Fast Integration with SmartLife App SDK for Android

Version: 20250917

Online Version

Contents

This topic describes how to quickly integrate **SmartLife App SDK** for Android into your development environment, such as Android Studio. It also sheds light on the initialization method and how to enable the debugging mode with a few simple steps. This allows you to run the demo app and get started with your smart life app development by using the App SDK.

1. Prerequisites

- Before you start, make sure that you have performed the steps in Preparation .
- If you have not installed **Android Studio**, visit the Android Studio official website to download Android Studio.

2. SDK versions

- If you have integrated SmartLife App SDK v3.x.x or v4.x.x into your project, follow the instructions in Upgrade Guide and upgrade to the latest version.
- Starting from SmartLife App SDK for Android v4.0.0, the SDK is classified into the development edition and official edition. For more information, see Pricing .
- Starting from the SmartLife App SDK for Android v4.0.0, the Android package name configured on the Tuya Developer Platform must be the same as the value of `packageName` in your project. Otherwise, `ILLEGAL_CLIENT_ID` will be returned.
- Starting from the SmartLife App SDK for Android v3.29.5, SHA256 hash values are required. For more information, see How to Get SHA1 and SHA256 Keys .

If you plan to launch the app to Google Play, you must enable the re-signing feature. If this feature is enabled, go to the Tuya Developer Platform and configure the SHA256 hash values generated by Google. Otherwise, an **illegal client** error will occur. For more information, see Enable Signature Protection for Android .

- App SDK v3.10.0 and earlier only support `armeabi-v7a` . App SDK v3.11.0 and later have integrated with `armeabi-v7a` and `arm64-v8a` . If you have added `.so` libraries to the project, you must remove them and only use the library included in the SDK. If you want to integrate the `.so` library of a later version, you must remove the library of an earlier version to avoid conflicts or other possible issues.

3. Integrate with the SDK

3.1. Step 1: Create an Android project

Create a project in Android Studio.

3.2. Step 2: Configure `build.gradle`

Add `dependencies` to the `build.gradle` file of the Android project.

```
android {
   defaultConfig {
      ndk {
         abiFilters "armeabi-v7a", "arm64-v8a"
      }
   }
   packagingOptions {
      pickFirst 'lib/*/libc++_shared.so' // An Android Archive (AAR) file contains an Android library. If the .so file exists in multiple AAR files, select the first AAR file.
   }
}

configurations.all {
    exclude group: "com.thingclips.smart" ,module: 'thingsmart-modularCampAnno'
}

dependencies {
   implementation fileTree(dir: 'libs', include: ['*.aar'])
   implementation 'com.alibaba:fastjson:1.1.67.android'
   implementation 'com.squareup.okhttp3:okhttp-urlconnection:3.14.9'

   // The latest stable App SDK for Android.
   implementation 'com.thingclips.smart:thingsmart:6.7.7'
}
```

Add the Tuya IoT Maven repository URL to the `build.gradle` file in the root directory.

```
repositories {
   jcenter()
   maven { url 'https://maven-other.tuya.com/repository/maven-releases/' }
   maven { url "https://maven-other.tuya.com/repository/maven-commercial-releases/" }
   maven { url 'https://jitpack.io' }
   google()
   mavenCentral()
   maven { url 'https://maven.aliyun.com/repository/public' }
   maven { url 'https://central.maven.org/maven2/' }
   maven { url 'https://oss.sonatype.org/content/repositories/snapshots/' }
   maven { url 'https://developer.huawei.com/repo/' }
}
```

