README_iOS

1. README

BytePlus Effect is real-time visual effects for gesture detection, interactive stickers, Beauty AR and industry leading computer vision technologies. BytePlus Effects enriches user experience with immersive video effects.

For more details of features introduction, please check our online documentation, on the "Product Overview" session. The online documentation website is:
https://www.byteplus.com/docs/6390/67321

2. iOS Platform

2.1 File Structure

2.1.1 Compressed File Structure

As follow is the compressed file structure, please check these files after you decompress the zip package. The picture shows the usual file structure, the structure tree shows the special full-volume version.

There might be different structures because of different versions, some have no dynamic library. Usually the ios sdk is using static library if there is no "dynamic" tag.

BytedEffects_347_static.ipa	iOS demo	356.4 MB
ios_c_sdk_static.zip	iOS sdk for developer	88.1 MB
iossample_static.zip	iOS sample project	425.2 MB

byted_effect_ios

|-- BytedEffects_xx_dynamic.ipa   //Demo with dynamic library on iOS

|-- BytedEffects_xx_static.ipa   //Demo with static library on iOS

|-- ios_c_dynamic.zip   //sdk with dynamic library

|-- ios_c_static.zip   //sdk with static library

|-- iossample_dynamic.zip   //Sample project with dynamic library

|-- iossample_static.zip   //Sample project with static library
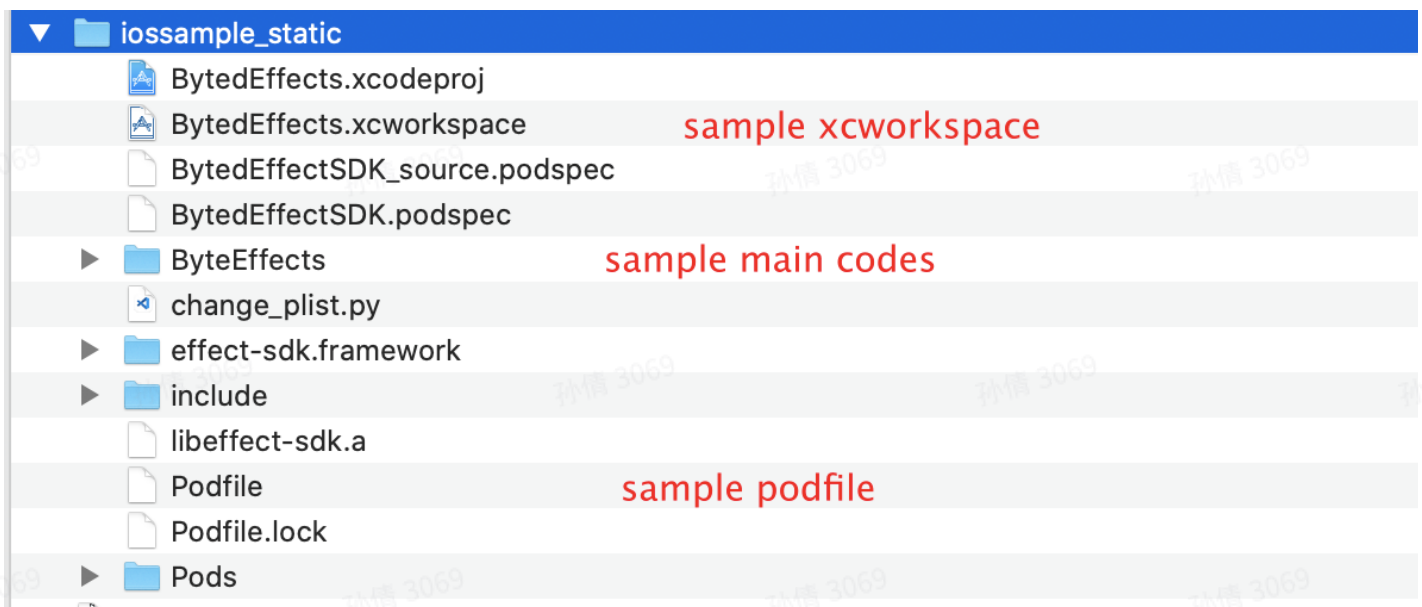
2.1.2 Sample Structure

The sample's structure might be a little difficult to explain clearly because of its depth. In the README file, we just describe the first level of structure.

To see the structure of sample, especially the part how demo is coded, please check the online document:https://www.byteplus.com/docs/6390/67354, it's on the session of "Sample App Code Structure".

2.1.2.1 The versions before V4.1.0.0

If your sdk is the previous version of V4.1.0.0, such as V4.0.3.3 or V4.0.2.6, the sample structure would be as follow:

▼ 📁 iossample_static
    📄 BytedEffects.xcodeproj
    📄 BytedEffects.xcworkspace   sample xcworkspace
    📄 BytedEffectSDK_source.podspec
    📄 BytedEffectSDK.podspec
  ▶ 📁 ByteEffects   sample main codes
    📄 change_plist.py
  ▶ 📁 effect-sdk.framework
  ▶ 📁 include
    📄 libeffect-sdk.a
    📄 Podfile   sample podfile
    📄 Podfile.lock
  ▶ 📁 Pods

```SQL
1  BytedEffects
2  |-- effect-sdk.framework
3  |-- ByteEffects          // The main codes and resources of demo
4  |-- include                      // Head files
5  |-- Pods
6  |-- Podfile
7  |-- BytedEffectSDK.podspec
8  |-- libeffect-sdk.a              // Effect lib
9  |-- Podfile.lock
10 |-- change_plist.py
11 |-- BytedEffects.xcodeproj        // The xcode project
12 |-- BytedEffects.xcworkspace      // The xcode workspace
```

