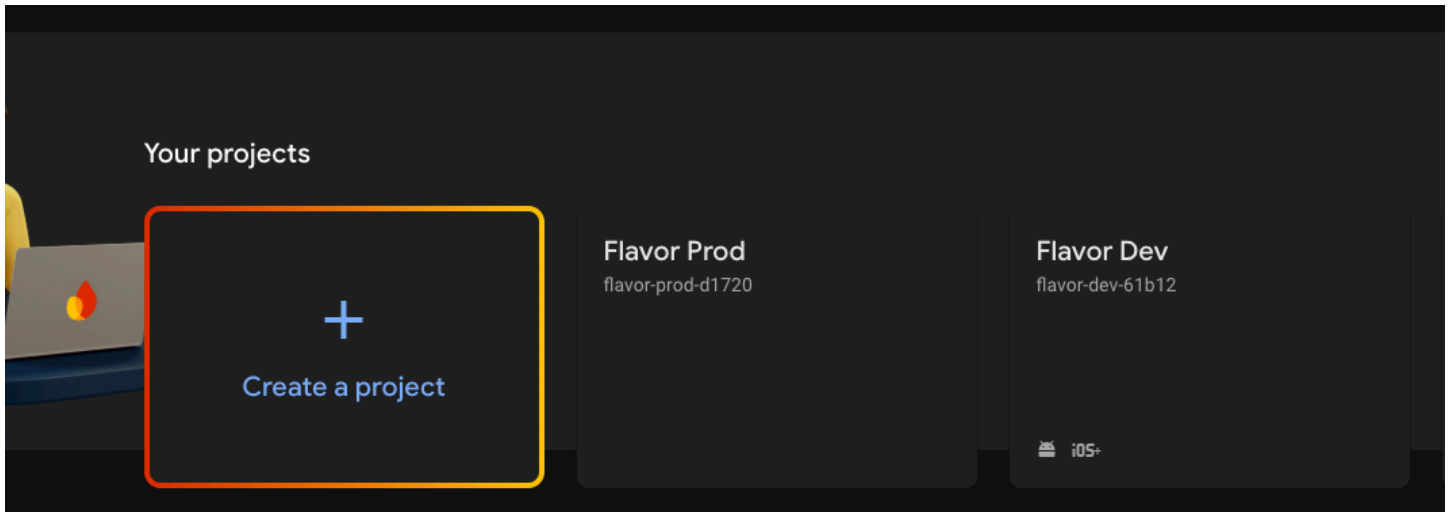


# Flutter Flavor Setup

## Step 1: Create a new project.

## Step 2: Configure the app to connect to Firebase

Create the app for iOS and Android in the Firebase console and download the `GoogleService-Info.plist` and `google-services.json` respectively.



## Step 3: Setup Build Flavor for Android

### 1. Adding build flavors to Android

Add flavors to `app/build.gradle` and it looks something like this

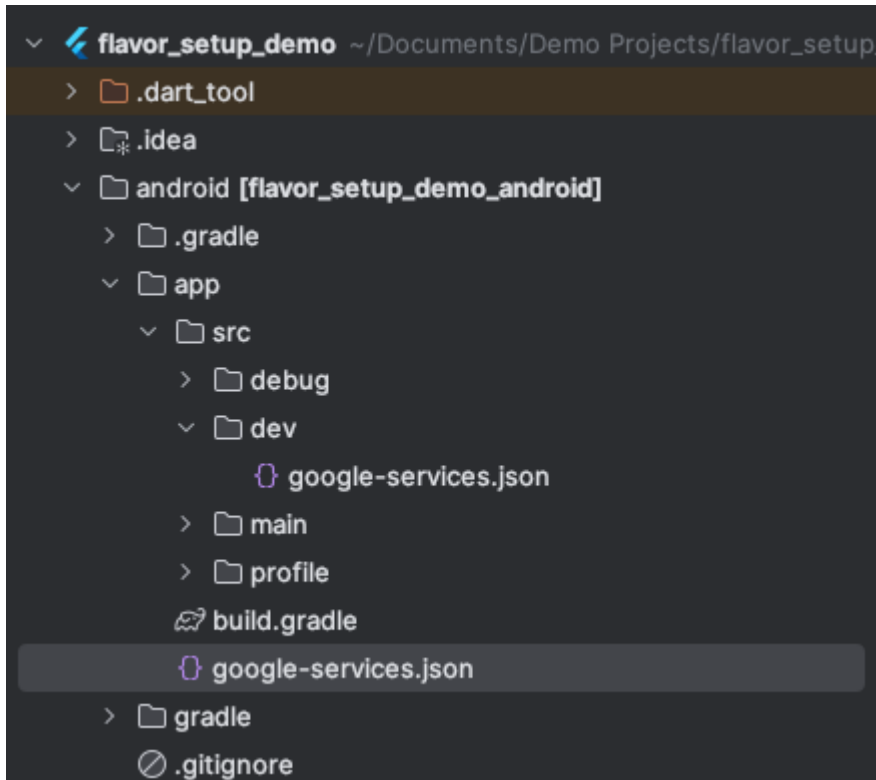
```
flavorDimensions "default"
productFlavors {
    prod {
        dimension "default"
        resValue "string", "app_name", "Flavor Demo"
    }
    dev {
        dimension "default"
        applicationIdSuffix ".dev"
        resValue "string", "app_name", "Dev Flavor Demo"
        versionNameSuffix ".dev"
    }
}
```

```
defaultConfig {
    // TODO: Specify your own unique Application ID (https://developer.android.com/studio/build/application-id.html).
    applicationId = "com.example.flavor_setup_demo"
    // You can update the following values to match your application needs.
    // For more information, see: https://flutter.dev/to/review-gradle-config.
    minSdk = flutter.minSdkVersion
    targetSdk = flutter.targetSdkVersion
    versionCode = flutter.versionCode
    versionName = flutter.versionName
}
```