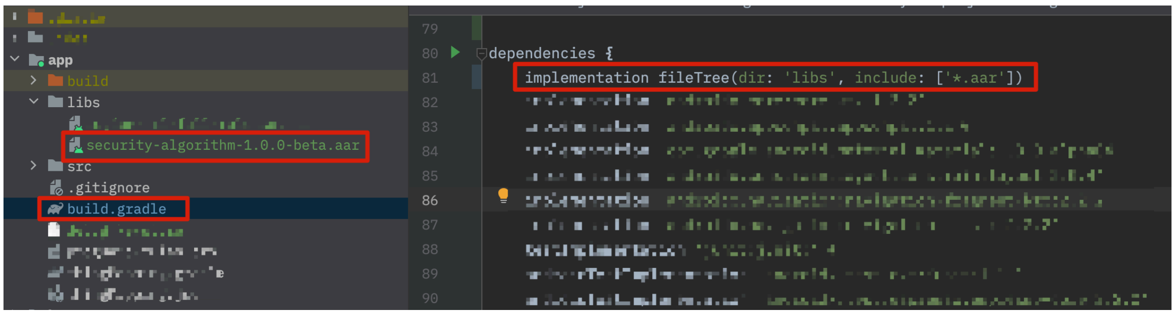
This SDK version supports Android `minSdkVersion` 23, `targetSdkVersion` 34, and only supports building via AndroidX.

3.3. Step 3: Integrate with security component

1. Go to the **Get SDK** tab, select one or more required SDKs or BizBundles, and then download the App SDK for iOS or Android.

Download iOS Development Edition
Download Android Development Edition
iOS SDK Integration Guide
Android SDK Integration Guide

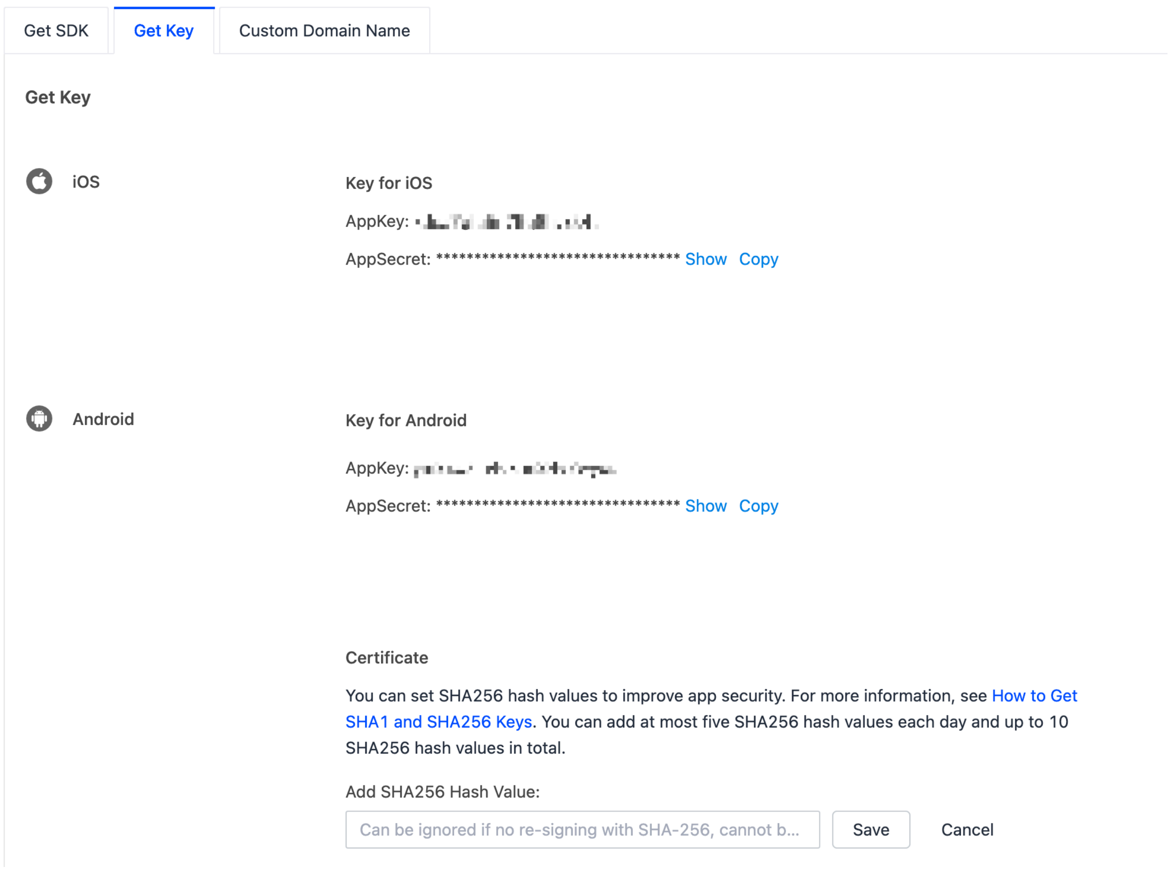
2. Extract the downloaded package, put `security-algorithm.aar` in the `libs` directory of the project, and then make sure `dependencies` in `build.gradle` of your project include: `implementation fileTree(include: ['*.aar'], dir: 'libs')` .