2.1.2.2 The version 4.1.0.0

If your sdk is version 4.1.0.0, the sample structure would be as follow:
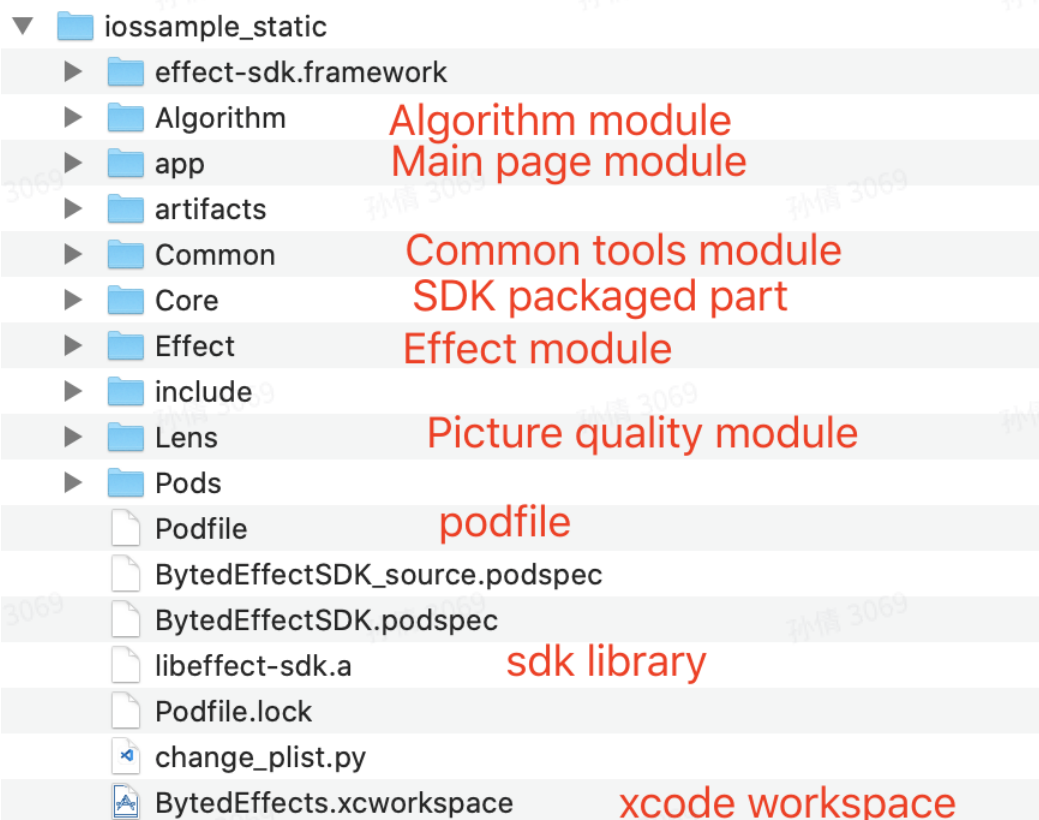
```sql
1   sample
2   |-- effect-sdk.framework    // Dynamic library of sdk framwork
3   |-- Algorithm    // Algorithm module
4   |-- app          // Main page module
5   |-- artifacts
6   |-- Common       // Common tools module
7   |-- Core         // SDK packaged codes
8   |-- Effect       // Effect module
9   |-- include
10  |-- Lens         // Picture quality module
11  |-- Pods
12  |-- Podfile      // Podfile
13  |-- BytedEffectSDK_source.podspec
14  |-- libeffect-sdk.a          // Static library of sdk
15  |-- Podfile.lock
16  |-- change_plist.py
17  |-- BytedEffects.xcworkspace  // Xcode workspace
```

2.2 Sample Operation Guide

This guide describes how to run the sample step by step. The sample is the important reference for you to integrate SDK to your own project, please check the sample in detail.

2.2.1 Local Environment Configuration

Components to be installed:

- cocoapods
- Xcode

2.2.2 How to install cocoapods

Open the terminal of computer, execute the command:

`sudo gem install cocoapods`

2.2.3 Procedure

1. Decompress the iossample.zip, make sure the sample is NOT in the read-only directory, otherwise next steps will fail.
2. Open the folder in your terminal and execute `pod repo update`.

3. Execute `pod install`.
4. Open BytedEffects.xcworkspace.
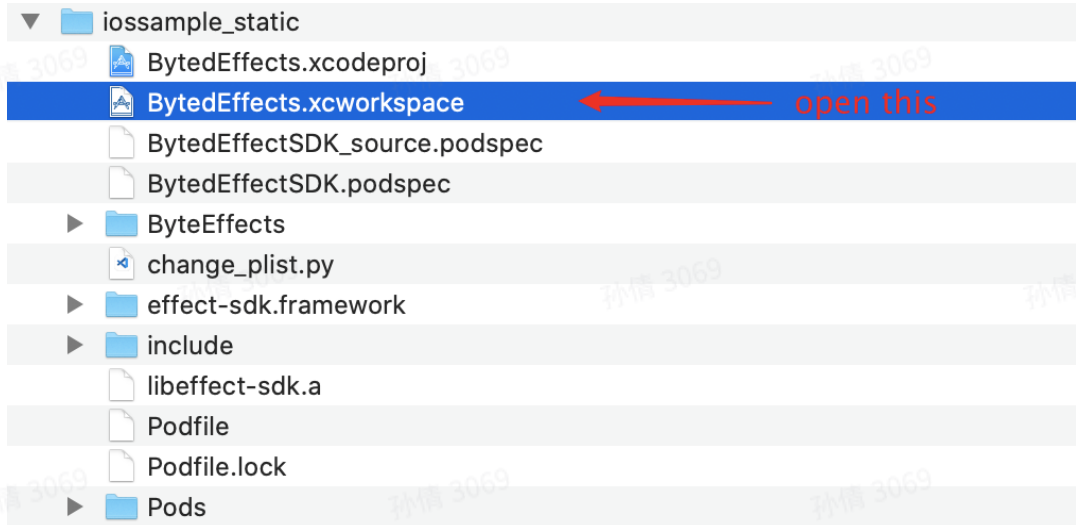
2.2.4 Notice

Do Not Change the Bundle ID

The CV SDK verifies Bundle ID, so it needs to require additional license if necessary. About the license, please check the session "License Guide" in this file.

License Time

If the phone time is not within the license period, calls to the CV SDK will fail. For the specific license time, refer to the middle part of license file.

For example, default license file is "labcv_test_20210225_20210831_com.bytedance.labcv.demo_v4.0.2.4.licbag", this license period is from February 25, 2021 to August 31, 2021.

2.3 License Guide

For the preview of features, the sample's license is full of features but Bundle ID is unchanged, default id is `com.bytedance.labcv.demo`.