As you see, my applicationId is `com.example.flavor_setup_demo` so when my flavor is dev then the `applicationIdSuffix` will add at the end i.e `"com.example.flavor_setup_demo.dev"`

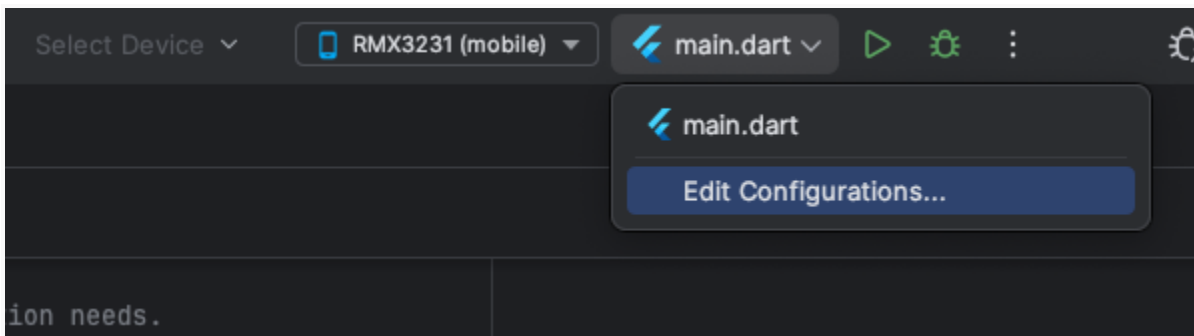
## 2. Organizing Firebase Config for Dev and Prod in Android

Create a folder `'dev'` in your project `android/app/src`, and add your android dev firebase project's `google-services.json` file. And add your prod `google-services.json` file in the `android/app` folder.