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

3.4. Step 4: Configure AppKey, AppSecret, and certificate signature

1. Log in to the Tuya Developer Platform , go to the **SDK Development** page, and then click the SDK to be managed.


Get SDK | Get Key | Custom Domain Name

Get Key

iOS

Key for iOS

AppKey: [redacted]

AppSecret: ******************************** Show Copy

Android

Key for Android

AppKey: [redacted]

AppSecret: ******************************** Show Copy

Certificate

You can set SHA256 hash values to improve app security. For more information, see How to Get SHA1 and SHA256 Keys. You can add at most five SHA256 hash values each day and up to 10 SHA256 hash values in total.

Add SHA256 Hash Value:

Can be ignored if no re-signing with SHA-256, cannot b... Save Cancel

2. Get the `AppKey` and `AppSecret` from the previous step and configure them in `AndroidManifest.xml` :

```
<meta-data
android:name="THING_SMART_APPKEY"
android:value="AppKey" />
<meta-data
android:name="THING_SMART_SECRET"
android:value="AppSecret" />
```

3. Configure the app certificate:

1. Generate an SHA-256 hash value. For more information, see the document of Android and How to Get SHA1 and SHA256 Keys .
2. Enter the SHA256 keys in the **certificate**.

3.5. Step 5: Obfuscate the code

Configure obfuscation in `proguard-rules.pro` .

```
#fastJson
-keep class com.alibaba.fastjson.**{*;}
-dontwarn com.alibaba.fastjson.**

#mqtt
```

```
-keep class com.thingclips.smart.mqttclient.mqttv3.** { *; }
-dontwarn com.thingclips.smart.mqttclient.mqttv3.**

#OkHttp3
-keep class okhttp3.** { *; }
-keep interface okhttp3.** { *; }
-dontwarn okhttp3.**

-keep class okio.** { *; }
-dontwarn okio.**

-keep class com.thingclips.**{*;}
-dontwarn com.thingclips.**

# Matter SDK
-keep class chip.** { *; }
-dontwarn chip.**

#MINI SDK
-keep class com.gzl.smart.** { *; }
-dontwarn com.gzl.smart.**
```

3.6. Step 6: Initialize the SDK

Initialize the SDK in the main thread of `Application`. Make sure that all processes are initialized. Example:

```java
public class ThingSmartApp extends Application {
    @Override
    public void onCreate() {
        super.onCreate();
        ThingHomeSdk.init(this);
    }
}
```

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Configure `appKey` and `appSecret` in `AndroidManifest.xml`, or run the initialization code.

```java
ThingHomeSdk.init(Application application, String appkey, String appSerect)
```

3.7. Step 7: Destroy the cloud connection

Before you exit the app, you must call the following operation to destroy the cloud connection.

```java
ThingHomeSdk.onDestroy();
```

3.8. Step 8: Enable or disable logging

- In **debug** mode, you can enable SDK logging to facilitate troubleshooting.
- We recommend that you disable logging in **release** mode.

```
ThingHomeSdk.setDebugMode(true);
```

