Agenda

- How to start? 🤔
- Step by step 🪜
- Deploy internally 🐛
- Automatization 🤖
- Release 🎉
- What to do now? 🛠️
- Q&A 🙋‍♀️🙋

Publishing is the general process that makes your Android application available to users.

Two simple steps

1. Prepare the application for the release 🛠️

2. Release the application to the users 🎉

Is it really? 🤔

How to start?

- How should I build the app ready for release?
- Usually I run the app in Android Studio, where to find the file needed to upload.
- I have two options "**build**" and "**build signed**". What is the difference?
- I have two options **APK** and **AAB**? What to choose?
- Did I tested it enough? Does it work on multiple devices, Android versions or screen resolutions?
- Can I deploy it to my friends, or family before release?
- How can I monitor the performance and issues if they occur?
- Can I deploy it for free?

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Step by step 🪜

Prepare for the release

1. Choose an **application ID** that is suitable over the life of your app - You can't change the application ID after you distribute your app to users.
2. **Turn off debugging**, **logging** and **clean up** project directories for the files that are not being used.
3. Review **AndroidManifest.xml.** Only add required permissions for your app.
4. Set up `android:icon` and `android:label`
5. Prepare **production server** and resources
6. **Version** the application

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Prepare for the release

Versions

- **versionCode** - like name suggests, version code, must be greater than last one for the updates
- **versionName** - version name - Semantic versioning (SEMVER) major.minor.patch
- **compileSdk** - the version of the API the app is compiled against
- **targetSdk** - a certification or sign off you are giving the Android OS as a hint to how it should handle your app in terms of OS features.
- **minSdk** - minimum OS version to run the app

```
minSdkVersion <= targetSdkVersion <= compileSdkVersion
```

```groovy
android {
    namespace 'com.demo.ada.deployment'
    compileSdk 35
    ...

    defaultConfig {
        minSdk 30
        targetSdk 35
        versionCode 1
        versionName "1.0.0"
    ...
    }
    buildTypes {
      release {
        isDebuggable = false
        ...
      }
      debug {
        isDebuggable = true
        ...
      }
    }
```

Build the application

.apk vs .aab

- **AAB** (Android App Bundle)
  - publishing format
  - optimized APKs for each user's device configuration
  - smaller and more optimized downloads

- **APK** (Android Application Package)
  - packaging format which will be installed on the device

Build the application

.apk vs .aab

I've built my application with option: "**Build APK(s)**" but installation fails on the device, what to do?