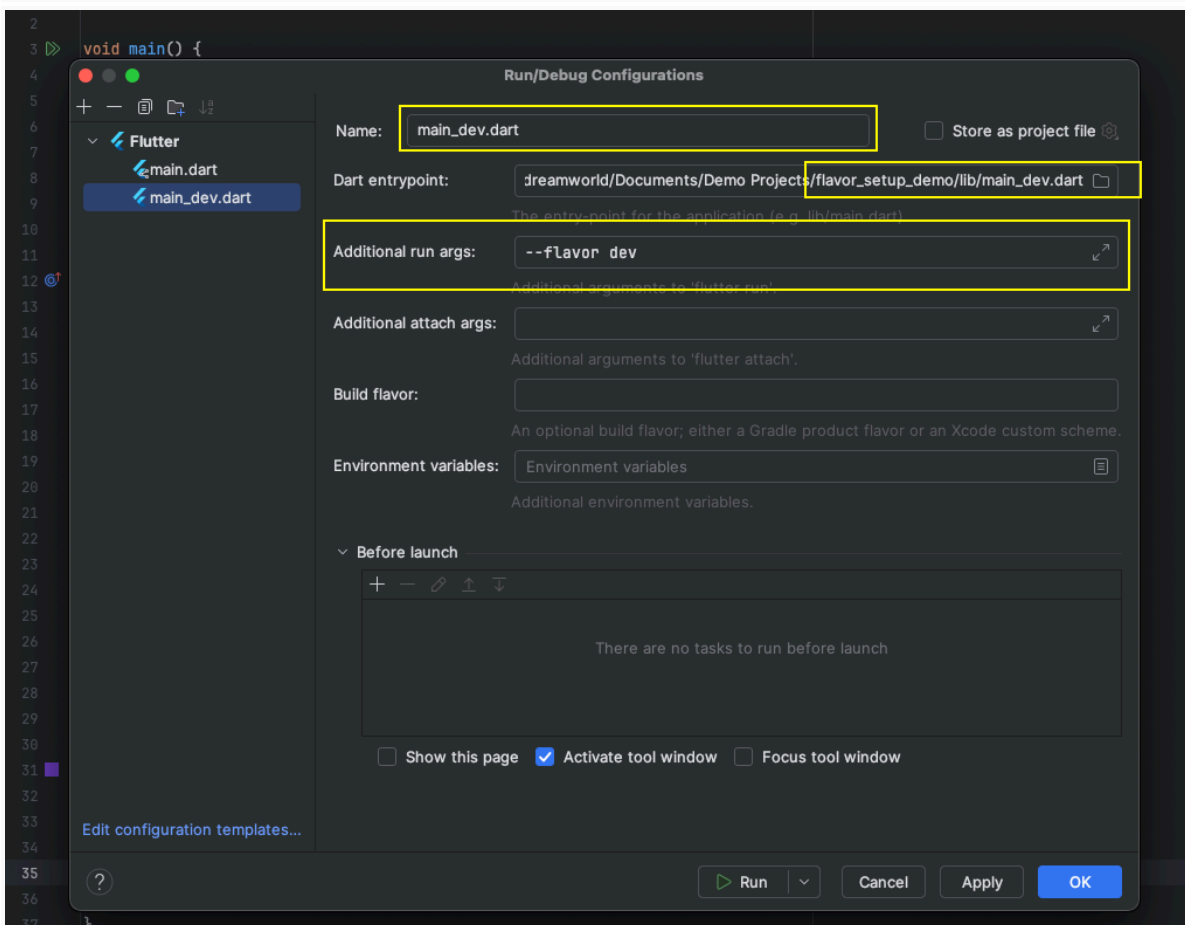
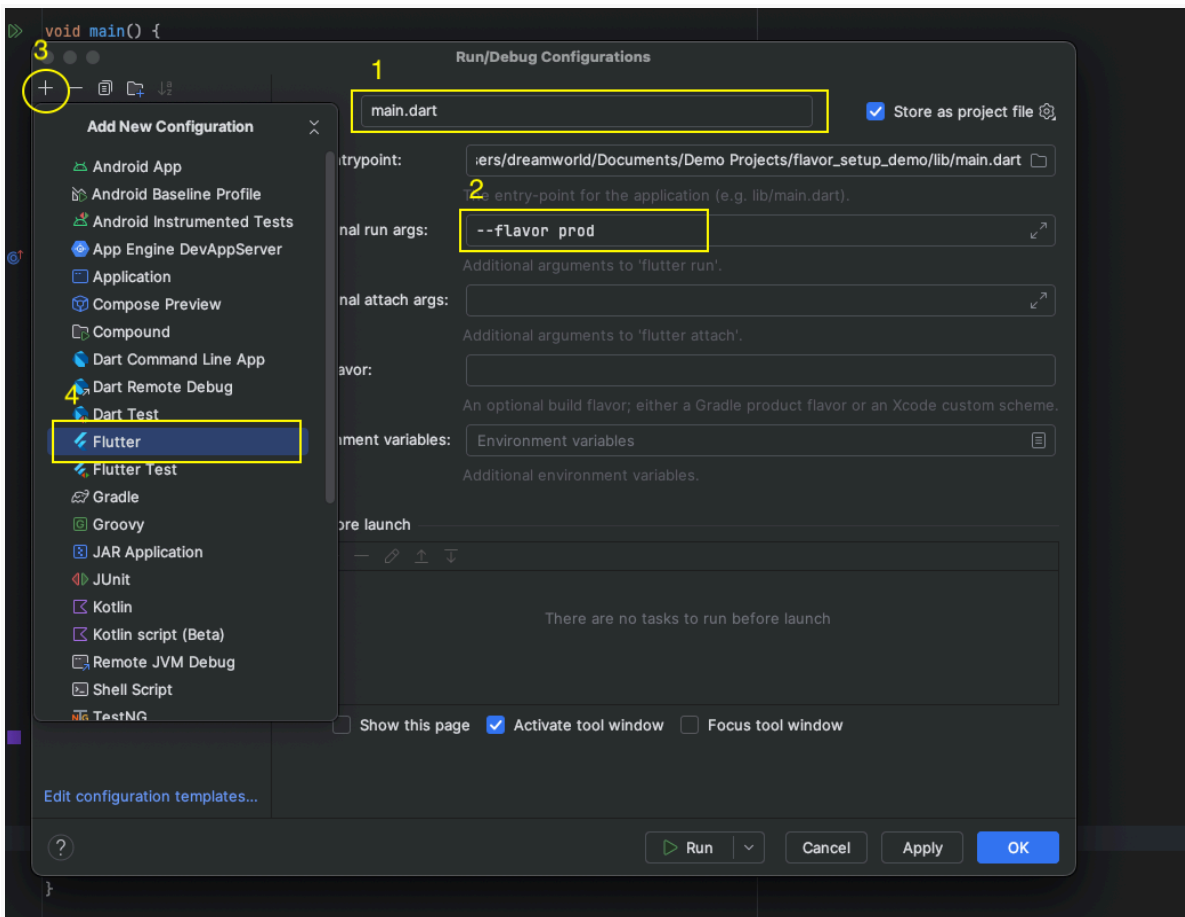
## 3. Setting Up a New Flutter Run Configuration for Development

Create a `main_dev.dart` file in your lib folder. Go to **Edit Configuration** -> Add New Configuration (+) -> Select Flutter -> Give name as `main_dev.dart` -> Select the path of `main_dev.dart`.



