FPR-220 Getting Startded Guide

1.Introduction

Welcome to use FPR-220 SDK. This document will introduce how to use FPR-220 SDK for development in Android.

2.SDK Contents

The SDK contains libraries and demo needed for the development of FPR-220,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.
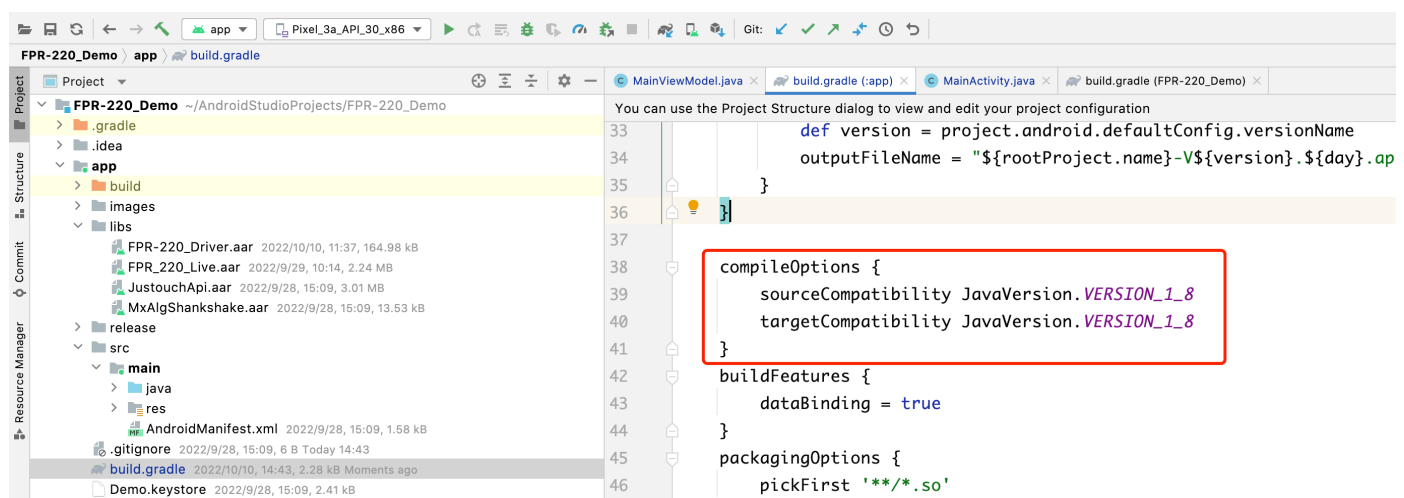
To create a new Android project, follow these steps:

3.1.1. Create a new Android project

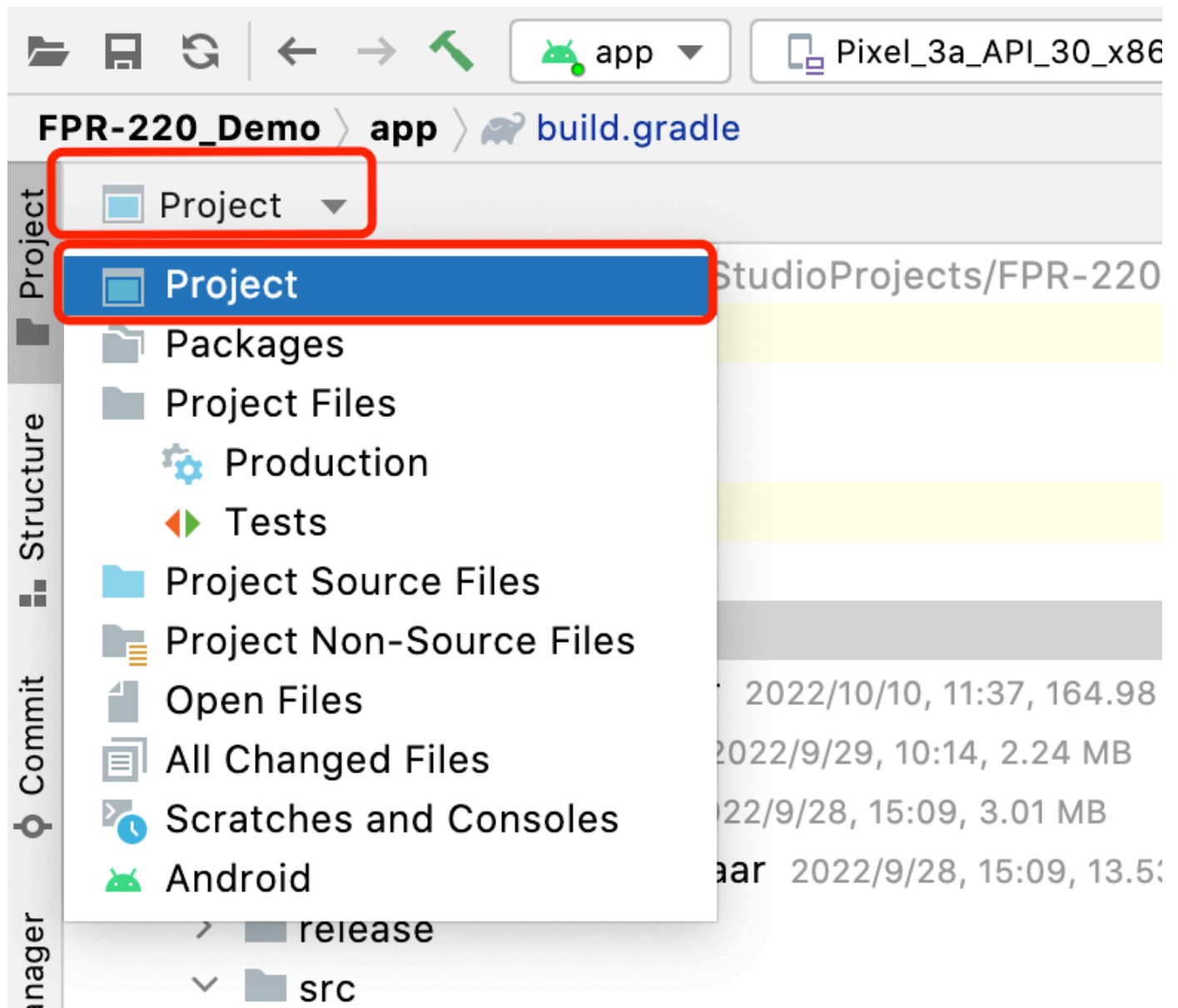Create a new Empty Activity application project,You can refer to [Android Developer](#) to create an Android project.