- It works on my computer

- Yes, but we are not going to give your computer to the client

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Android requires that all APKs are digitally signed with a certificate before they are installed on a device or updated
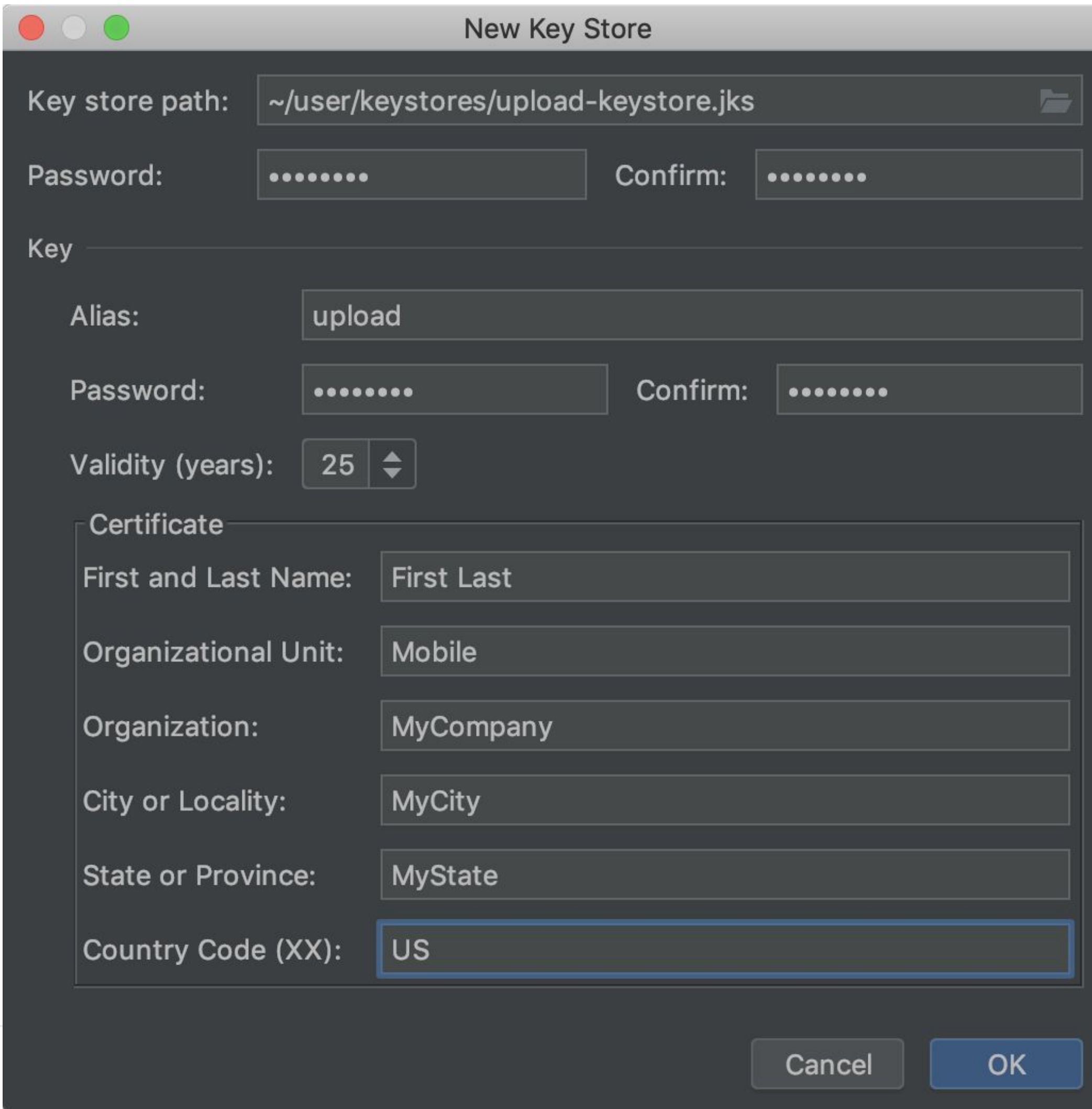

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Signing the application

Unsigned vs Signed Application

- **Unsigned App**
  - Only the Developer has unsigned APK.
  - Generated when we are testing our app.
  - Actually signed by debugging key.

- **Signed App**
  - Signed with your own key which is guarded by you.
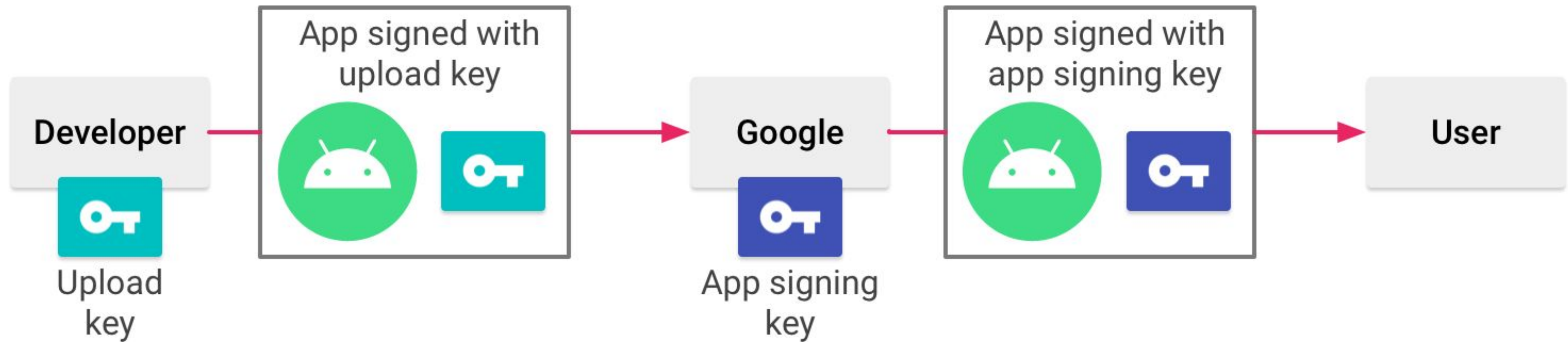 - Generated when we are releasing the App.