If you need your own Bundle ID for trial integration, you can contact us for trial lic and encrypted resources which are matched lic. The following guide is a step by step after you get your own lic and encrypted resources.
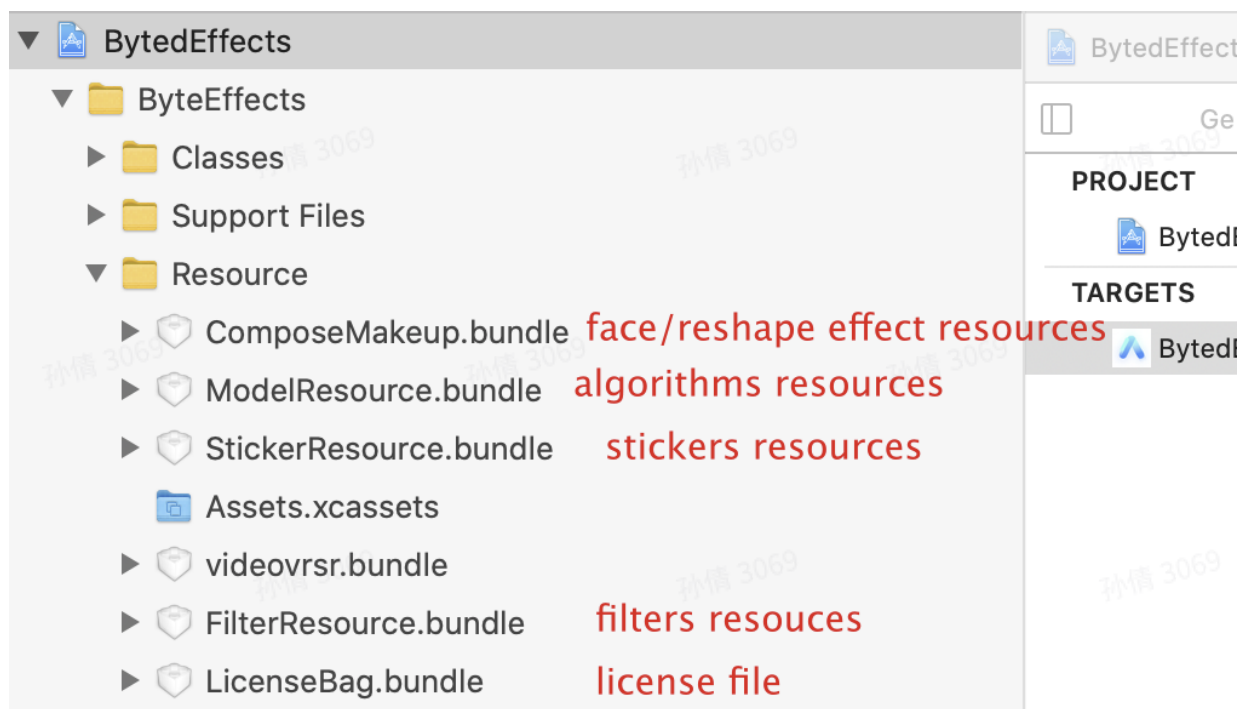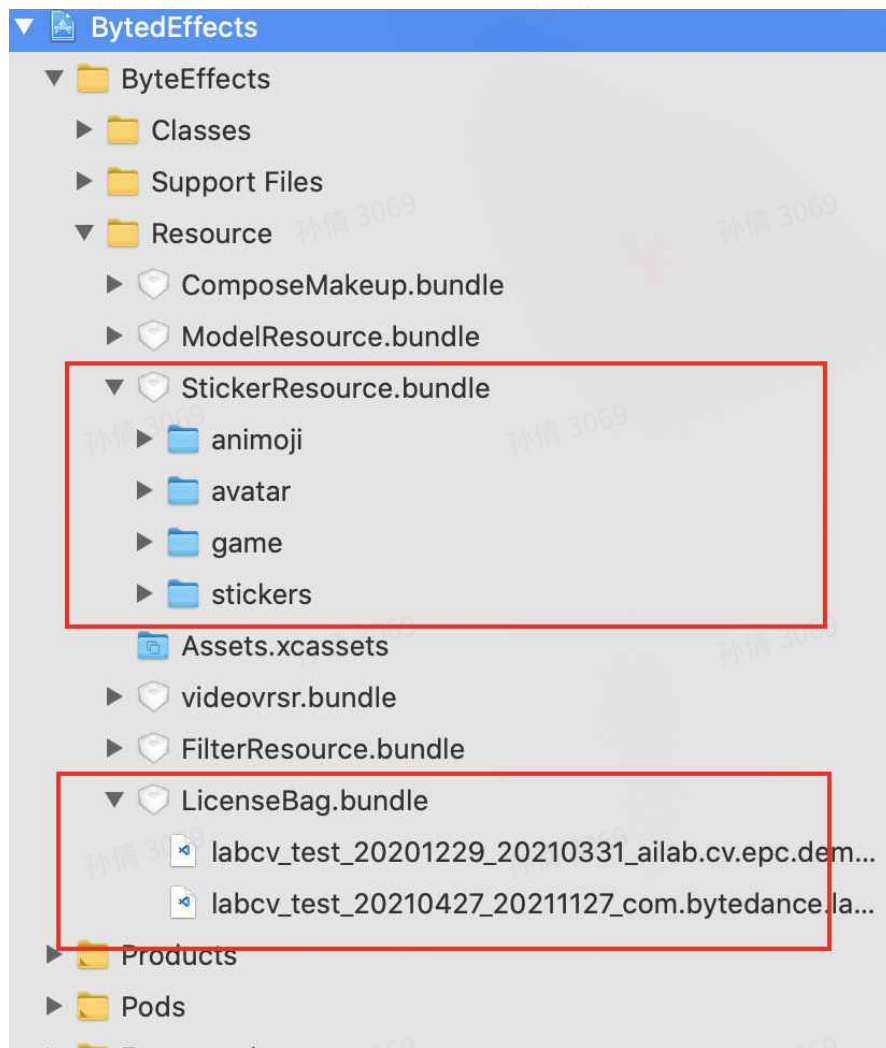
2.3.1 Replace the Lic and Resources

· If you get the "LicenseBag.bundle" and other Resources bundle, you can replace these files directly on the path:

"iossample/BytedEffects/Resource/"
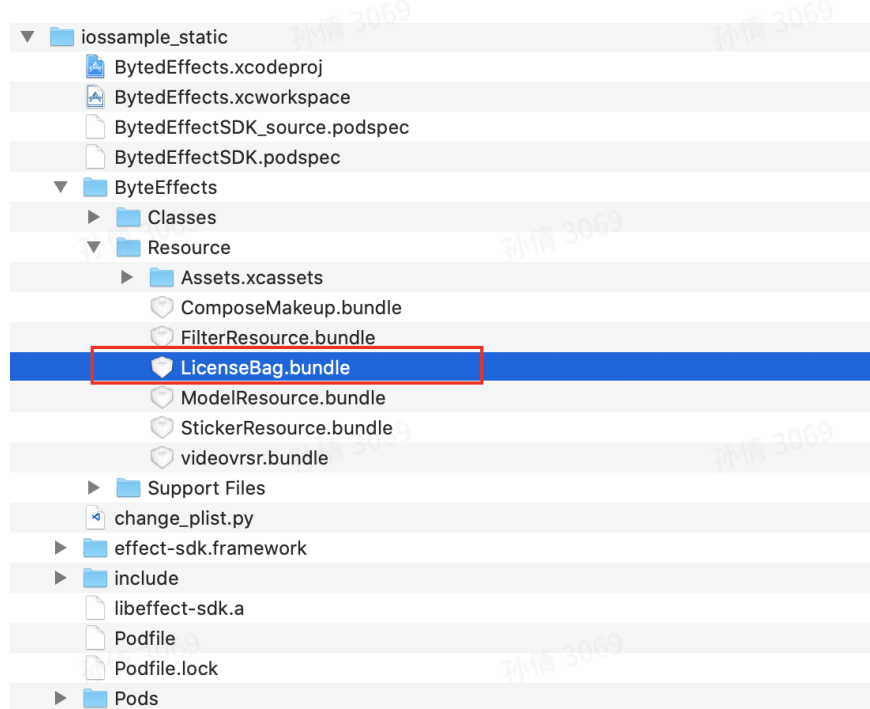
· If you get the .lic file and sticker folders, you need to replace the files in the project, or unzip the bundle and copy them into sticker folder.
  ◦ The resource structure is as follow:

stickers folder
each folder is a sticker
such as: folder baby_gan
is a sticker named baby_gan