For `main.dart` : `--flavor prod`

For `main_dev.dart` : `--flavor dev`



Then Apply → Ok.

## Step 4: Create AppConfig File

Create a class AppConfig this singleton class is useful for storing flavor based configurations

```
import 'package:flutter/material.dart';

enum Flavor { prod, dev }

class AppConfig {
  String appName = "";
  String baseUrl = "";
  MaterialColor primaryColor = Colors.blue;
  Flavor flavor = Flavor.dev;

  static AppConfig shared = AppConfig.create();

  factory AppConfig.create({
    String appName = "",
    String baseUrl = "",
    MaterialColor primaryColor = Colors.blue,
    Flavor flavor = Flavor.dev,
  }) {
    return shared = AppConfig(appName, baseUrl, primaryColor, flavor);
  }

  AppConfig(this.appName, this.baseUrl, this.primaryColor, this.flavor);
}
```

## Step 5: Create Entry Point Each Flavor

### Entry point for Prod

In lib/main.dart file, you will define the flavor type and give the app a specific name, base url, primary color etc for the production environment.

```
void main() async {
  AppConfig.create(
    appName: "Prod Flavor Example",
    baseUrl: "https://apiurl.com",
    primaryColor: Colors.yellow,
    flavor: Flavor.prod,
  );

  runApp(const MyApp());
}
```

### Entry Point for Dev

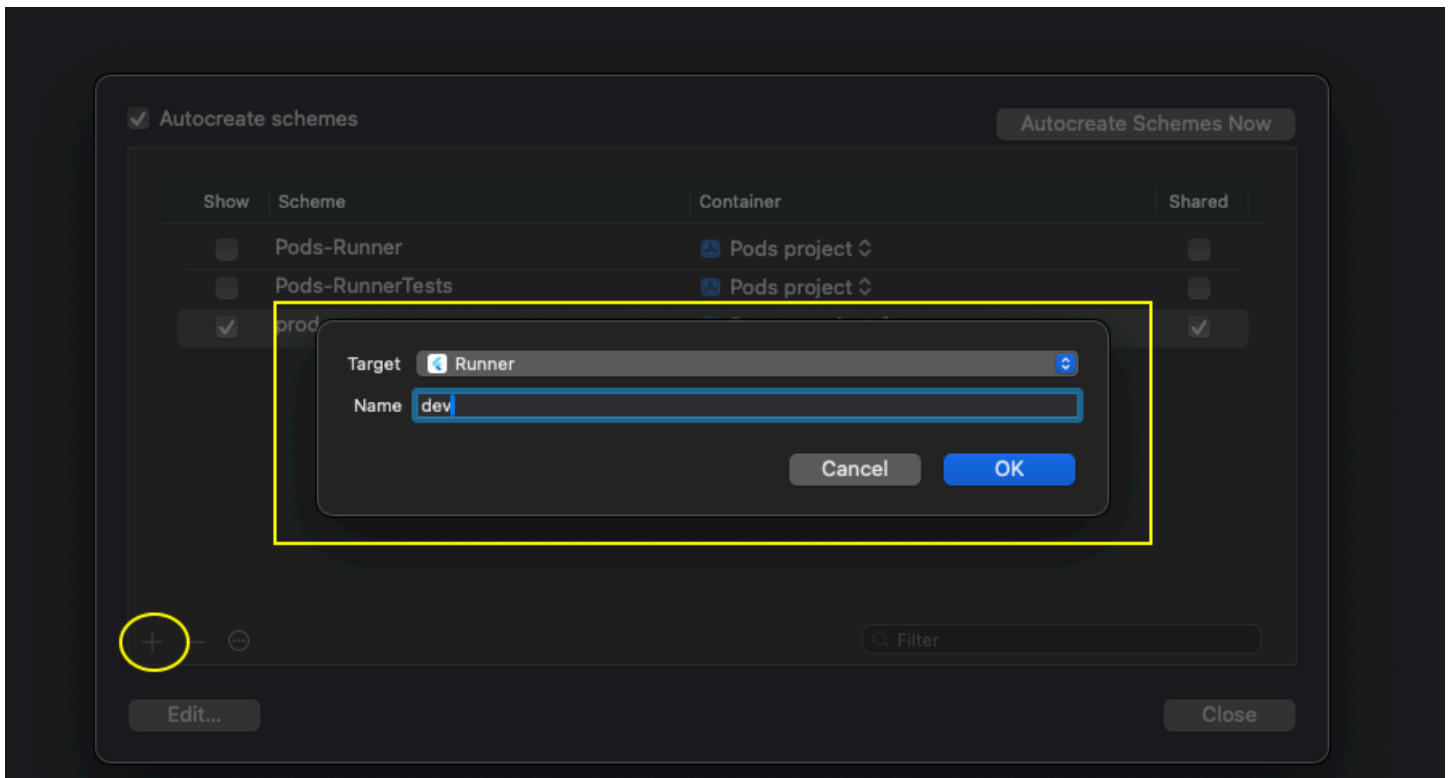
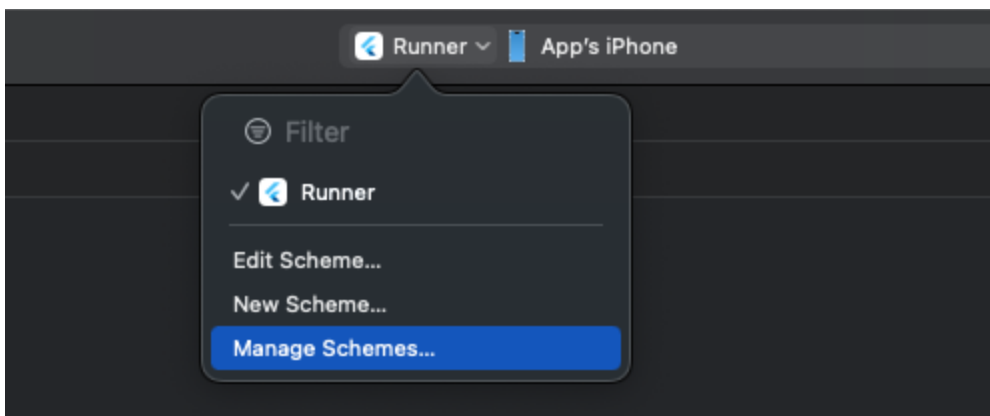
In lib/main\_dev.dart file, you will define the flavor type and give the app a specific name, base url, primary color etc for the staging environment.

```
void main() async {
```

```
AppConfig.create(  
  appName: "Dev Flavor Example",  
  baseUrl: "https://dev.apiurl.com",  
  primaryColor: Colors.blue,  
  flavor: Flavor.dev,  
);  
  
runApp(const MyApp());  
}
```