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Sign the application

Developer → App signed with upload key → **Google** → App signed with app signing key → **User**

Upload key

App signing key
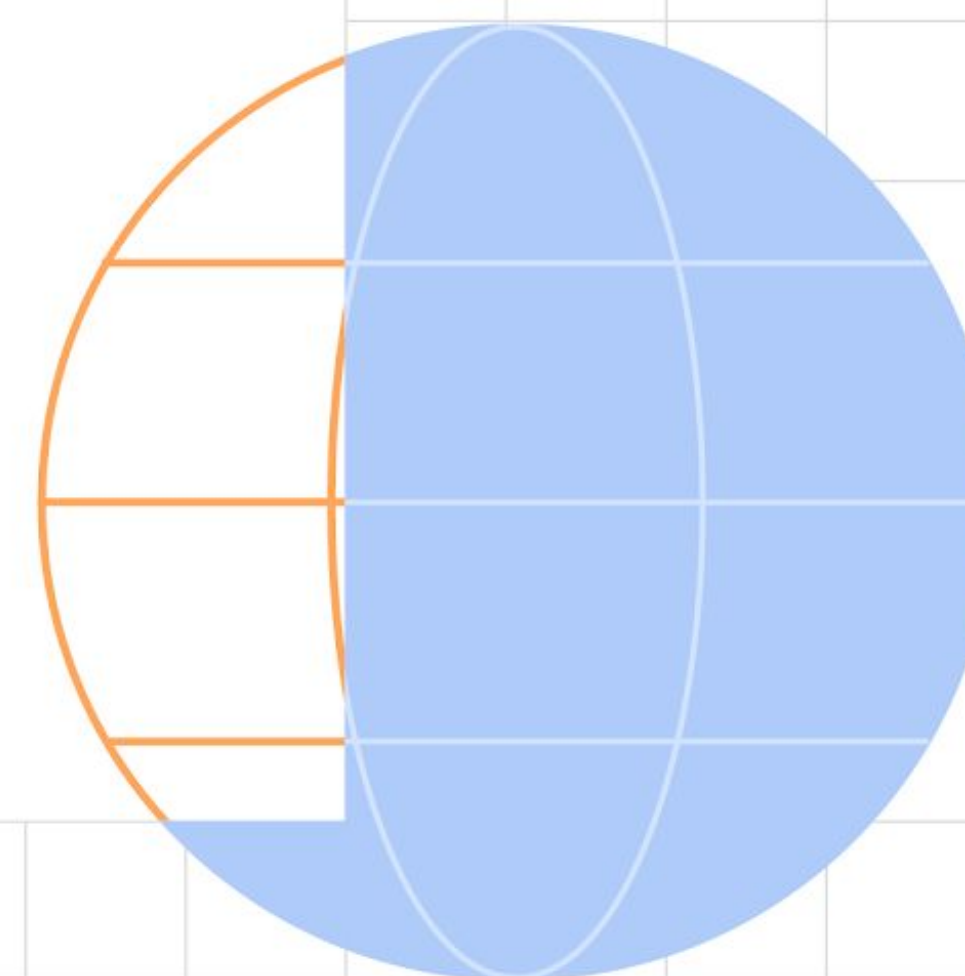
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Deploy internally

Firebase

Firebase App Distribution

Distribute pre-release versions of your apps to your trusted testers

Firebase App Distribution

Benefits

- It's easy for QA to switch to previous releases
  - versionCode doesn't need to increment
- Instant availability
- Testing
  - Firebase App Distribution
  - Device Lab
  - AppTester app
- Monitoring and logs
  - Firebase Crashlytics
- Alerts when new build is ready
- Easier to automate
- Manage multiple environments (flavors)
- Package name is changeable (if app is not yet on Google Play)

Firebase App Distribution

You've been invited to test:

A

ADA_Deployment

com.demo.ada.deployment

Developer contact:
goran.luketic.dev@gmail.com

How to start testing:

1 Open this email on your mobile device

2 Using your Google account, accept the **ADA_Deployment** invitation

[Get started]