BytedEffects

    |-- Resource

        |-- Assets.xcassets   // Icons and other assets

        |-- ComposeMakeup.bundle   // Contain most effect resources
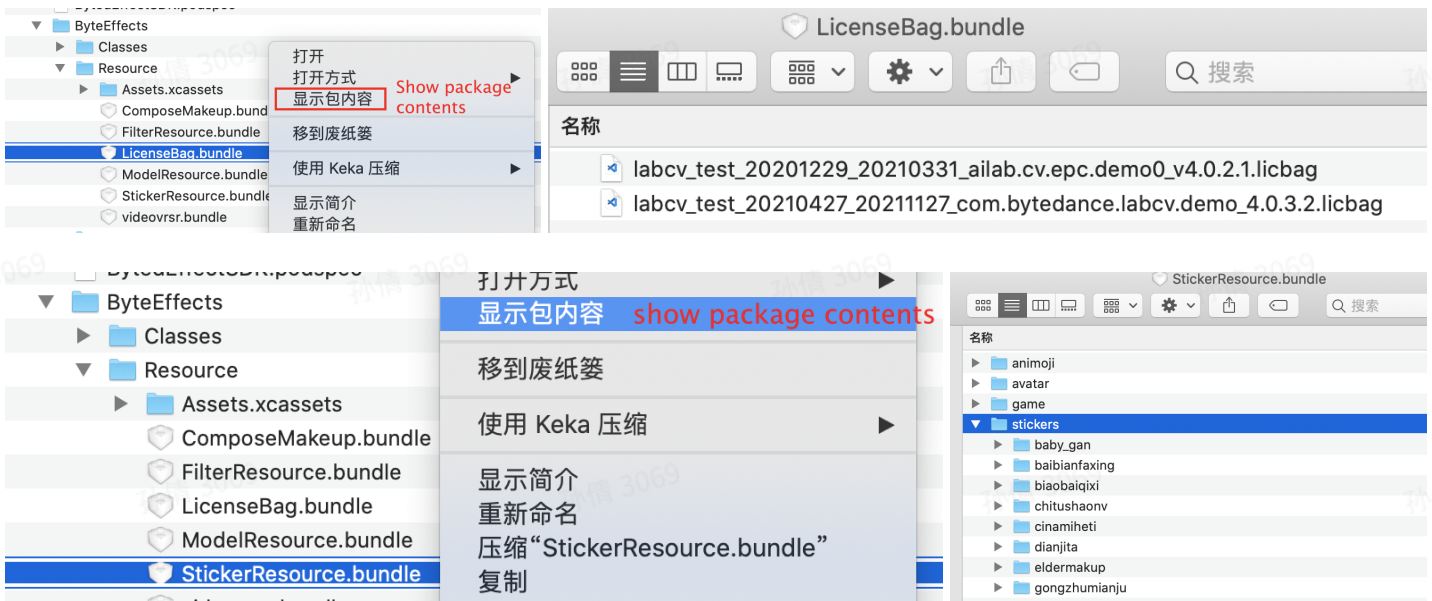
        |-- FilterResource.bundle   // Contain filter resources

```
|-- LicenseBag.bundle
    |-- NAME_TIME_ID_VERSION.licbag
|-- ModelResource.bundle          // Contain model files for different algorithms
|-- StickerResource.bundle        // Contain sticker resources
    |-- game              // Game stickers
    |-- sticker           // Sticker folder
        |-- baibianfaxing    // Sticker path
|-- videovrsr.bundle
```

Or you can use unzip the bundle to replace the file:

For more details of resource structure, please check the online doc: https://www.byteplus.com/docs/6390/67379.

2.3.2 Change the Bundle ID and License Path

1. Choose the BytedEffect.xcodeproj in Xcode after open the .xcworkspace, check the "Sign & Capabilities" tag, find the "Bundle Identifier", change it into your bundle id, both debug tag and release tag need to be changed.
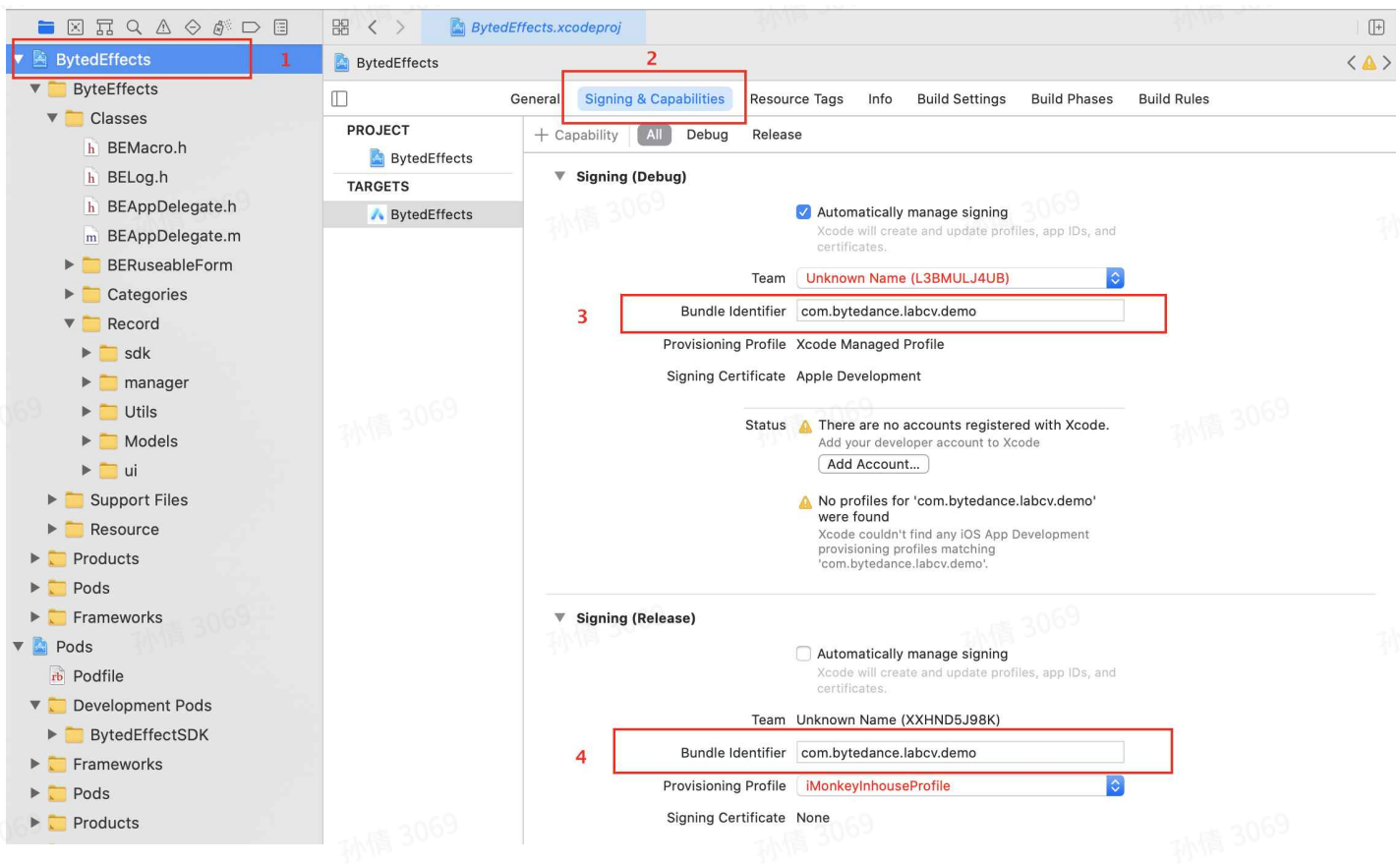
2. Search the `LICENSE_NAME`, and replace the value into your lic name.
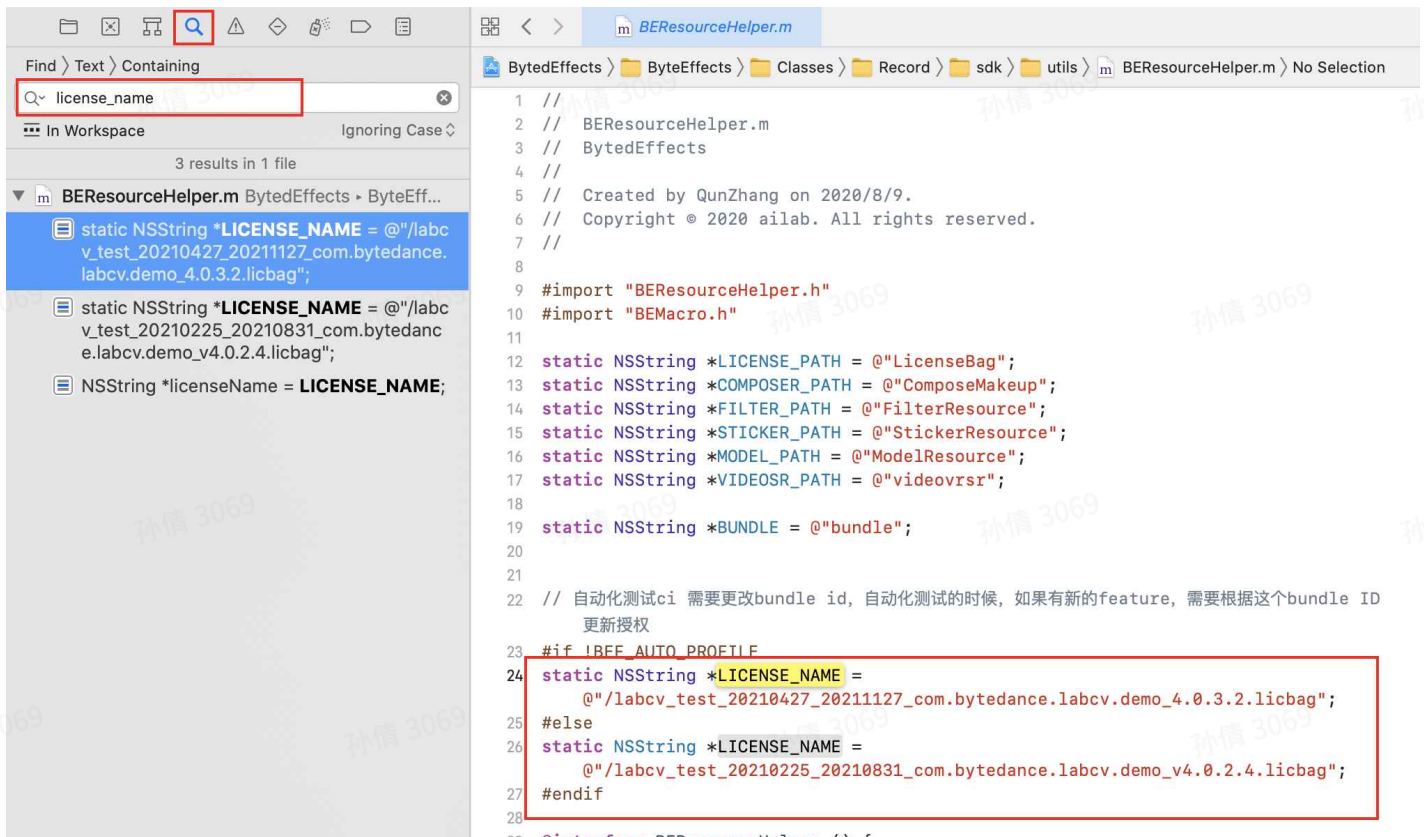

