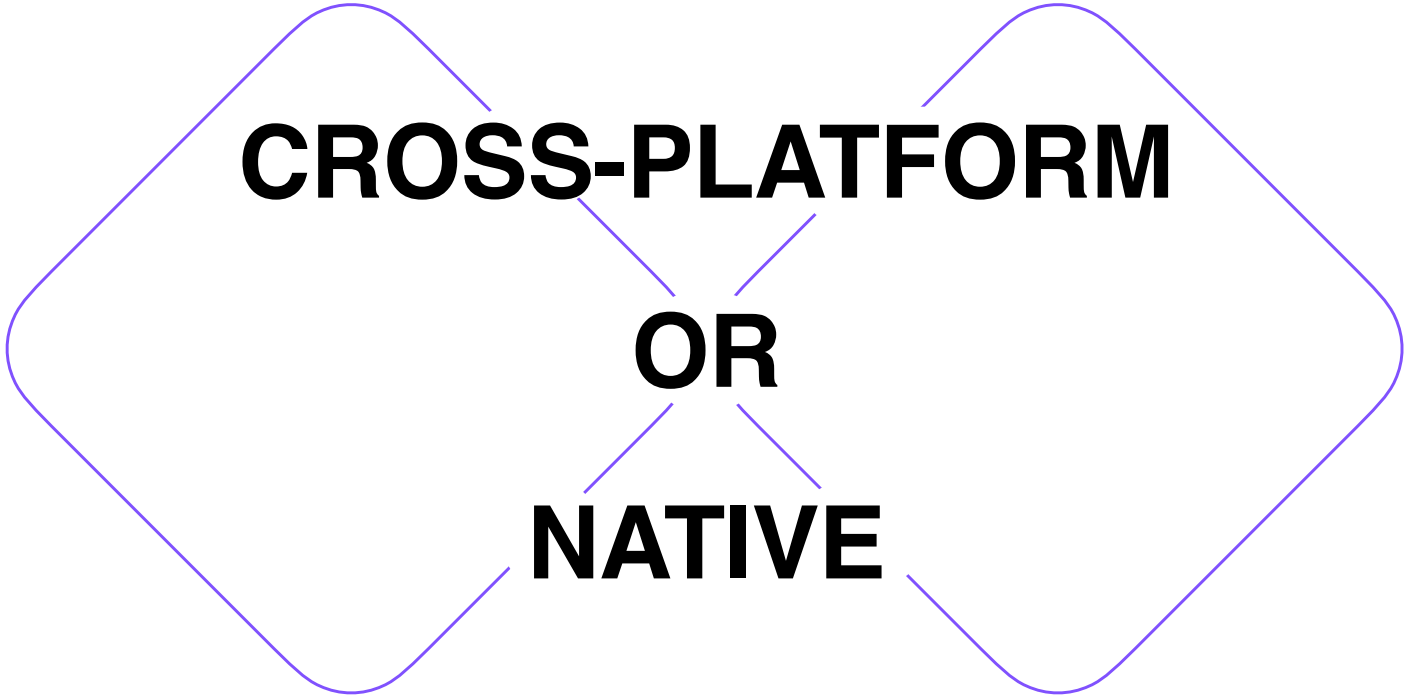

6:05
Demo on Android (API 30)
Username
Password
Login
Forgot password?
Sign up here
6:21
Demo on iOS (16.4)
Username
Password
Login
Forgot password?
Sign up here
Compose for Desktop demo application
Demo on Desktop (JVM 17.0.6+0-17.0.6b829.9-10027231)
Username
Password
Login
Forgot password?
Sign up here