3 Enable installations from unknown sources

4 Use Firebase App Distribution to download **ADA_Deployment**

5 Start testing!

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Demo
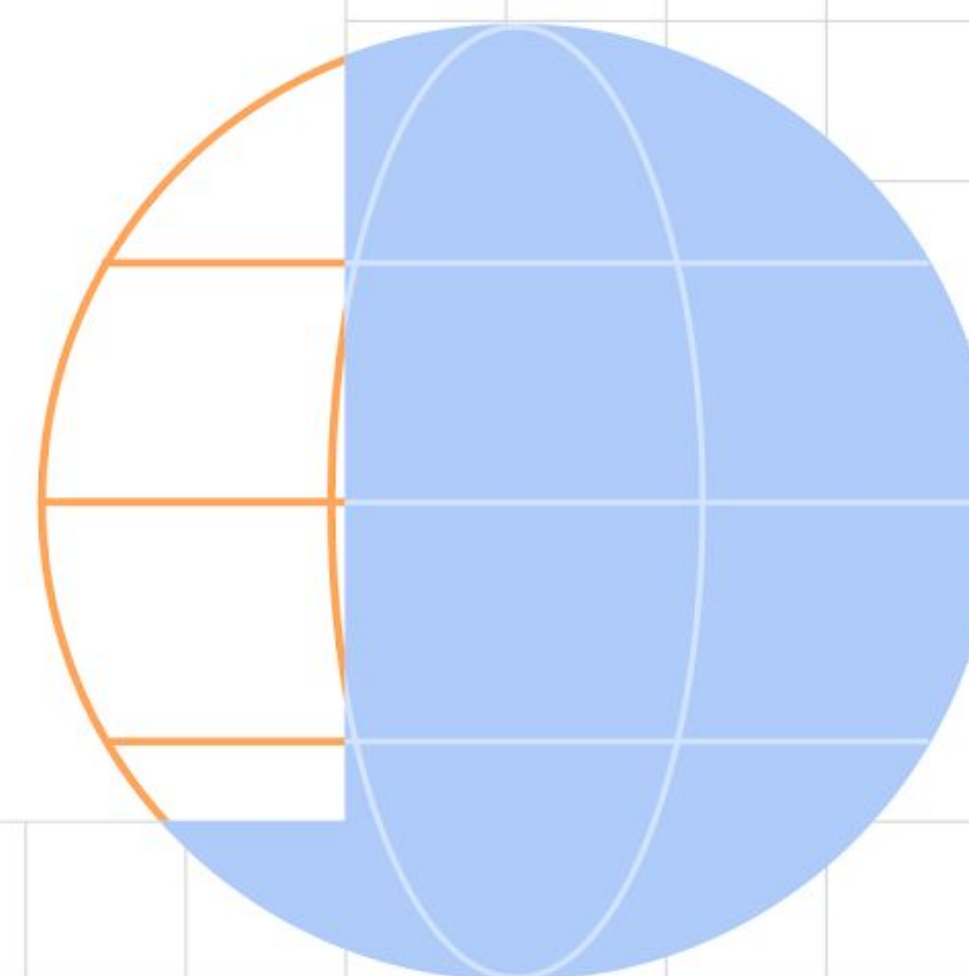
Do I have do it manually? 🤖

