

# Android Basic Integration

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This page outlines the steps required to integrate the Branch Android SDK.

At the end, you will be ready to do things like send [Branch Events](#) and use [Branch Deep Links](#).

Please note that some Branch Android SDK features require a Branch Growth Platform package. See our [packaging page](#) for details.

GitHub	SDK Size	Speed	Min. OS Version
<a href="#">Repo</a>	~187kb for all features	Median 80ms to 250ms	API Level 21+

## Older Versions

If you'd like to support down to Android API version 9, please pin to version **1.14.5** of the Branch Android SDK.

If you'd like to support Android API version 15, please pin to a **2.x** version of the Branch Android SDK.

The minimum version we support for Branch Android SDK **3.x** is Android version 16.

## 1. Configure Branch Dashboard

Start by configuring the Branch Dashboard for your application.

1. [Configure the default link settings](#) for your app within the [Configuration page](#) of the

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The screenshot shows a web form for integrating Branch.io with an Android app. On the left, there are two checkboxes: "I have an Android App" (checked) and "Enable App Links" (checked). A "No" button with a right-pointing arrow is positioned between these checkboxes and the main form area. The main form area contains two radio buttons: "Google Play Search" (unselected) and "Custom URL" (selected). Below the radio buttons are two input fields: the first contains "https://example.com/android" and the second contains "com.example.android". A note in orange text states: "For redirects to work on Chrome, please enter your app's package name (e.g. com.company.appname)". Below this is a section for "SHA256 Cert Fingerprints" with an input field containing "A1:11:11:B2:22:22...". A note in orange text below the input field states: "Multiple fingerprints can be entered as comma-separated list". A callout box at the top right of the form contains the text: "If the above fails, fall back to the app store or custom link to download the app." with a downward-pointing arrow.

## 2. Install Branch

To install Branch, import the Branch Android SDK into your app-level `build.gradle` (Groovy) or `build.gradle.kts` (Kotlin), noting the `REPLACE` code comments where you need to add your app's values:

The screenshot shows a code editor with a dark theme. The editor has a tab labeled "Groovy" and a "COPY" button in the top right corner. The code is Groovy syntax for an Android build file. It includes the Branch Android SDK plugin and configures the Android build system with specific SDK versions, min SDK version, target SDK version, version code, and version name. A comment indicates where to replace the app ID.

```
apply plugin: 'com.android.application'

android {
    compileSdkVersion 25
    buildToolsVersion "25.0.2"
    defaultConfig {
        applicationId "com.example.android" // REPLACE with your app ID
        minSdkVersion 16
        targetSdkVersion 25
        versionCode 1
        versionName "1.0"
    }
}
```

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```
dependencies {  
    // Required for all Android apps:  
    implementation 'io.branch.sdk.android:library:5.8.0' // Check for la  
  
    implementation 'store.galaxy.samsung.installreferrer:samsung_galaxys  
  
    // Required if your app is in the Google Play Store (tip: avoid usin  
    implementation 'com.google.android.gms:play-services-ads-identifier:  
    // Alternatively, use the following lib for getting the AAID:  
    // implementation 'com.google.android.gms:play-services-ads:17.2.0'  
}
```

Make sure you are using the latest version of `io.branch.sdk.android:library` by checking the version [here](#).

### 3. Add Dependencies

At this stage, you can add certain dependencies to your Android app that will enable additional Branch Android SDK functionality.

**Note:** Some of these dependencies are already bundled into the Branch Android SDK.

[Android Advertising ID \(AAID\)](#) ^

[Play Install Referrer Library](#) ^

[Huawei Mobile Services & Ads Kit](#) ^

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## 4. Configure App

To configure your app to use the Branch Android SDK, you will need to update your `AndroidManifest.xml` file.

To populate the file with the correct values, you will need to gather your:

- App package name
- Android URI scheme
- The `app.link` domain associated with your app
- The `-alternate.app.link` domain associated with your app
- Branch Live Key
- Branch Test Key

You can find these values for your app in your Branch Dashboard [App Settings](#) and [Link Settings](#).

Use the sample code below for your `AndroidManifest.xml` file, making sure to replace every value that has a `REPLACE` comment associated with it:

XML

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```
<?xml version="1.0" encoding="utf-8"?>
<manifest
    xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.android">
    <uses-permission android:name="android.permission.INTERNET" />
    <uses-permission android:name="com.google.android.gms.permission.AD_ID"/>

    <!-- REPLACE `android:name` with your app's package name -->
    <application
        android:allowBackup="true"
```

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```
        android:launchMode="singleTask"
        android:label="@string/app_name"
        android:theme="@style/AppTheme.NoActionBar"
        android:exported="true">

    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>

    <!-- Branch URI Scheme -->
    <intent-filter>
        <!-- If utilizing $deeplink_path please explicitly declare your URI scheme -->
        <!-- REPLACE `android:scheme` with your Android URI scheme -->
        <data android:scheme="yourapp" android:host="open" />
        <action android:name="android.intent.action.VIEW" />
        <category android:name="android.intent.category.DEFAULT" />
        <category android:name="android.intent.category.BROWSABLE" />
    </intent-filter>

    <!-- Branch App Links - Live App -->
    <intent-filter android:autoVerify="true">
        <action android:name="android.intent.action.VIEW" />
        <category android:name="android.intent.category.DEFAULT" />
        <category android:name="android.intent.category.BROWSABLE" />
        <!-- REPLACE `android:host` with your `app.link` domain -->
        <data android:scheme="https" android:host="example.app.link" />
        <!-- REPLACE `android:host` with your `-alternate` domain (required for auto-verification) -->
        <data android:scheme="https" android:host="example-alternate.app.link" />
    </intent-filter>