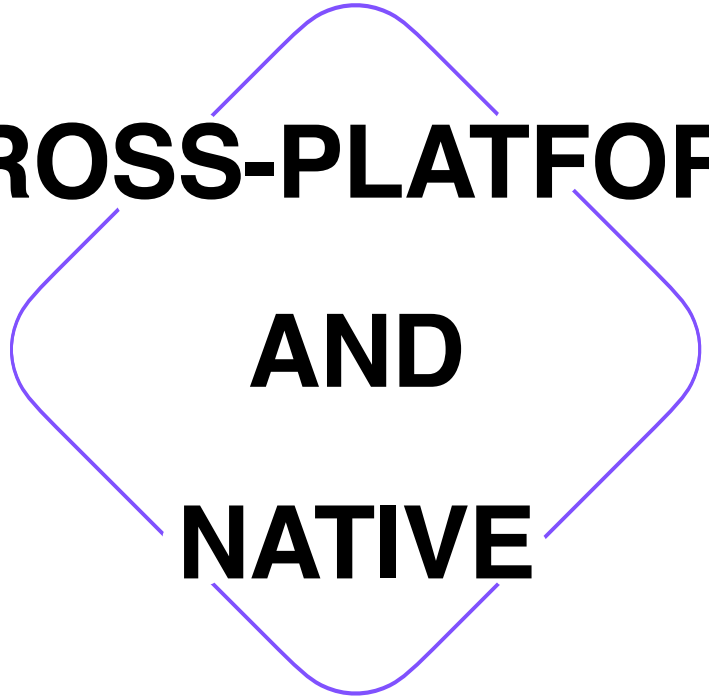
平台专用 API


6:05
Demo on Android (API 30)
Username
Password
Login
Forgot password?
Sign up here
6:21
Demo on iOS (16.4)
Username
Password
Login
Forgot password?
Sign up here
Compose for Desktop demo application
Demo on Desktop (JVM 17.0.6+0-17.0.6b829.9-10027231)
Username
Password
Login
Forgot password?
Sign up here

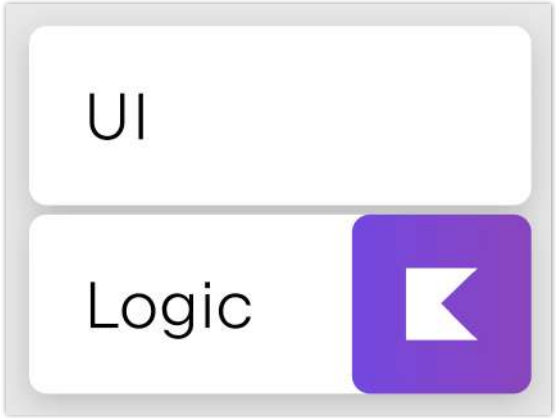
共用业务逻辑

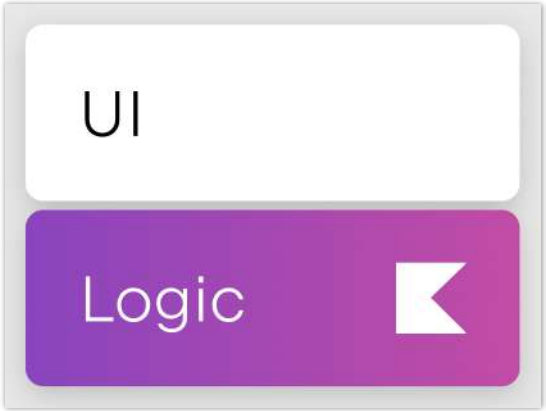

Demo on Android (API 30)
Username
Password
Login
Forgot password?
Sign up here
发送 HTTP Request
API
接收 HTTP Response
UI 换页
载入网络图片
Shengyou Fan
shengyou.fan@jetbrains.com
Account
Manage your account
Wishlist
Items you saved
Offers and Coupons
Offers and coupon codes for you
Orders
Orders history
Addresses
Your saved addresses
Saved Cards
Your saved debit/credit cards
Settings
App notification settings
Help Center
FAQs and customer support