Distribution Automation

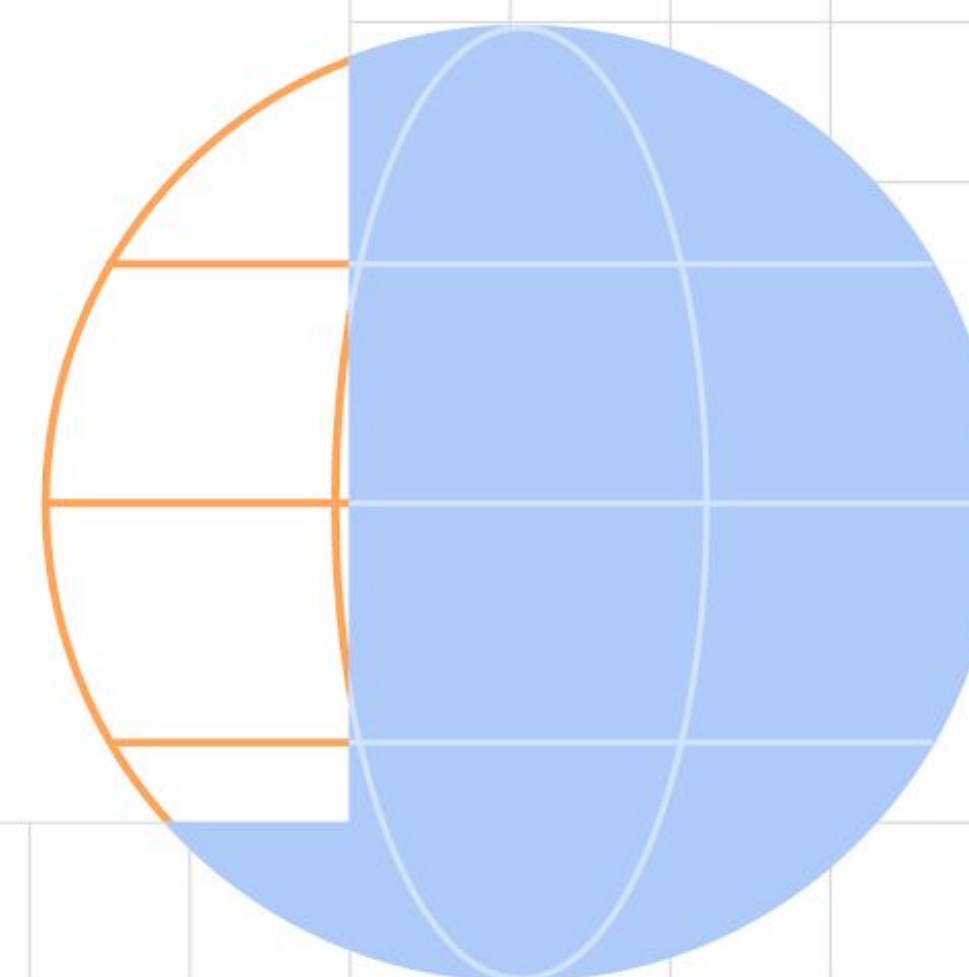GitHub Actions

Distribution Automation

- Firebase project created
- Firebase application created with matching package name
- Create Github Actions .yml file
- install firebase cli on your device (`curl -sL https://firebase.tools | bash`)
- Run: `firebase login:ci`
  - Login with the Firebase (Google) account

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```yaml
name: Firebase App Distribution

on:
  push:
    branches:
      - main # Or your release branch name
  workflow_dispatch: # Enable manual triggering

jobs:
  build-and-distribute:
    name: Build and Distribute to Firebase App Distribution
    runs-on: ubuntu-latest

    steps:
      - name: Checkout code
        uses: actions/checkout@v3

      - name: Set up JDK 17
        uses: actions/setup-java@v3
        with:
          java-version: '17'
          distribution: 'temurin'
          cache: gradle

