**Flutter Project Folder Structure in Android Studio**

**.dart\_tool directory**

In the .dart\_tool directory is a behind-the-scenes component of the Flutter development ecosystem, designed to streamline and optimize various aspects of the build and configuration processes.

Configuration example:

1. .dart\_tool/package\_config.json
2. .dart\_tool/flutter\_build

Build-Related Files

Build Cache

1. **Purpose**: The .dart\_tool directory can include cached build information to speed up incremental builds.
2. **Usage**: By storing intermediate build results, the tooling system avoids redundant work, making subsequent builds faster.

Temporary Build Artifact:

In Flutter, artifacts are the files and data created during the build process. They include compiled code, bundled resources, and other outputs that help with development and deployment.

**.idea directory**

**IDE Configuration**:

**Purpose**: This directory contains project-specific settings and configuration files for the IntelliJ IDEA or Android Studio IDE.

**Examples**: Settings related to the project's structure, code style preferences, and version control configuration.

These files store project-specific settings, including VCS (Version Control System) mapping, run configurations, and other project-related details.

**Build**

The build folder contains the output generated when you build or run the flutter project. You will find all the release related file/folders like apks and app bundles in here. Ther are two modes while developing product that are debug mode and release while doing all these all the build are place here.

**android**: This folder contains the Android-specific part of your Flutter project. It includes the native Android code, Gradle build scripts, and configurations needed to build the Android version of your app.

**ios**: This folder contains the iOS-specific part of your Flutter project. It includes the native iOS code, configuration files, and settings needed to build the iOS version of your app.

**.metadata**

This file contains metadata about the Flutter project, such as configuration details for tools and the Flutter SDK version. It's managed by Flutter and generally shouldn't be modified manually.

**pubspec.yaml**

This is a crucial configuration file for a Dart/Flutter project. It lists the project's dependencies, assets, fonts, and other metadata. You add dependencies and configure project settings in this file.

You can configure dependencies such as eternal packages, image, assets, font files, app version etc with the help of this file.

You will often make changes to the pubspec.yamal file to add external dependencies.

**pubspec.lock**

This file locks the versions of dependencies used in your project to ensure consistency across builds. It’s automatically updated by the Dart package manager.

It lists the specific version of each dependency that packages use in your app and ensures the version of each dependency that packages use in your app and ensures the version stays consistent across different developer machine.

**analysis\_options.yaml**

This file is used to configure Dart's analysis options, including linter rules and other code analysis settings. It helps enforce code quality and consistency.

**alldemoapp.iml**

This is a project file used by IntelliJ IDEA and Android Studio. It contains project-specific settings and configuration related to the IDE.

**.gitignore**

This file specifies which files and directories should be ignored by Git version control. It helps keep unnecessary or sensitive files from being tracked by Git.

**Test**

**Testing are two types**

1. **Automation testing.**
2. **Manual testing.**

This folder contains unit and widget tests for your Flutter app. Writing tests helps ensure that your code behaves as expected and assists in identifying issues early.

**Lib**

This is where the main Dart code for your Flutter application resides. It typically includes the entry point for the app (main.dart) and other Dart files for different parts of your app's functionality.

The lib folder is where the main Dart code for your Flutter application resides. It’s the primary directory for storing the core logic and functionality of your app.

Packages are two types:

1. Pre install packages (A package which are already there while installing flutter tools).
2. User defined packages (A package which are borrow from other based on our requirement is called user defined packages).