2.4 SDK Quick Access Preparing

This guide is the steps before you integrate SDK into your own project.

The integration is about how to use the interfaces of SDK, details are in the online doc: https://www.byteplus.com/docs/6390/67338, the sessions are "SDK Quick Access Guide" and "Developer API Documentation". Please check it in detail in the process of your integration.

2.4.1 Importing SDK to Project

1. If cocoapods is used in your project, go to step 3; if not, go to step 2.
2. In the root directory of your project, execute `pod init && pod install` in your terminal to obtain the Podfile file.
3. Open the iossample folder, and copy the BytedEffectSDK.podspec, libeffect-SDK.a, and include files to the root directory of your project.
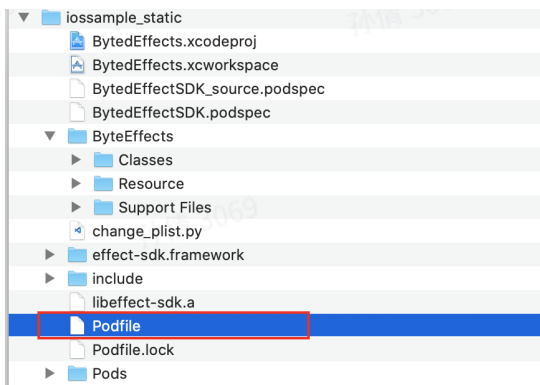

BytedEffects
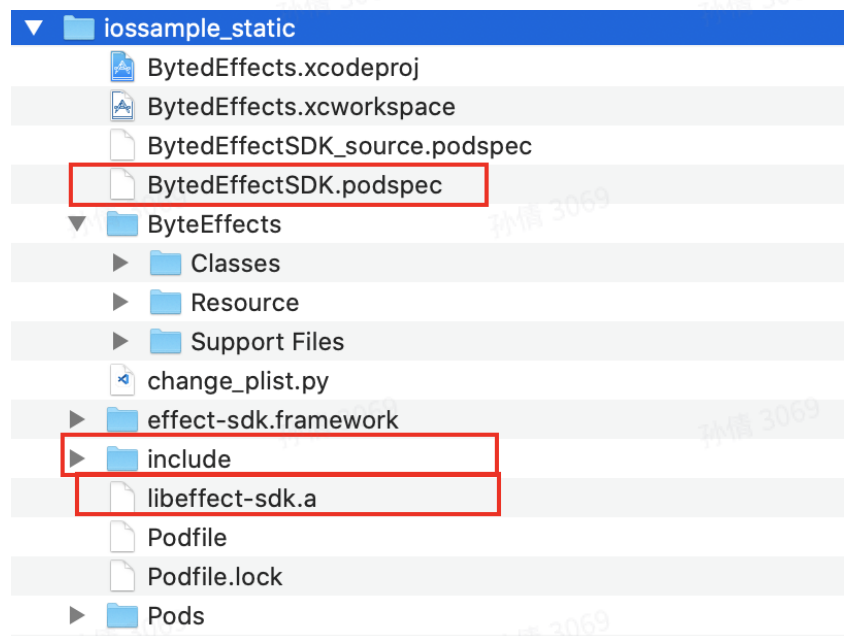
|-- BytedEffectSDK.podpec   // Copy this file

|-- libeffect-SDK.a   // Copy this lib
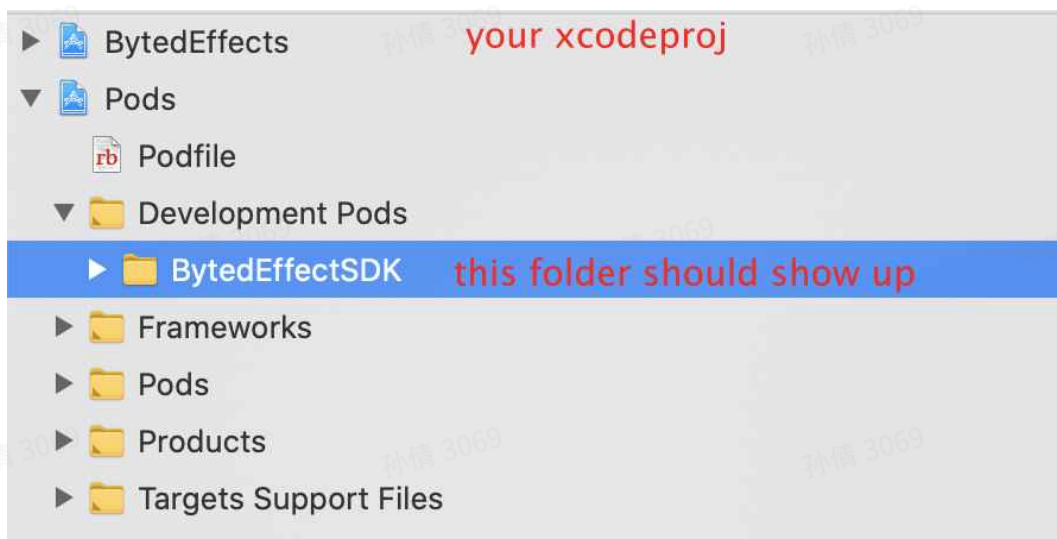
|-- include   // Copy this folder

…

4. Open your Podfile file, and add a new line: `pod 'BytedEffectSDK', :path => './'`

5. Execute `pod install` and open [YourProjectName].xcworkspace. BytedEffectSDK exists in the Pods/Development Pods directory.