4. Run the demo app

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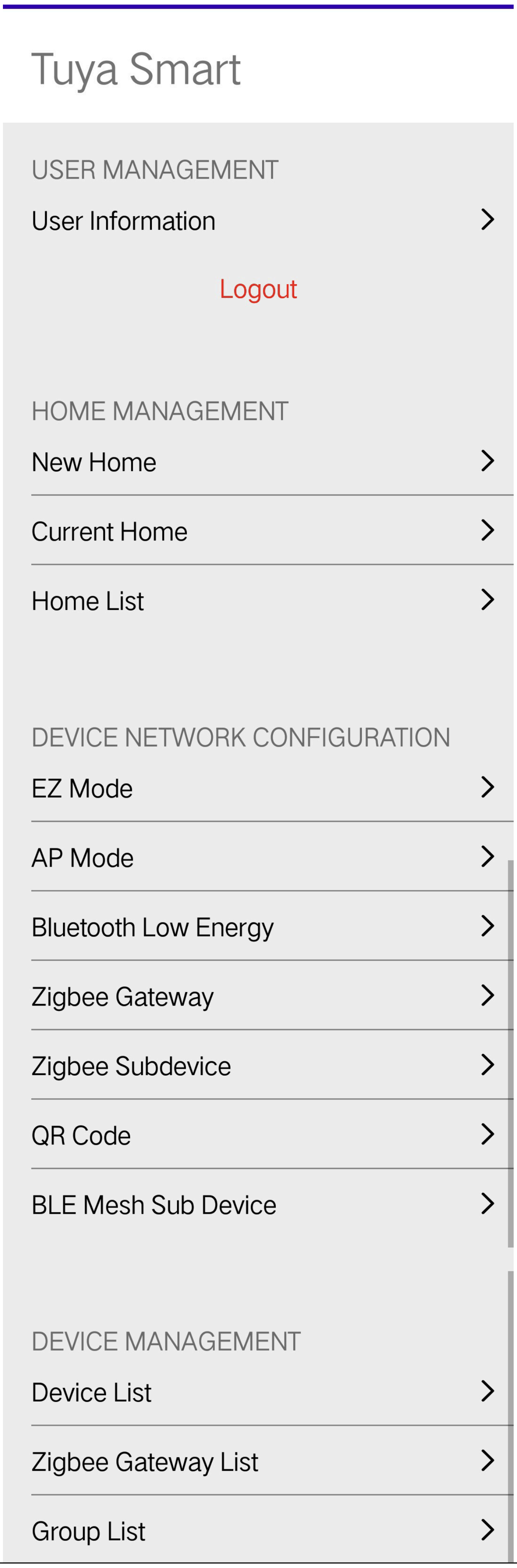
- After the SDK is integrated into your project, you can get the values of `AppKey` and `AppSecret` . Make sure the `AppKey` and `AppSecret` are consistent with those used on the Tuya Developer Platform. Any mismatch will cause the SDK development to be failed. For more information, see Step 4: Configure AppKey, AppSecret, and certificate signature .
- The demo app that is created in the sample project of SmartLife App SDK is used for reference only. Do not use the demo app for commercial purposes. For more information, see Tuya Developing Service Agreement .

In the following example, a demo app is used to describe the process of app development with the App SDK and indicate the SDK capabilities that you can integrate to implement smart life scenarios. Before the development of your app, we recommend that you run the demo app.

4.1. Feature overview

The demo app supports the following features:

- User management: Register and log in to the app account by mobile phone number or email address.
- Home and device management:
- Create a home and switch between homes.
- Display a list of devices in the home and control data points (DPs) of the devices.
- Rename and remove devices.
- Pair devices: Multiple pairing methods are supported, including **EZ Mode**, **AP Mode**, **Bluetooth Low Energy**, **Zigbee Gateway**, **Zigbee Subdevice**, **QR Code**, and **Bluetooth LE Mesh Sub Device**.