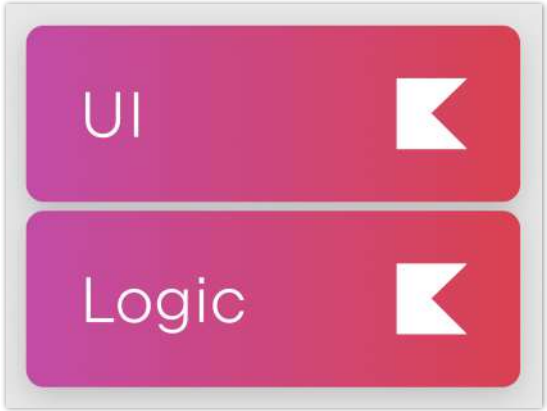

CROSS-PLATFORM
OR
NATIVE


CROSS-PLATFORM
AND
NATIVE

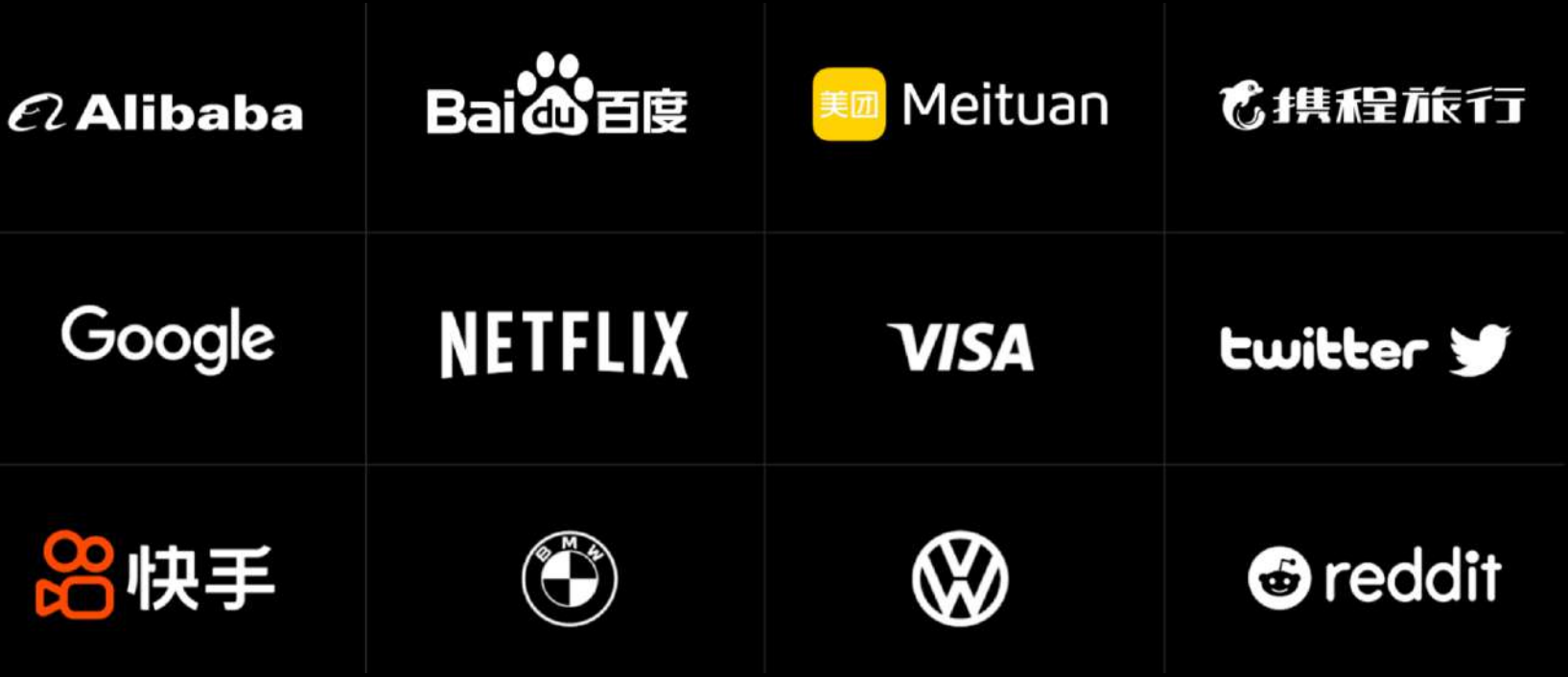
依需求决定共享代码的比例





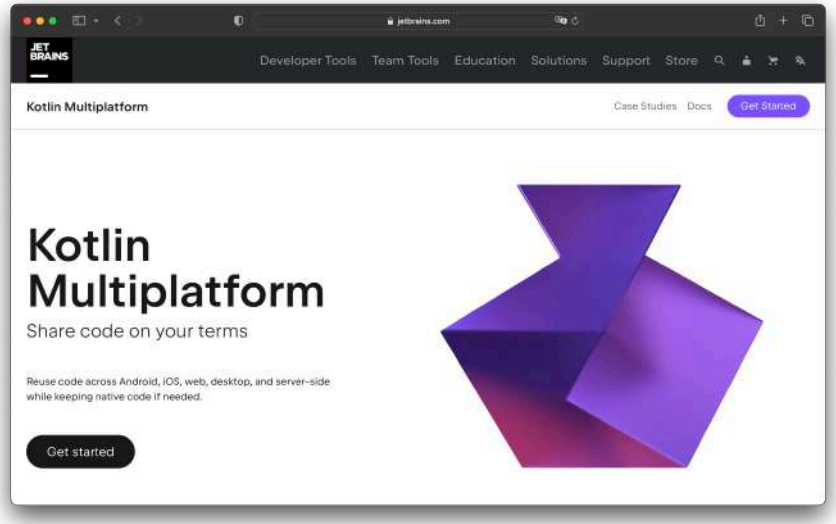


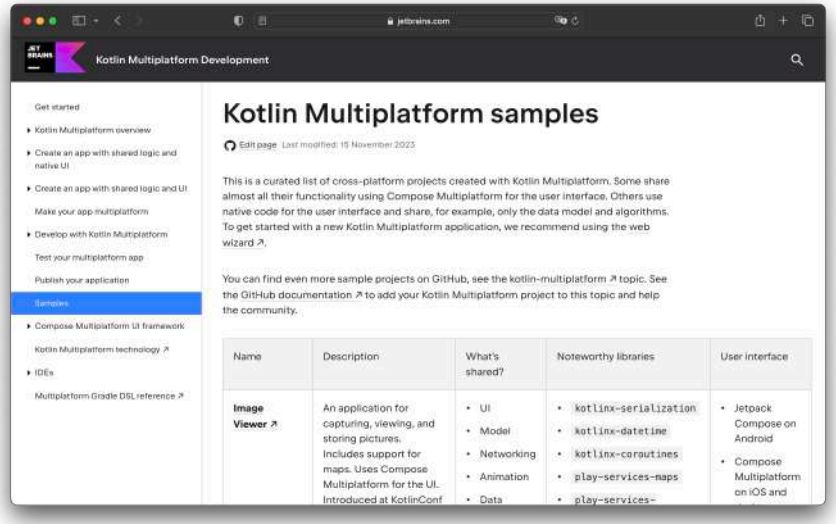
采用 Kotlin Multiplatform 的企业



kotl.in/kmp-case-studies