After you open the .xcworkspace, the structure is like:

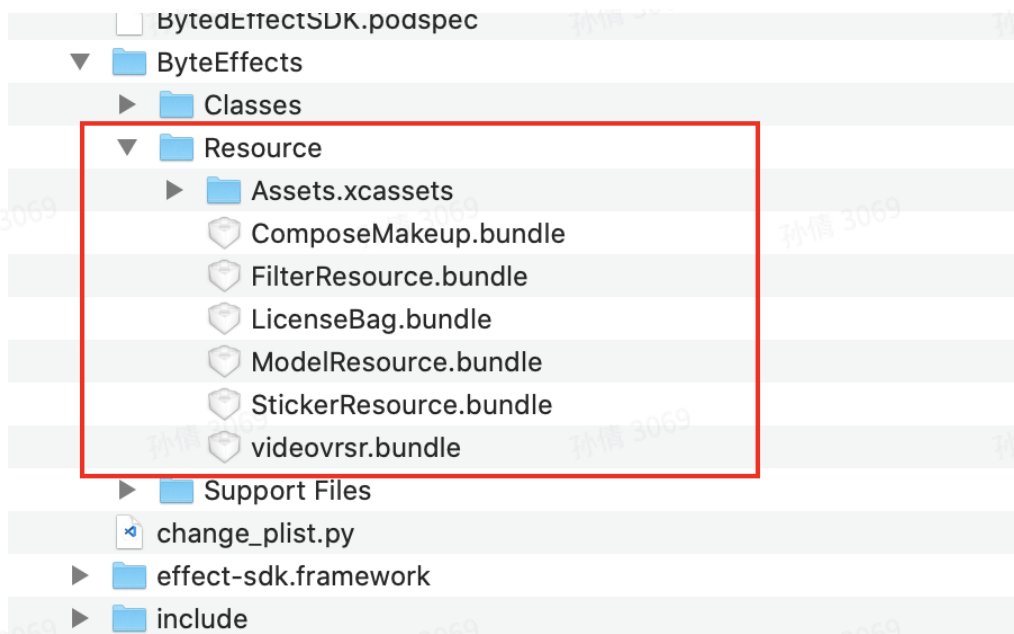```
Pods
    |-- Development
        |-- BytedEffectsSDK   // Check if this folder exists
...
```

6. Copy the provided material package (typically the resource folder, sometimes the .bundle files) to the project.

## 2.4.2 Before starting to integrate

In this section are the prepare steps before you integrate the SDK with the Objective-C code encapsulated in the sample, which means you would like to use the code in the sample. If you would not like to use the code in the sample, after importing the SDK, you could check the session "Developer API Documentation" and find the API introduction.