      - name: Make gradlew executable
        run: chmod +x ./gradlew

      - name: Build Release APK
        run: ./gradlew assembleRelease
      - name: Sign Android release
        uses: r0adkll/sign-android-release@v1
        with:
          releaseDirectory: app/build/outputs/apk/release/
          signingKeyBase64: ${{ secrets.KEYSTORE }}
          alias: ${{ secrets.ALIAS }}
          keyStorePassword: ${{ secrets.KEY_STORE_PASSWORD }}
          keyPassword: ${{ secrets.KEY_STORE_PASSWORD }}
        env:
          BUILD_TOOLS_VERSION: "34.0.0"
      - name: Firebase App Distribution
        uses: wzieba/Firebase-Distribution-Github-Action@v1
        with:
          appId: ${{ secrets.FIREBASE_APP_ID }}
          token: ${{ secrets.FIREBASE_TOKEN }}
          groups: ${{ secrets.FIREBASE_TESTERS_GROUP }} # Optional
          file: app/build/outputs/apk/release/app-release.apk
          releaseNotes: "New release pushed from GitHub Actions"
```

Demo

Google Play Release Process

Show your application to the world

Google Play

Google Play Console

Manage your apps and games on Google

- Create the account
- Add personal details
- Pay 25 USD
- Verify Account (upload personal documents)
- Account verified 🎉

Google Play Console

Da biste započeli, odaberite vrstu računa

Za koga izrađujete profil? Saznajte više o tome koju vrstu računa odabrati

Za organizaciju

Odaberite ako izrađujete račun za organizaciju ili tvrtku. Morat ćete potvrditi svoju organizaciju.

Vrsta organizacije
Neprofitna organizacija ▾

Prvi koraci →

Za sebe

Odaberite ako izrađujete račun za sebe, a trenutačno nemate organizaciju ili tvrtku. Na primjer, ako ste amaterski razvojni programer, student ili ako se programiranjem bavite iz hobija. I dalje ćete moći zarađivati na Google Playu i pozivati druge da se pridruže vašem računu.

ⓘ Neke vrste aplikacija mogu distribuirati samo organizacije. Saznajte više

Prvi koraci →

Google račun na koji ste trenutačno prijavljeni kao [goran.luketic.dev@gmail.com] posjedovat će ovaj račun razvojnog programera. Nakon što izradite račun razvojnog programera, to se ne može promijeniti. Da biste se pridružili postojećem računu razvojnog programera, zatražite pozivnicu od administratora.

Promijeni račun

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Što je potrebno za izradu računa razvojnog programera za sebe

Da biste izradili taj račun, potrebno vam je sljedeće:

⑦ E-adresa za vaš profil razvojnog programera

Prikazivat će se na Google Playu u okviru vašeg javnog profila razvojnog programera. Potvrdite je primanjem koda. Nakon što izradite račun, možete navesti drugu e-adresu za upite za podršku s aplikacijom za sve svoje aplikacije. Saznajte više o potvrdama za razvojne programere

@ Telefonski broj i e-adresa za kontakt za Google

Koristit će ih samo Google kako bi vas kontaktirao ako to bude potrebno i neće se prikazivati na Google Playu. Potvrdite ih primanjem koda.

▭ Oblik plaćanja

Za plaćanje jednokratne naknade za registraciju od 25 USD

Trebate potvrditi svoj identitet da biste mogli objavljivati aplikacije

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Natrag   Nastavi

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Dovršite postavljanje računa razvojnog programera

Da biste objavili aplikacije na Google Playu, dovršite postavljanje računa razvojnog programera. To pomaže Googleu da potvrdi vaš identitet te zaštiti vaš račun, kao i korisnike Google Playa.

🕐 **Google potvrđuje vaš identitet**

Dokumenti su preneseni kako bi Google mogao potvrditi vaš identitet. Vlasnik računa primit će e-poruku kad postupak potvrde završi. To može potrajati nekoliko dana.

→ **Provjerite imate li pristup Android mobilnom uređaju**

Prijavite se u mobilnu aplikaciju Play konzola kako biste potvrdili da imate pristup stvarnom Android mobilnom uređaju

Prikaz pojedinosti

Google Play Console

ⓘ Vaš je identitet potvrđen

Vaša je potvrda identiteta uspjela

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Create your first app

- Mandatory information about the app
- Name
- Language
- Type - (App/Game)
- Free/Paid
- Accept terms

Google Play Test tracks

- **Open testing**
  - Publicly available to everyone
- **Closed testing**
  - closed testing with groups of testers
  - a larger number of users
  - the app must pass a review
  - email list + Google groups
- **Internal testing**
  - up to 100 testers, no review
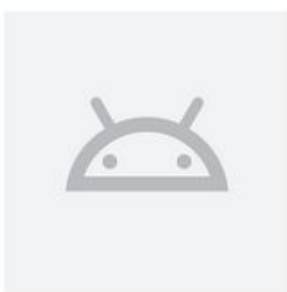 - about an hour to propagate
  - email list

Google Play Console

Interno dijeljenje aplikacija

G goran.luketic.dev@gmail.com ∨

Prenesite paket aplikacije ili APK i podijelite ga s testerima. Svakim se prijenosom generira nova v možete podijeliti. Saznajte više

Ovdje ispustite paket aplikacije (.aab) ili APK da biste ga prenijeli

⬆ Prenesi