Kotlin Multiplatform 学习材料

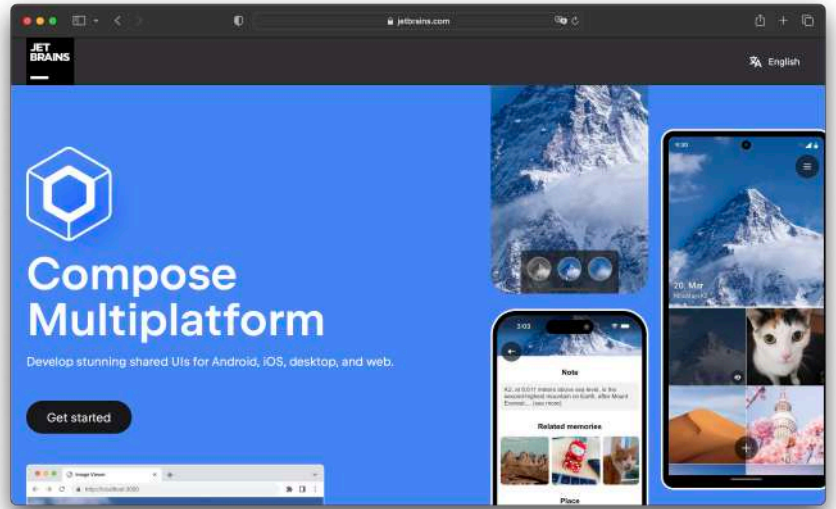




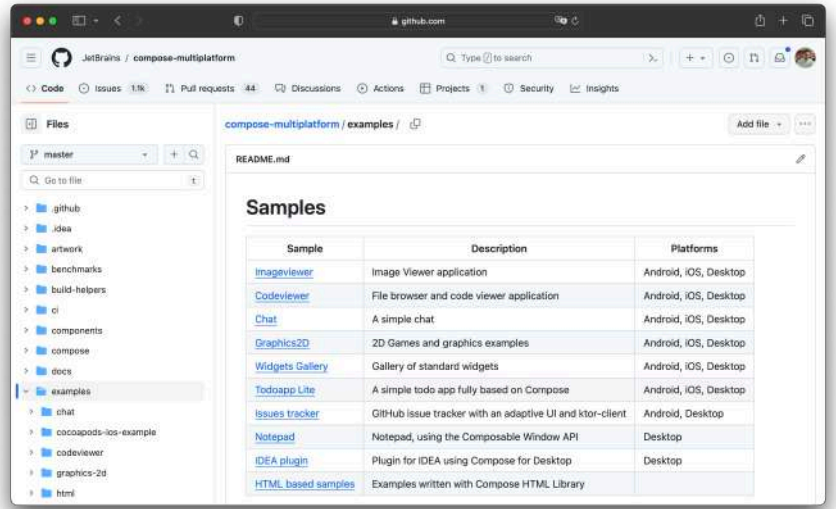
Kotlin Multiplatform 官方页面

Kotlin Multiplatform 演示项目集

Compose Multiplatform 学习材料



Compose Multiplatform 官方页面



Compose Multiplatform 官方示例

Kotlin 炉边漫谈播客 - 收听 KMP 企业实例

#5 手机开发编年史 (携程)

#8 来自阿里巴巴及美团的