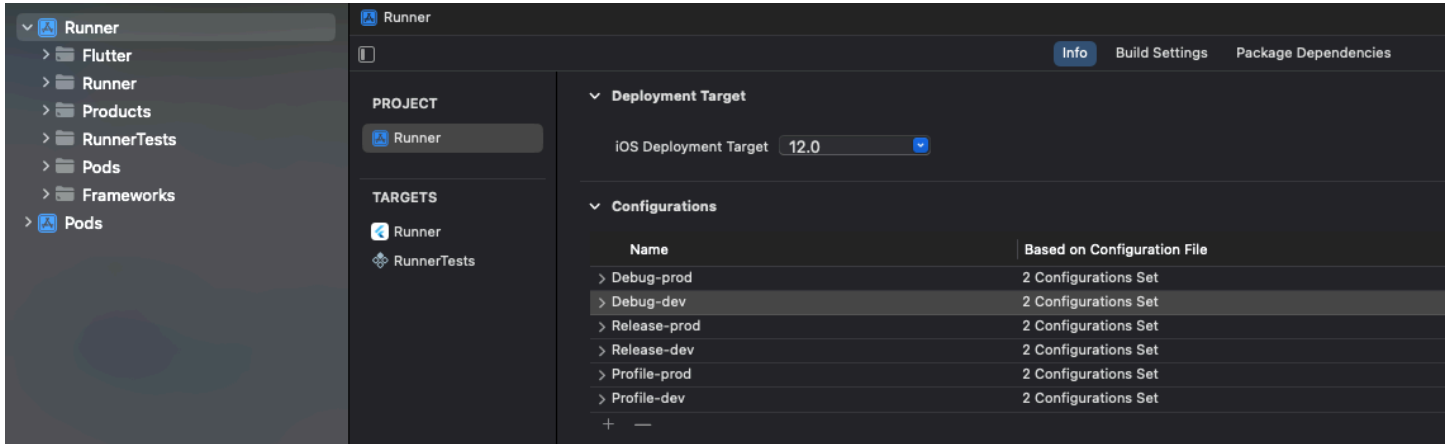
## Step 6: Setup Build Flavor for iOS

1. Open your project in Xcode.
2. Go to Manage Schemes → Change the name Runner to prod → (+) Add a new Scheme → select Target Runner → Name as 'dev'.