Tuya Smart

USER MANAGEMENT

User Information >

Logout

HOME MANAGEMENT

New Home >

Current Home >

Home List >

DEVICE NETWORK CONFIGURATION

EZ Mode >

AP Mode >

Bluetooth Low Energy >

Zigbee Gateway >

Zigbee Subdevice >

QR Code >

BLE Mesh Sub Device >

DEVICE MANAGEMENT

Device List >

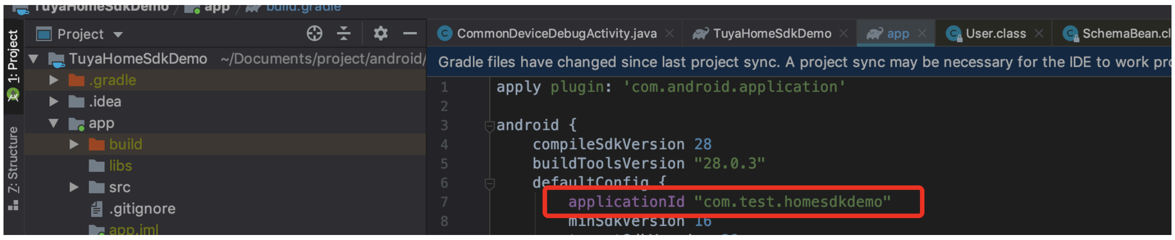
Zigbee Gateway List >

Group List >

For more information, see the GitHub project tuya-home-android-sdk-sample-kotlin .

4.2. Run the demo

1. Choose `app` > `build.gradle` and change the value of `applicationId` to your app package name.



Gradle files have changed since last project sync. A project sync may be necessary for the IDE to work pro

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

android {
    compileSdkVersion 28
    buildToolsVersion "28.0.3"
    defaultConfig {
        applicationId "com.test.homesdkdemo"
        minSdkVersion 16
```

2. Make sure that you have completed Step 3: Integrate with security component and Step 4: Configure AppKey, AppSecret, and certificate signature .
3. Click **Run** to run the sample.

5. FAQs

5.1. SING_VALIDATE_FALED

Troubleshoot the error message: `SING_VALIDATE_FALED`

- **Problem**: When the system runs the demo app, an error message is returned in the following response:

```
{
    "success": false,
    "errorCode" : "SING_VALIDATE_FALED",
    "status" : "error",
    "errorMsg" : "Permission Verification Failed",
    "t" : 1583208740059
}
```

- **Solutions**:

Check whether your AppKey, and AppSecret are correctly configured and consistent with those obtained in Preparation .

5.2. ILLEGAL_CLIENT_ID

- **After the SmartLife App SDK for Android is updated to v3.29.5, an error message `ILLEGAL_CLIENT_ID` is returned to indicate an illegal client. How do I troubleshoot this problem?**
- Starting from SmartLife App SDK for Android v3.29.5, data security is enhanced and SHA256 hash values are required.
- You must follow the steps in the documentation to get the SHA256 hash values and add the hash values to the Tuya Developer Platform. For more information, see Preparation .
- **After SmartLife App SDK for Android is updated to v4.0.0, an error message `ILLEGAL_CLIENT_ID` is returned to indicate an illegal client. How do I troubleshoot this problem?**
- Starting from SmartLife App SDK for Android v4.0.0, data security is enhanced.
- The Android package name configured on the Tuya Developer Platform must be the same as the value of `packageName` in your project. Otherwise, `ILLEGAL_CLIENT_ID` will be returned.

- **After SHA256 hash values are configured on the Tuya Developer Platform and the sample is run, the error message saying `ILLEGAL_CLIENT_ID` is still returned. How do I troubleshoot the problem?**

Solution: Before you run the sample, add the following signature information to `build.gradle` of the `app` module.

```
android {
    ...
    signingConfigs {
        debug {
            storeFile file('xxxx.jks')
            storePassword 'xxxxxx'
            keyAlias 'xxx'
            keyPassword 'xxxxxx'
        }
        release {
            storeFile file('xxxx.jks')
            storePassword 'xxxxxx'
            keyAlias 'xxx'
            keyPassword 'xxxxxx'
        }
    }
}
```