For details on how to deploy the procedure and use the APIs provided in the CV SDK, please check this doc: https://www.byteplus.com/docs/6390/67336#integrating-sdk-in-code.

### 2.4.2.1 The versions before V4.1.0.0

If your sdk is the previous version of V4.1.0.0, such as V4.0.3.3 or V4.0.2.6, the steps are as follow:

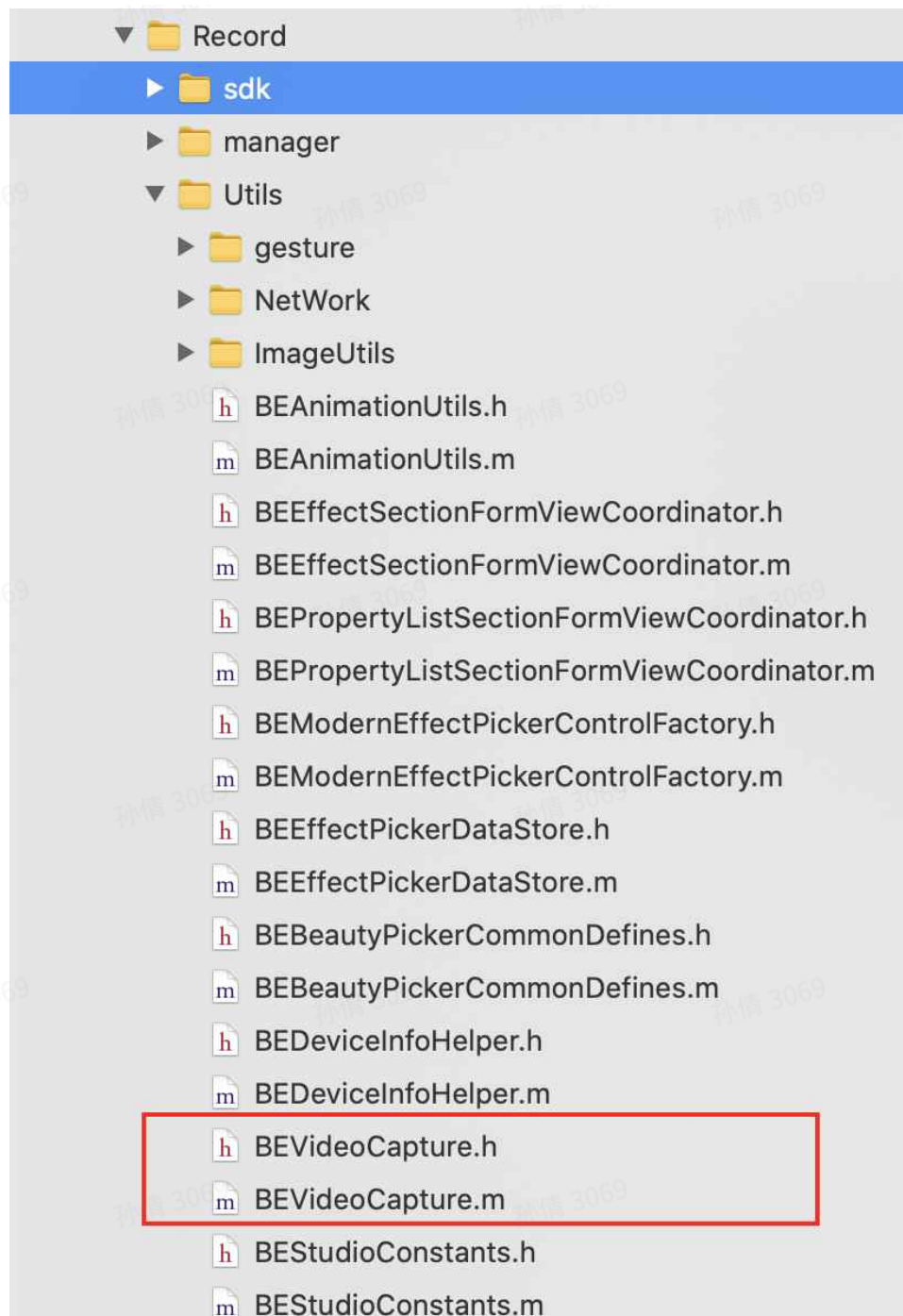1. Copy following files of the iossample project to your project:
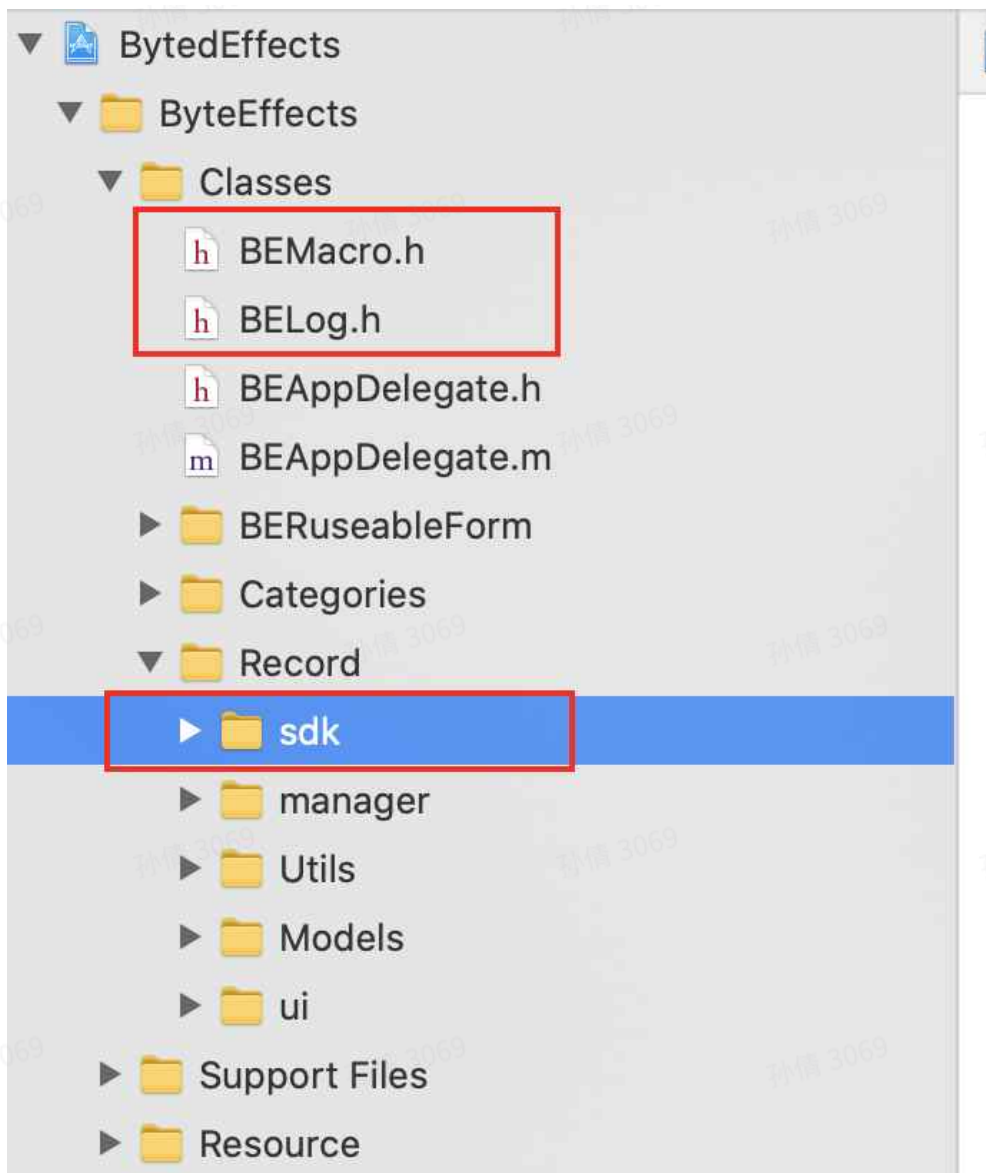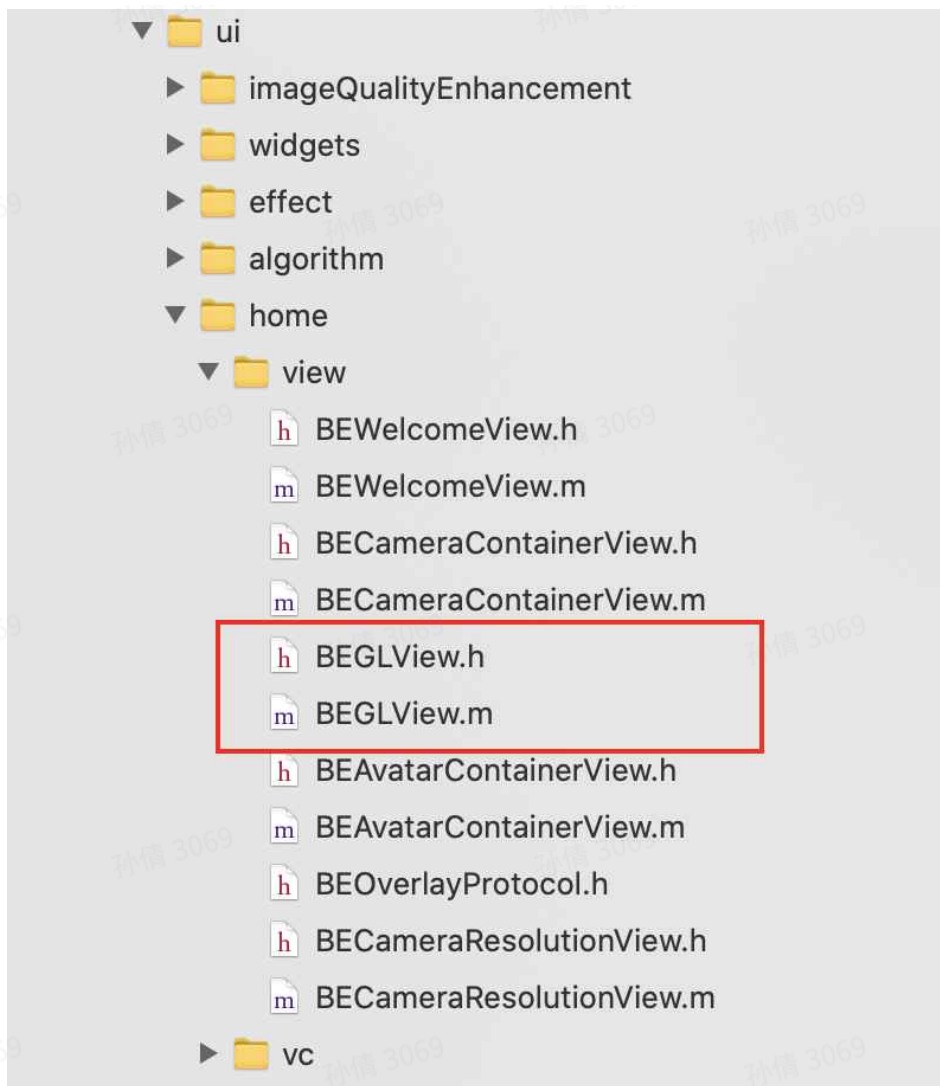
```sql
SQL