Kotlin Multiplatform 应用实例

✍️投稿你的 KMP 案例

KOTLINCONF 2024

COPENHAGEN

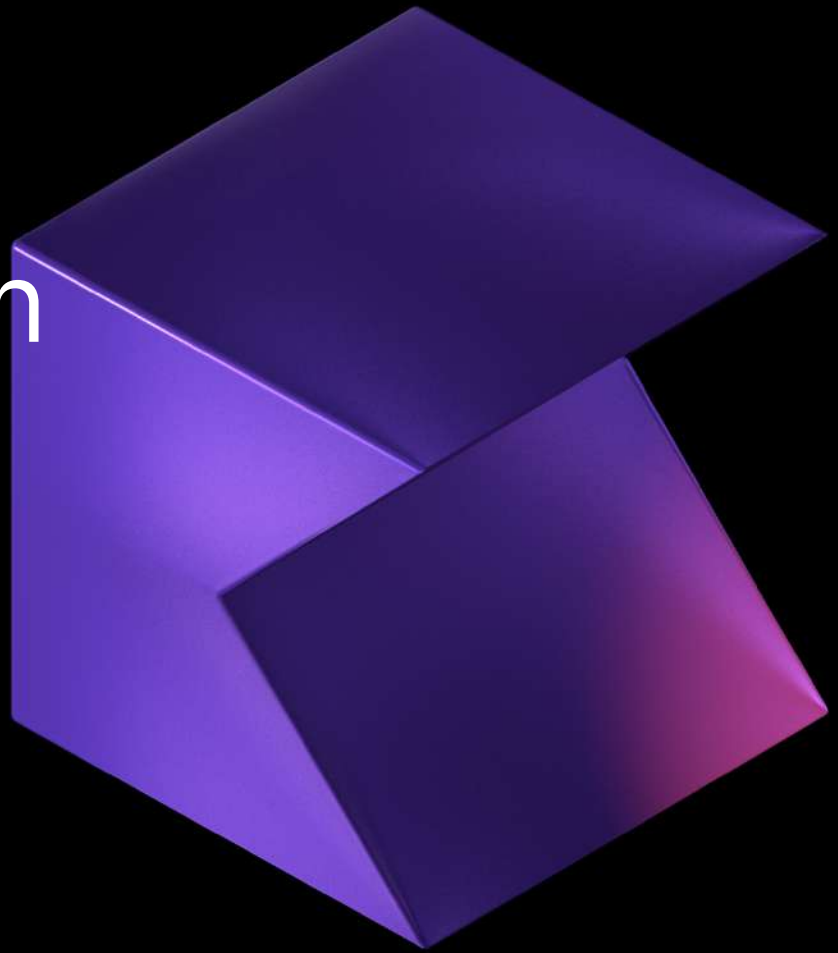
kotl.in/cfp-2024

给 Swifties/iOS 开发者的 KMP 指南

JetBrains 布道师 Pamela Hill
跟大家介绍 Kotlin 与 Swift 间的互操作技巧

Kotlin 中文开发者大会

Have a nice Kotlin
谢谢参与



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