

To **build a React Native app for Android**, you generally have two main options:

1. Run the app on a device or emulator (Debug build)

This is the easiest way to get your app running during development:

```
npx react-native run-android
```

This command will:

- Compile your app's JavaScript code,
 - Build the Android app (debug version),
 - Install the app on a connected Android device or running emulator,
 - Launch the app automatically.
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2. Create a release APK or AAB (production build)

To distribute your app or upload to the Play Store, you need a **signed release build**.

Steps to create a signed APK or AAB:

Step 1: Generate a signing key (if you don't have one)

Run this in your terminal:

```
keytool -genkey -v -keystore my-release-key.keystore -alias my-key-alias -  
keyalg RSA -keysize 2048 -validity 10000
```

This generates a `my-release-key.keystore` file (save it somewhere safe).

Step 2: Add signing config to your `android/app/build.gradle`

Add the following to the `android/app/build.gradle` inside `android` folder:

```
android {  
    ...  
    signingConfigs {  
        release {  
            if (project.hasProperty('MYAPP_RELEASE_STORE_FILE')) {  
                storeFile file(MYAPP_RELEASE_STORE_FILE)  
                storePassword MYAPP_RELEASE_STORE_PASSWORD  
                keyAlias MYAPP_RELEASE_KEY_ALIAS  
                keyPassword MYAPP_RELEASE_KEY_PASSWORD  
            }  
        }  
    }  
}
```

```
        buildTypes {
            release {
                signingConfig signingConfigs.release
                minifyEnabled false
                proguardFiles getDefaultProguardFile('proguard-android.txt'),
'proguard-rules.pro'
            }
        }
    }
}
```

Step 3: Create a `gradle.properties` file or add environment variables

Add your key info (never commit this to source control!):

```
MYAPP_RELEASE_STORE_FILE=my-release-key.keystore
MYAPP_RELEASE_STORE_PASSWORD=your_store_password
MYAPP_RELEASE_KEY_ALIAS=my-key-alias
MYAPP_RELEASE_KEY_PASSWORD=your_key_password
```

Put this file in the `android/` folder.

Step 4: Build the release APK or AAB

- To build a release APK:

```
cd android
./gradlew assembleRelease
```

The APK will be at:

```
android/app/build/outputs/apk/release/app-release.apk
```

- To build a release **AAB** (recommended for Play Store):

```
cd android
./gradlew bundleRelease
```

The AAB file will be at:

```
android/app/build/outputs/bundle/release/app-release.aab
```

Step 5: Install or distribute

- Install the APK on your device:

```
adb install android/app/build/outputs/apk/release/app-release.apk
```

- Upload the `.aab` or `.apk` to Google Play Console for publishing.

