

SM-93M Getting Started Guide

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1.Introduction

Welcome to use SM-93M SDK. This document will introduce how to use SM-93M SDK for development in Android.

2.SDK Contents

The SDK contains libraries and demo needed for the development of SM-93M,Contains the following directories:

- /apk or /bin
The `apk` or `bin` folder contains the compiled binary files, which can be installed directly on the Android device.
- /demo
The `demo` folder is the source code corresponding to the apk file, which can be opened using Android Studio .

NOTE:

The library (.so & .jar & .aar) file is included in the demo and is not provided separately.

3.Development Guide

3.1 Configure your project

This lesson shows you how to create a new Android project using Android Studio and introduces some of the files in the project.

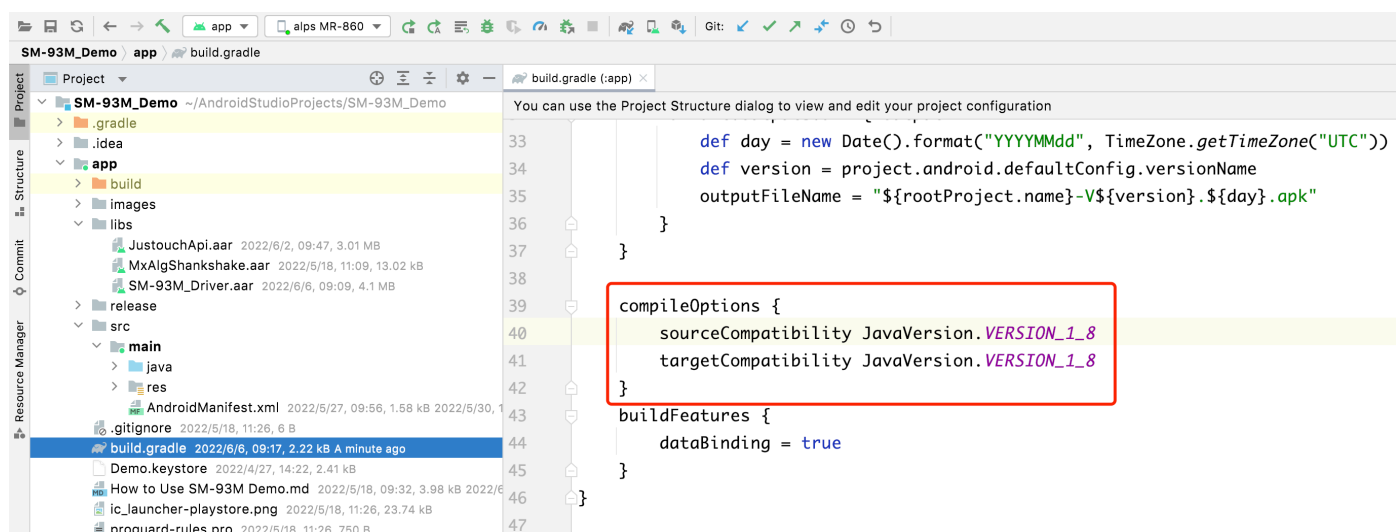
To create a new Android project, follow these steps:

3.1.1. Create a new Android project

Create a new Empty Activity application project, You can refer to [Android Developer](#) to create an Android project.