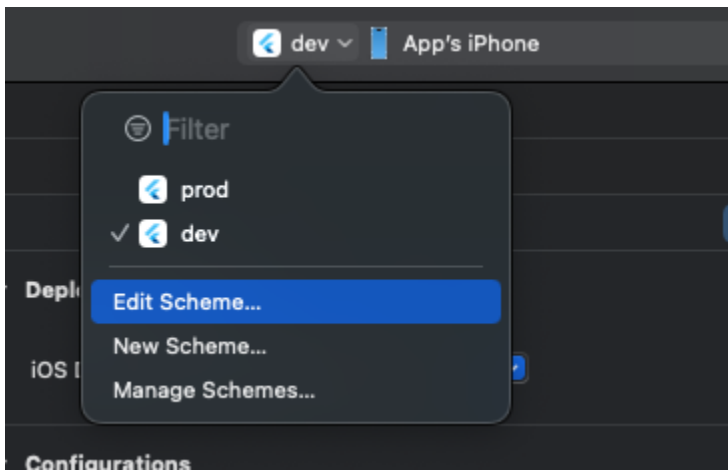


### 3. Duplicating Build Configurations with '-dev' Suffix

Go to Runner -> Info -> Configurations -> Add the duplicate of Debug, Release, Profile and set the suffix -dev to all like `Debug-dev`

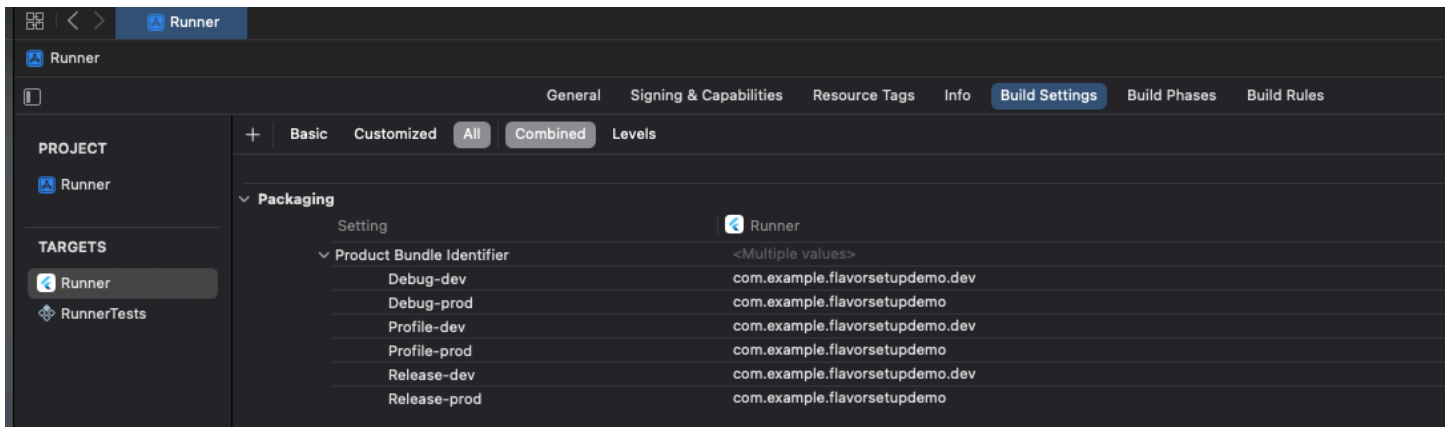


#### 4. Change the configurations for prod and dev by Edit Configuration.



#### 5. Set the Product Bundle Identifier

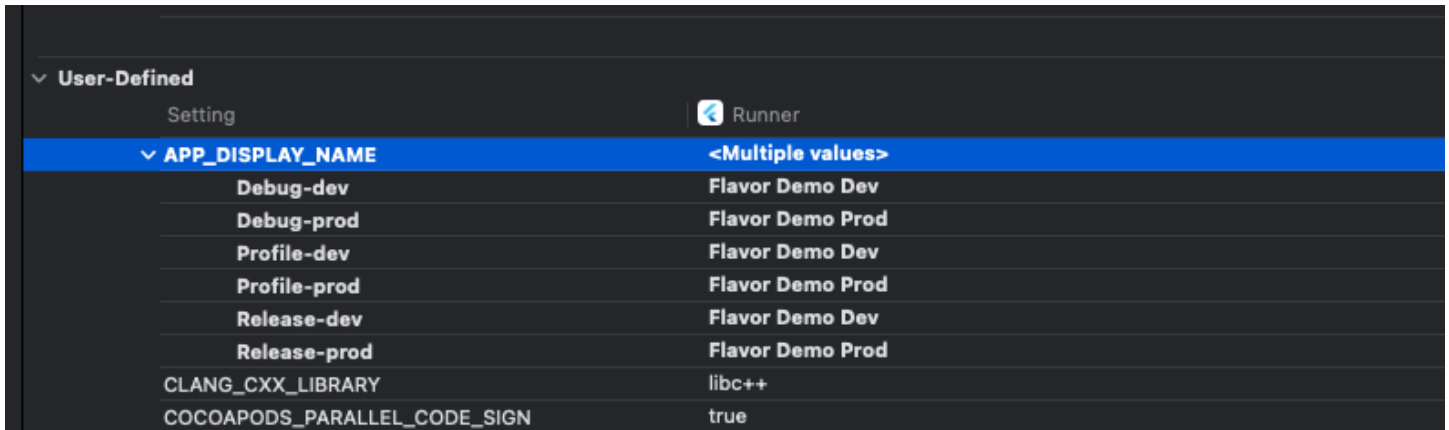
Go to Target Runner -> Build Setting -> Search the **Product Bundle Identifier** → Set the bundle name for dev and prod.