1  BytedEffects
2  |-- Classes
3     |-- BEMarco.h                    // Copy this file
4     |-- BELog.h                      // Copy this file
5     |-- Record
6        |-- sdk                       // Copy this folder
```

2. To use the video capture and drawing APIs provided in the sample, copy following files to your project:

▼ 📁 Record
  ▶ 📁 **sdk**
  ▶ 📁 manager
  ▼ 📁 Utils
    ▶ 📁 gesture
    ▶ 📁 NetWork
    ▶ 📁 ImageUtils
    h BEAnimationUtils.h
    m BEAnimationUtils.m
    h BEEffectSectionFormViewCoordinator.h
    m BEEffectSectionFormViewCoordinator.m
    h BEPropertyListSectionFormViewCoordinator.h
    m BEPropertyListSectionFormViewCoordinator.m
    h BEModernEffectPickerControlFactory.h
    m BEModernEffectPickerControlFactory.m
    h BEEffectPickerDataStore.h
    m BEEffectPickerDataStore.m
    h BEBeautyPickerCommonDefines.h
    m BEBeautyPickerCommonDefines.m
    h BEDeviceInfoHelper.h
    m BEDeviceInfoHelper.m
    h BEVideoCapture.h
    m BEVideoCapture.m
    h BEStudioConstants.h
    m BEStudioConstants.m

```sql
SQL

 1  BytedEffects
 2  |-- Classed
 3      |-- Record
 4          |-- Utills
 5              |-- BEVideoCapture.h          // Copy this file
 6              |-- BEVideoCapture.m          // Copy this file
 7          ...
 8          |-- ui
 9              |-- home
10                  |-- view
11                      |-- BEGView.h          // Copy this file
12                      |-- BEGView.m          // Copy this file
```
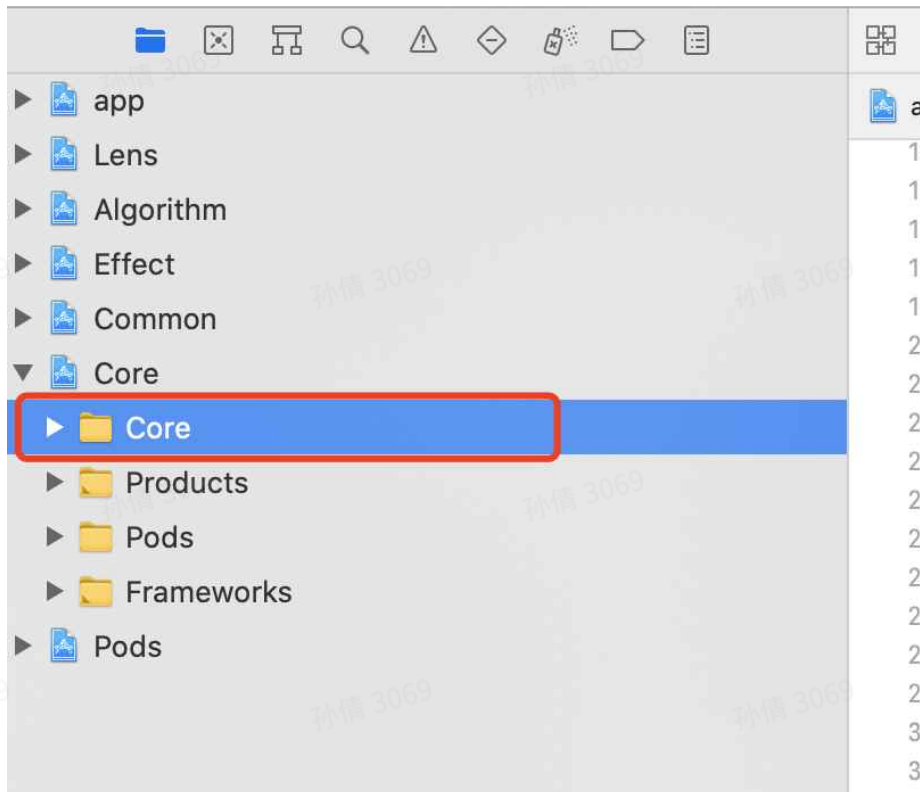
For more information, refer to the doc: https://www.byteplus.com/docs/6390/67336#appendix-1-using-the-video-capture-and-drawing-apis-in-the-sample (This step is not required if the streaming or image processing functions are available in your project).

The code mentioned above may have dependencies on other code in the sample. You may copy the dependent code to your project as well.

2.4.2.2 The version 4.1.0.0

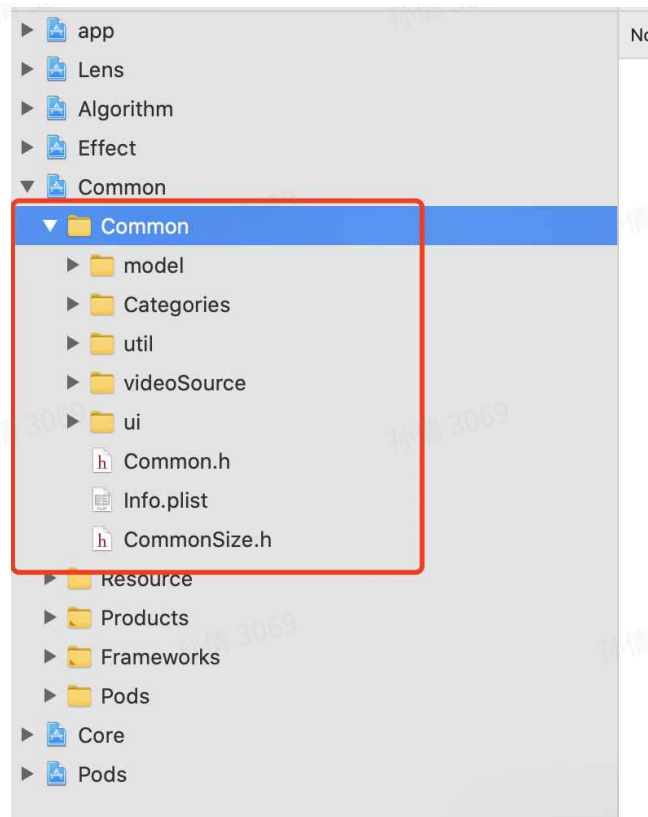If your sdk is version 4.1.0.0, please check the following steps:

1. Copy the following folder of the iossample project to your project:


```SQL
1   sample
2      |-- Core
3          |-- Core          // Copy this folder
```

2. To use the video capture and drawing APIs provided in the sample, copy the following folder to your project:

```SQL
1   iossample
2   |-- Common
3       |-- Common          // Copy this folde
```

For more information about the camera capture or render interfaces, refer to the doc: https://www.byteplus.com/docs/6390/67336#appendix-1-using-the-video-capture-and-drawing-apis-in-the-sample (This step is not required if the streaming or image processing functions are available in your project).

The code mentioned above may have dependencies on other code in the sample. You may copy the dependent code to your project as well.

3. Common Issues and Error Code Table

About the common issues, please check the online doc: https://www.byteplus.com/docs/6390/67375, the sessions are Licensing Issue and Effect Issue.

Please check the online doc about Error Code Table: https://www.byteplus.com/docs/6390/67378

4. Contact Us

If you have any questions about our sample or SDK, please contact us on the BytePlus official online: https://www.byteplus.com/en/contact/

Or you can send your issues or problems to our technical consultant by email:

sunqian.404@bytedance.com