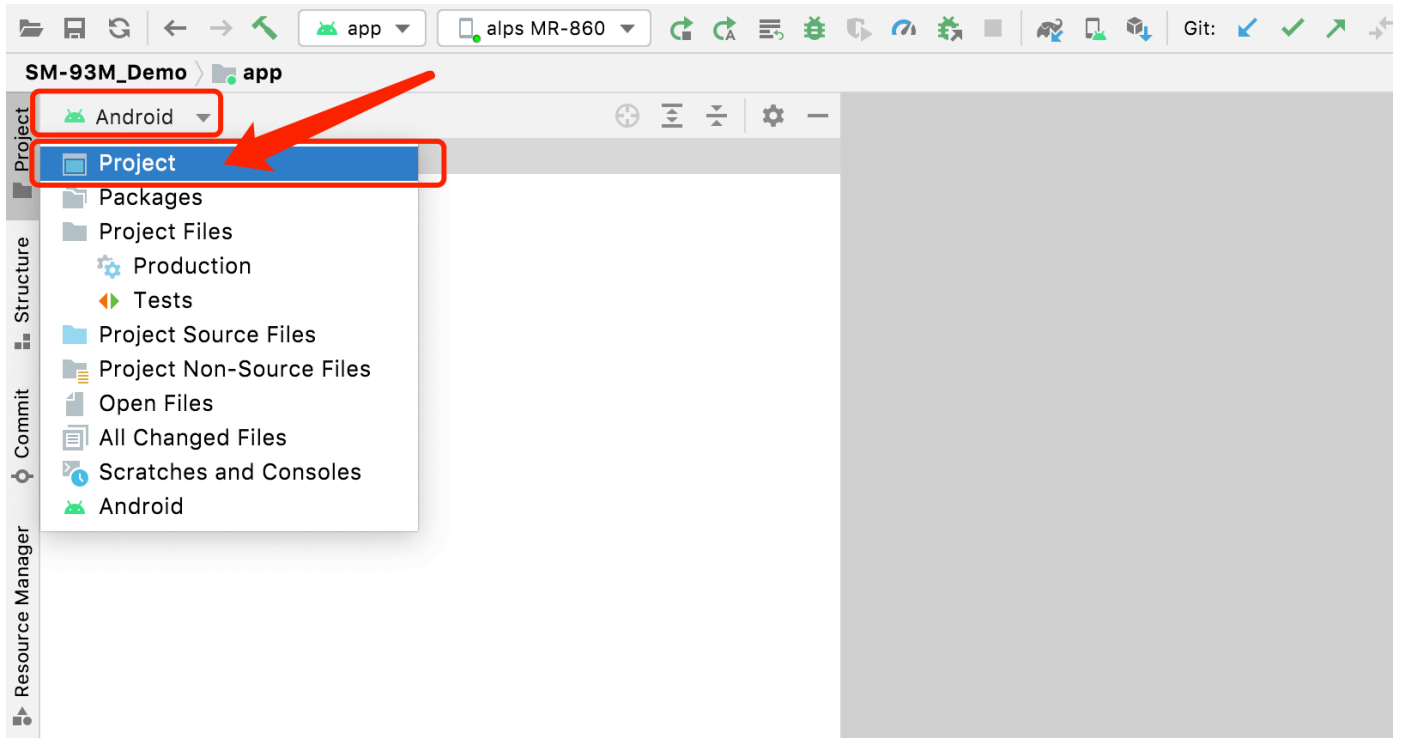
3.1.2. Enable Java 8

The SDK needs to work with **JDK 1.8**, open **build.gradle**, add a configuration inside, as shown in the figure:

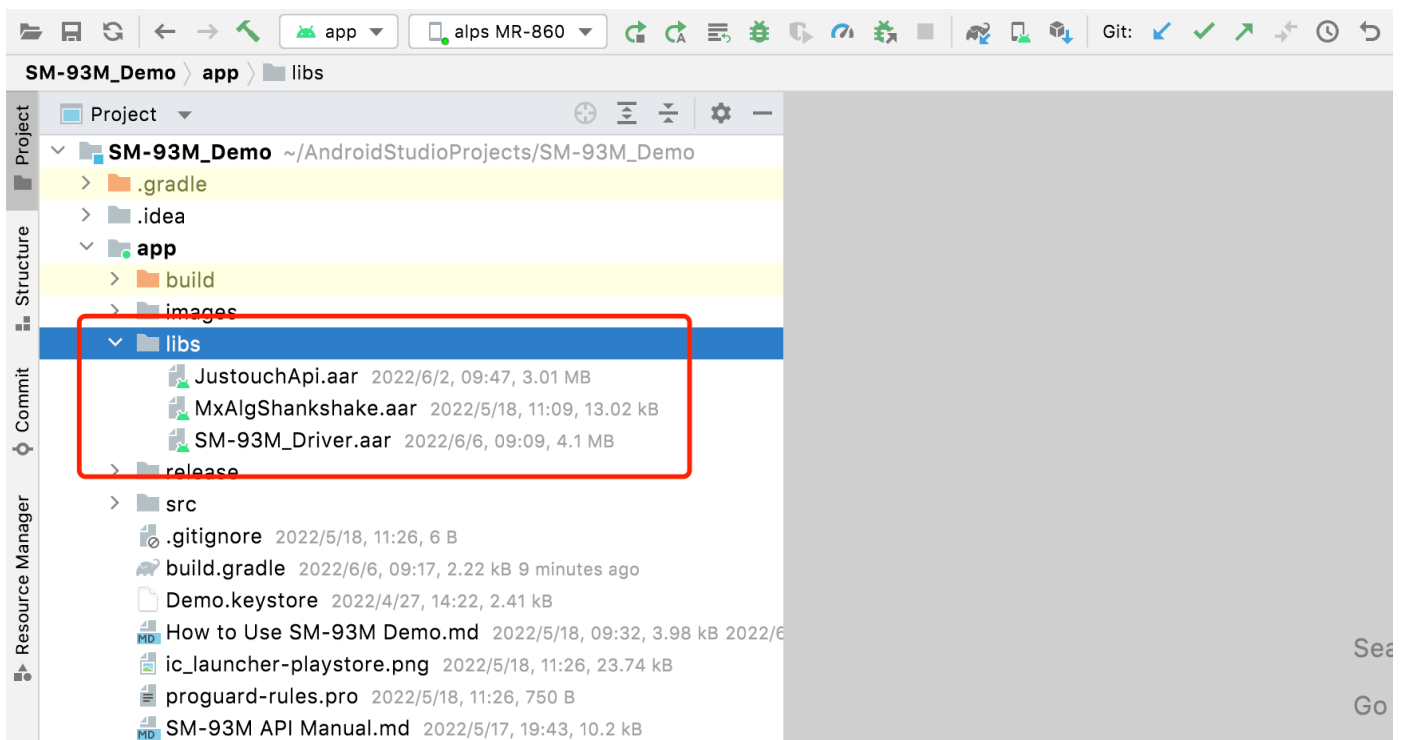


3.1.3. Add aar file

First, switch to the project view. Click on **Android** and select **Project**. As shown below:



Then, copy the aar from the demo project to the lib directory of your project, as shown below:



NOTE:

`JustouchApi.aar` is used for fingerprint algorithm.

`SM93MDriverApi.aar` is used to access `SM-93M` Device.

3.1.4. Congratulations

Congratulations, you have completed all the preparations, then you can refer to the **Sample Code** to learn how to use our API.

3.2 Sample Code

3.2.1 SM-93M Driver API

Get a instance of SM-93M driver API :

```
SM93MApi mDriverApi = SM93MApiFactory.getInstance(getApplicationContext());  
// do something with mDriverApi
```

Open/Close SM-93M device :

```
int fd = mDriverApi.openDevice();  
if (fd >= 0) {  
    // Open successfully !  
    // 0 means it has been opened before  
} else {  
    // process error code  
}
```

Capture fingerprint image from SM-93M device:

```
CaptureConfig captureConfig = new CaptureConfig.Builder()  
    .setLfdLevel(0)  
    .setLatentLevel(0)  
    .setTimeout(8000)  
    .setAreaScore(45)  
    .setPreviewCallBack(previewCallBack)  
    // AES/ECB/PKCS5Padding  
    // .setAESConfig(new  
AESConfig.Builder().setKey("1234567890123456").build())  
    // .setAESStatus(CaptureConfig.AES_HOST)  
    .build();  
MxResult<MxImage> image = mDriverApi.getImage(captureConfig);  
if (imageResult.isSuccess()) {  
    // Capture successfully !  
    MxImage mxImage = imageResult.data;  
    // Convert raw image to Android bitmap  
    byte[] imageData = new byte[mxImage.width * mxImage.height + 1078];  
    BmpLoader.Raw2Bmp(imageData, mxImage.data, mxImage.width, mxImage.height);  
    Bitmap bitmap = BitmapFactory.decodeByteArray(imageData, 0, imageData.length);  
    //show bitmap  
    ImageView imageView ;//The imageView to show fingerprint image  
    imageView.setImageBitmap(bitmap);
```

```

} else {
    //process error code
}

```

3.2.2 Justouch Api

Create a instance of Jutouch Api :

```
JustouchFingerAPI mJustouchApi = new JustouchFingerAPI();
```

Create FMR :

```

MxImage image ; // capture from SM-93M
byte[] fmrBuffer = new byte[1024]; //Must be 1024 bytes
int result = mJustouchApi.createTemplateISO(image.data, image.width, image.height,
fmrBuffer);
if (result >= 0) {
    // successfully
}
// If you use ISO2011, please call the following function :
// mJustouchApi.createTemplateISO2011(...)
// If you use ANSI, please call the following function :
// mJustouchApi.createTemplateANSI(...)

```

Match two FMR :

```

byte[] fmrBufferA //Must be 1024 bytes
byte[] fmrBufferB //Must be 1024 bytes
int similarScore = mJustouchApi.compareTemplatesANSI(fmrBufferA, fmrBufferB);
if (score >= 45) { // Suggest 45 pass
    // Match passed
} else if (score >= 0) {
    // Match not passed
} else {
    // Process error code
}

```

NOTE:

When Justouch works with SM-93M, there is no need to call initialization

4. Support Contact Information:

MIAXIS BIOMETRICS CO., LTD

Official website:

www.miaxis.net , www.miaxis.com

Sales :

amy@miaxis.com

Technical Support :

developer@miaxis.com