#### 6. Set App Display Name for different flavor

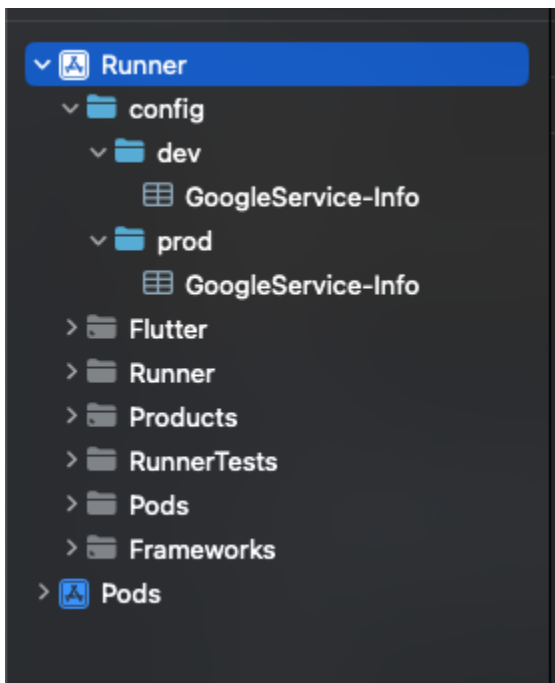
Now on **Build Setting** → Create **User Defined Setting** → Give the name as ``APP_DISPLAY_NAME`` and add the name of your project that you want to show to the user. And then set `$(APP_DISPLAY_NAME)` to info.plist file as:

```
<key>CFBundleDisplayName</key>
<string>$(APP_DISPLAY_NAME)</string>
```



## 7. Setting Up Firebase Config for iOS with Dev and Prod Flavors

Now make a folder inside the IOS folder as config -> then create 2 folders inside that as prod and dev -> and add your GoogleService-Info.plist file for particular flavor.



## 8. Adding a Run Script to Copy GoogleServices-Info.plist in iOS

Go to Build Phases → Create New Run Script name as ``Copy GoogleServices-Info.plist to the current location`` → This Run script should be next to **Link Binary With Libraries**.

Add this script.

```
environment="default"
```

```
# Regex to extract the scheme name from the Build Configuration
# We have named our Build Configurations as Debug-dev, Debug-prod etc.
```

```

# Here, dev and prod are the scheme names. This kind of naming is required by Flutter for
flavors to work.
# We are using the $CONFIGURATION variable available in the XCode build environment to
extract
# the environment (or flavor)
# For eg.
# If CONFIGURATION="Debug-prod", then environment will get set to "prod".
if [[ $CONFIGURATION =~ -([^-]*)$ ]]; then
environment=${BASH_REMATCH[1]}
fi

echo $environment

# Name and path of the resource we're copying
GOOGLESERVICE_INFO_PLIST=GoogleService-Info.plist
GOOGLESERVICE_INFO_FILE=${PROJECT_DIR}/config/${environment}/${GOOGLESERVICE_INFO_PLIST}

# Make sure GoogleService-Info.plist exists
echo "Looking for ${GOOGLESERVICE_INFO_PLIST} in ${GOOGLESERVICE_INFO_FILE}"
if [ ! -f $GOOGLESERVICE_INFO_FILE ]
then
echo "No GoogleService-Info.plist found. Please ensure it's in the proper directory."
exit 1
fi

# Get a reference to the destination location for the GoogleService-Info.plist
# This is the default location where Firebase init code expects to find
GoogleServices-Info.plist file
PLIST_DESTINATION=${BUILT_PRODUCTS_DIR}/${PRODUCT_NAME}.app
echo "Will copy ${GOOGLESERVICE_INFO_PLIST} to final destination: ${PLIST_DESTINATION}"

# Copy over the prod GoogleService-Info.plist for Release builds
cp "${GOOGLESERVICE_INFO_FILE}" "${PLIST_DESTINATION}"