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App: com.demo.ada.deployment (unreviewed)
com.demo.ada.deployment

✓ Welcome to the internal test program for com.demo.ada.deployment (unreviewed)

If you have the app installed on your device, you will receive updates to internal test versions as they become available.

If you don't have the app installed, download it on Google Play.

It may take a while for you to receive updates.

Certain data on your use of the app will be collected and shared with the developer to help improve the app.

You can leave the testing program at any time. You can also switch to the public version of the app if that's available.

To get the public version:

1. Remove the testing version from your device
2. Install the public version on Google Play.

It may take a few hours before you can download the public version.

LEAVE THE PROGRAM

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Create your first app

Store listing mandatory fields

- App name
- Short description (80)
- Full description (4000)
- Icon (512x512)
- Promo graphic (1024x500)
- 2 - 8 screenshots , tablet optional, chromebook
- Possible to add multiple languages - separate store listin

LET US KNOW ABOUT THE CONTENT OF YOUR APP

○ Set privacy policy ›

○ App access ›

○ Ads ›

○ Content rating ›

○ Target audience ›

○ News apps ›

○ Data safety ›

○ Government apps ›

○ Financial features ›

○ Health ›

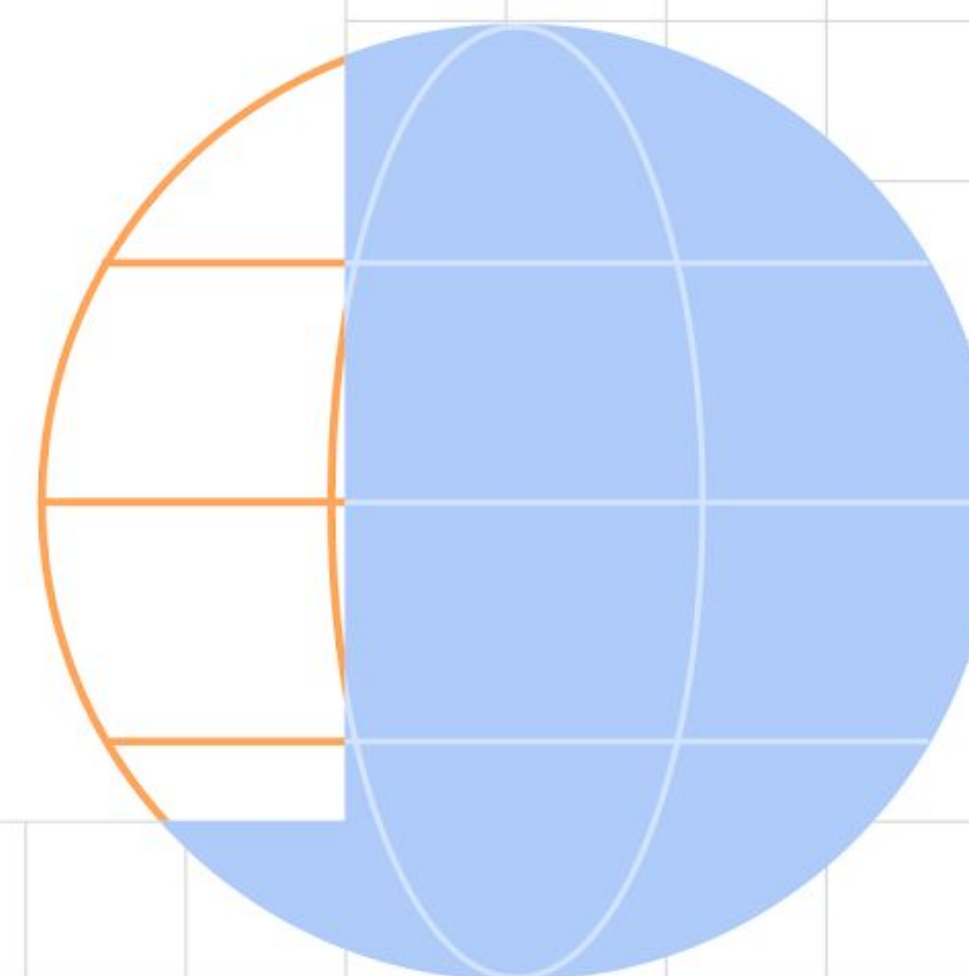Google Developers

Demo

Release 🎉
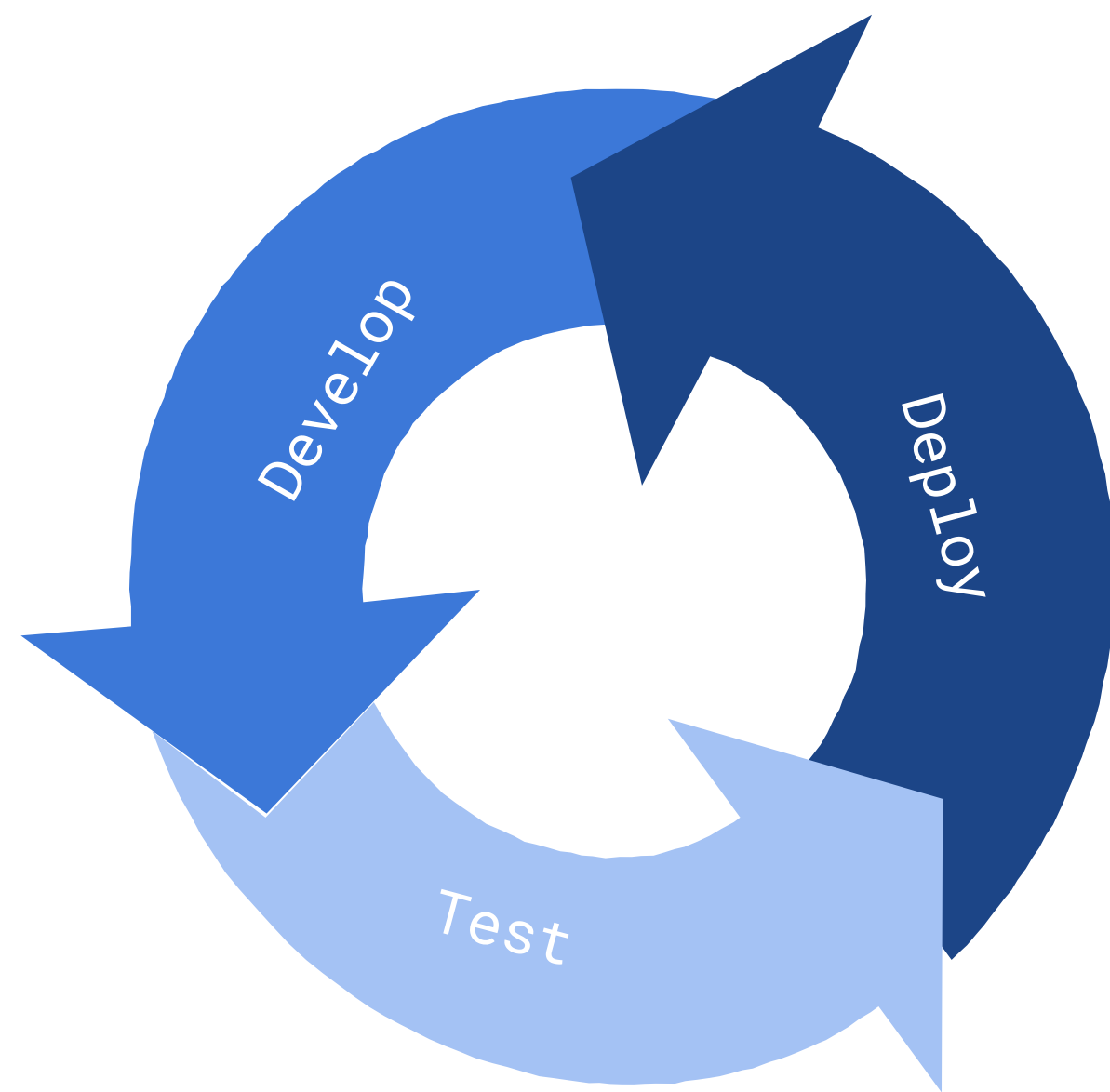
App is released! What to do now?

Maintenance

Why it matters?

Maintanance

- Prepare and Update for New Android Versions
- Update Libraries and Dependencies
- Continuous development of new features
- Collect feedback from users and use crash reporting tools (e.g., Crashlytics) to identify and fix issues.

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Summary

- Prepare the application for the release - Checklist
- Build signed release
- Upload for internal testing
- Create Google Play Account
- Prepare store listing with all mandatory application info
- Publish to test (optional)
- Release 🎉
- Monitor & Maintain 😎

Literature

- [Play App Signing](#)
- [Android App Bundles](#)
- [Firebase](#)
- [Google Play Console](#)

Q&A 🙋‍♀️🙋‍♂️

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Thank You!

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