    <!-- Branch App Links - Test App -->
    <intent-filter android:autoVerify="true">
```

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```
<!-- Branch init -->
<!-- REPLACE `BranchKey` with the value from your Branch Dashboard -->
<meta-data android:name="io.branch.sdk.BranchKey" android:value="key_
<!-- REPLACE `BranchKey.test` with the value from your Branch Dashboa
<meta-data android:name="io.branch.sdk.BranchKey.test" android:value=
<!-- Set to `true` to use `BranchKey.test` -->
<meta-data android:name="io.branch.sdk.TestMode" android:value="false

</application>
<queries>
  <intent>
    <action android:name="android.intent.action.SEND" />
    <data android:mimeType="text/plain" />
  </intent>
</queries>
</manifest>
```

### Single Task Launch Mode & Activities

The Single Task mode instantiates the Main/Splash Activity only if it does not exist in the Activity Stack.

If the Activity exists in the background, every subsequent intent to the Activity just brings it to the foreground. You can read more about Single Task mode [here](#).

If your app has **multiple activities** triggered by multiple intent filters with the same scheme, your app may run into a race condition when clicking on links that open the app (ex. Branch Links and custom deep links). To prevent this, make sure to implement the Branch Android SDK in the `LauncherActivity`.

## 5. Load Branch

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Java

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```
package com.example.android;

import android.app.Application;
import io.branch.referral.Branch;

public class CustomApplicationClass extends Application {
    @Override
    public void onCreate() {
        super.onCreate();

        // Branch logging for debugging
        Branch.enableLogging();

        // Branch object initialization
        Branch.getAutoInstance(this);
    }
}
```

To learn more about the `getAutoInstance()` and `getInstance()` methods, visit our [Android SDK Full Reference guide](#).

## 6. Initialize Branch

To initialize Branch, add the following code to your `LauncherActivity`:

Java

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dev

marketing efforts.

Java

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```
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.util.Log;
import android.view.View;
import android.view.Menu;
import android.view.MenuItem;

import org.json.JSONObject;

import io.branch.indexing.BranchUniversalObject;
import io.branch.referral.Branch;
import io.branch.referral.BranchError;
import io.branch.referral.util.LinkProperties;

public class LauncherActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_launcher);
    }

    @Override
    protected void onStart() {
        super.onStart();
        Branch.sessionBuilder(this).withCallback(new Branch.BranchUniver
            @Override
            public void onInitFinished(BranchUniversalObject branchUniver
                if (error != null) {
                    Log.e("BranchSDK_Tester", "branch init failed. Cause
                } else {
                    Log.i("BranchSDK_Tester", "branch init complete!");
                }
            }
        }
    }
}
```

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```
    }  
    }  
    }  
    }).withData(this.getIntent().getData()).init();  
}  
  
@Override  
public void onNewIntent(Intent intent) {  
    super.onNewIntent(intent);  
    this.setIntent(intent);  
    if (intent != null && intent.hasExtra("branch_force_new_session")  
        Branch.sessionBuilder(this).withCallback(new BranchReferralI  
            @Override  
            public void onInitFinished(JSONObject referringParams, B  
                if (error != null) {  
                    Log.e("BranchSDK_Tester", error.getMessage());  
                } else if (referringParams != null) {  
                    Log.i("BranchSDK_Tester", referringParams.toStri  
                }  
            }  
        }  
    }).reInit();  
}  
}
```

### LauncherActivity vs Other Activities

Branch recommends initializing the session inside the LauncherActivity. This is the Activity that contains the intent filter `android.intent.category.LAUNCHER` in your `AndroidManifest.xml` file.

However, if your app requires it, session initialization can happen in a different Activity.

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### Always Initialize Branch in `onStart()`

Initializing Branch in other Android lifecycle methods, like `onCreate()` or `onResume()`, will lead to unintended behavior. The `onStart()` method is what makes the Activity visible to the user, as the app prepares for the Activity to enter the foreground and become interactive.

To learn more, visit:

- [Branch FAQ](#)
- [Android Developer Docs](#)

If your app requires a different session initialization setup, please see the [Delay Branch Initialization](#) section of our Android Advanced Features guide.

## 7. Configure ProGuard

To collect the Google Advertising ID, you must ensure that ProGuard doesn't remove the necessary Google Ads class.

The surest way to do this is add it to your ProGuard rules. If your Application is enabled with ProGuard, add the following instruction to your `proguard.cfg` or `proguard-rules.pro` file:

Bash

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```
-keep class com.google.android.gms.** { *; }
```

If you are adding support for Huawei devices without Google Mobile Services, please make sure to add the following to your ProGuard rules:

Bash

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```
-keep class com.huawei.hms.ads.** { *; }
```

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## Validation methods:

1. The [Integration Status tab](#) in the [Branch Dashboard](#).
2. The Branch Android SDK's [Integration Validation method](#).
3. The Branch Android SDK's [Enable Logging method](#).
4. Branch's [Link Debugger tool](#), which helps you confirm Branch Deep Link configuration, data, and routing.

For additional testing scenarios and tools, visit the [Android Testing page](#).

If you're running into issues with your Branch Android SDK integration, start by looking at the [Android Troubleshooting page](#).

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