```

The screenshot shows the Xcode interface with the Build Phases tab selected. The 'Copy GoogleServices-Info.plist to the current location' phase is expanded, showing a shell script. The script defines an environment variable based on the build configuration and copies the appropriate GoogleService-Info.plist file to the destination.

```

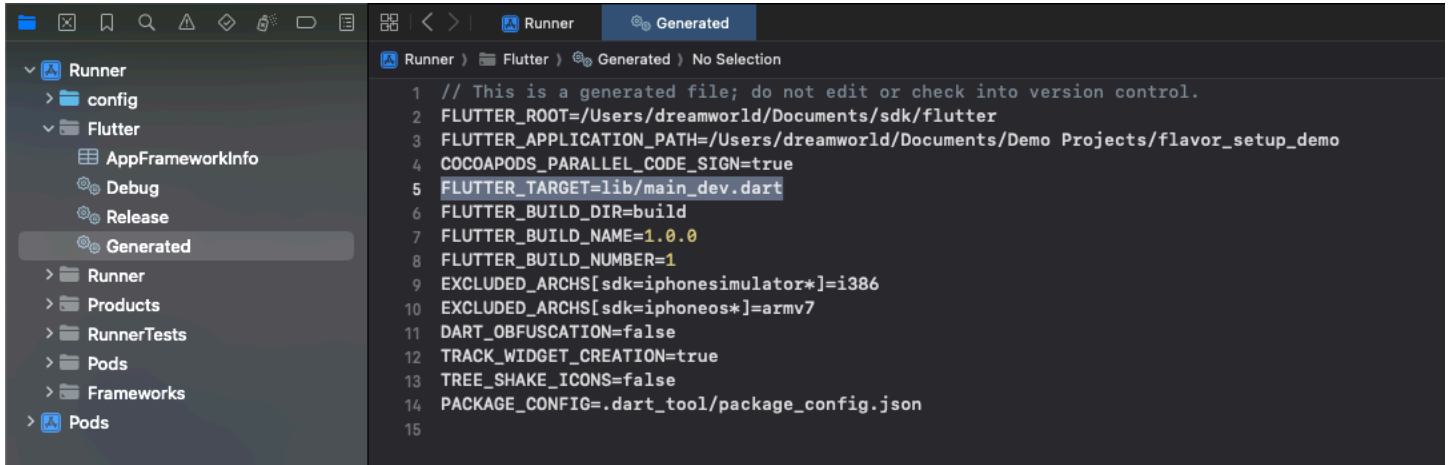
Shell /bin/sh
1 # Type a script or drag a script file from your workspace to insert its path.
2 environment="default"
3
4 # Regex to extract the scheme name from the Build Configuration
5 # We have named our Build Configurations as Debug-dev, Debug-prod etc.
6 # Here, dev and prod are the scheme names. This kind of naming is required by Flutter for flavors to work.
7 # We are using the $CONFIGURATION variable available in the XCode build environment to extract
8 # the environment (or flavor)
9 # For eg.
10 # If CONFIGURATION="Debug-prod", then environment will get set to "prod".
11 if [[ $CONFIGURATION =~ -([^-]*)$ ]]; then
12 environment=${BASH_REMATCH[1]}
13 fi
14
15 echo $environment
16
17 # Name and path of the resource we're copying
18 GOOGLESERVICE_INFO_PLIST=GoogleService-Info.plist
19 GOOGLESERVICE_INFO_FILE=${PROJECT_DIR}/config/${environment}/${GOOGLESERVICE_INFO_PLIST}
20
21 # Make sure GoogleService-Info.plist exists
22 echo "Looking for ${GOOGLESERVICE_INFO_PLIST} in ${GOOGLESERVICE_INFO_FILE}"
23 if [ ! -f $GOOGLESERVICE_INFO_FILE ]
24 then
25 echo "No GoogleService-Info.plist found. Please ensure it's in the proper directory."

```

## 9. Manually Setting the FLUTTER\_TARGET for iOS Configuration

In Android, selecting `main_dev.dart` ensures the dev configuration runs, while selecting `main.dart` sets the production data. However, in iOS, you must manually specify the main file in **Runner** → **Flutter** → **Generated** by setting:

**FLUTTER\_TARGET = lib/{main\_dev.dart for dev, main.dart for prod}**



### Run command

- debug dev `flutter run -t lib/main\_dev.dart --flavor=dev`
- release dev `flutter run -t lib/main\_dev.dart --release --flavor=dev`
- debug prod `flutter run -t lib/main.dart --flavor=prod`
- release prod `flutter run -t lib/main.dart --release --flavor=prod`

### Build command

- Android
  - dev `flutter build apk -t lib/main\_dev.dart --flavor=dev`
  - prod `flutter build apk -t lib/main.dart --flavor=prod`
- iOS
  - dev `flutter build ios -t lib/main\_dev.dart --flavor=dev`
  - prod `flutter build ios -t lib/main.dart --flavor=prod`

### Source code Link

[https://drive.google.com/file/d/1IMAR6\\_nJ7md7oBiUQqc4pBv2rTyW5SPY/view?usp=sharing](https://drive.google.com/file/d/1IMAR6_nJ7md7oBiUQqc4pBv2rTyW5SPY/view?usp=sharing)