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:
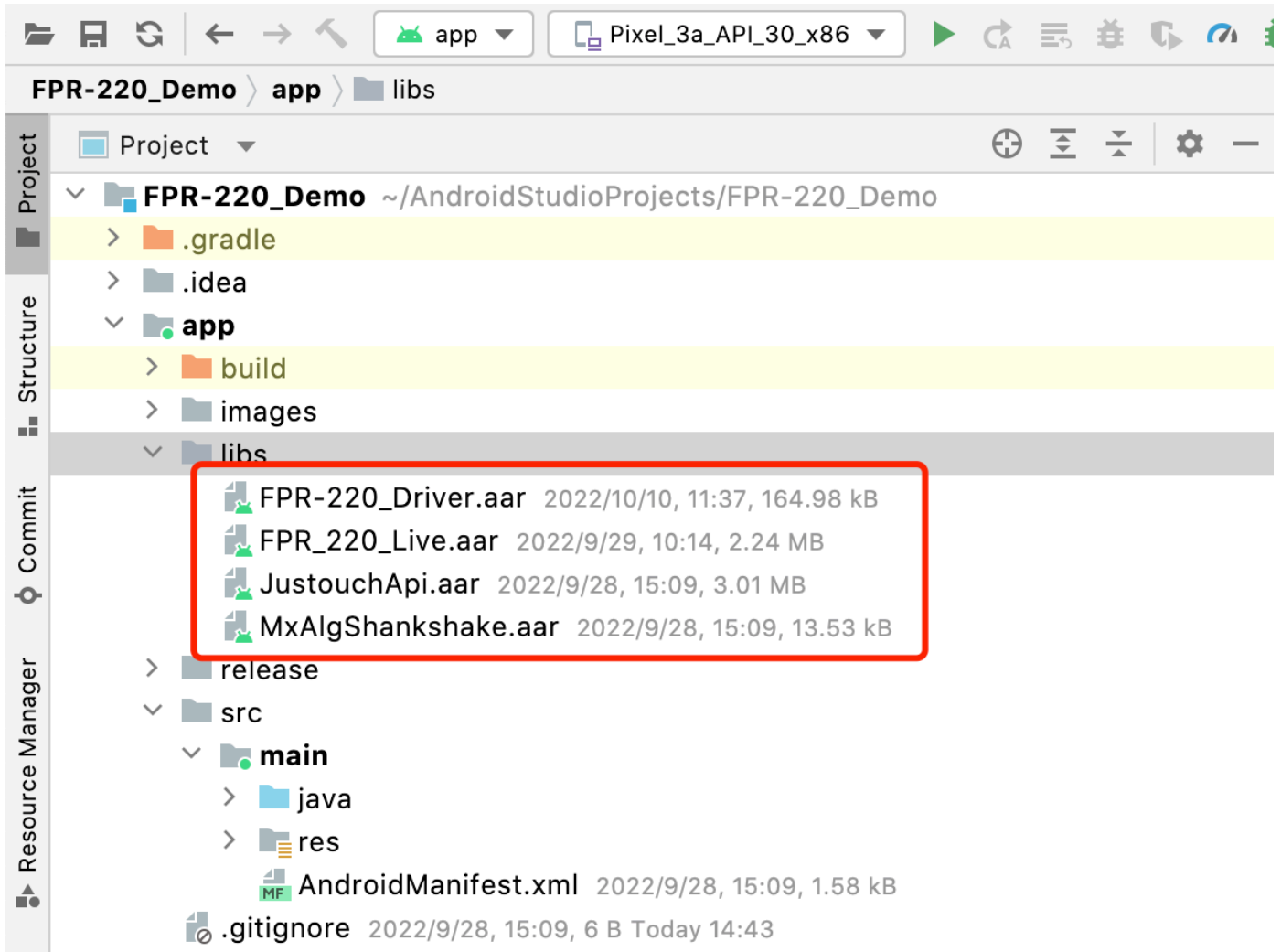

3.1.3. Add aar file

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.

`FPR-220_Driver.aar` is used to access `FPR-220` 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 FPR-220 Driver API

Get a instance of FPR-220 driver API :

```
mxComFingerDriver mDriverApi = new mxComFingerDriver();
// do something with mDriverApi
```

Capture fingerprint image from FPR-220 device:

```
byte[] image = new byte[256 * 360];
```

```java
int imageResult = mDriverApi.mxGetFingerImageWithCompression(path, rate, 5000, image);
if (imageResult == 0) {
  // Capture successfully !
  MxImage mxImage = new MxImage(0, 256, 360, 1, image);
  // Convert raw image to Android bitmap
  byte[] imageDate = new byte[mxImage.width * mxImage.height + 1078];
  BmpLoader.Raw2Bmp(imageDate, mxImage.data, mxImage.width, mxImage.height);
  Bitmap bitmap = BitmapFactory.decodeByteArray(imageDate, 0, imageDate.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 :

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

Create FMR :

```java
MxImage image ; // capture from FPR-220
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 :

```java
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 FPR-220, there is no need to call initialization

4. Support Contact Information:

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