



Session 1

Introduction to Flutter

Session Overview

- ❖ Define Flutter framework
- ❖ List and describe features of Flutter
- ❖ List the advantages of using Flutter
- ❖ Outline the Flutter architecture
- ❖ Identify components of Flutter
- ❖ Explain installation of Flutter in Android Studio

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Introduction

Intro to Flutter



Tool for building native cross-platform (for Android or iOS devices) applications.



Flutter uses Dart and is focused on user interface.



Dart, developed by Google - an Object-Oriented programming language.



Syntax for Dart - a mix of JavaScript, Java, and C#.

Features And Advantages of Flutter

Features

- Hot reload
- Cross-platform development
- Widget Library
- Native performance
- Open Source

Advantages

- One Code
- Simple
- Easy Testing
- UI Library
- Custom Interface
- Scalability

Flutter Architecture

Detailed Flutter Architecture

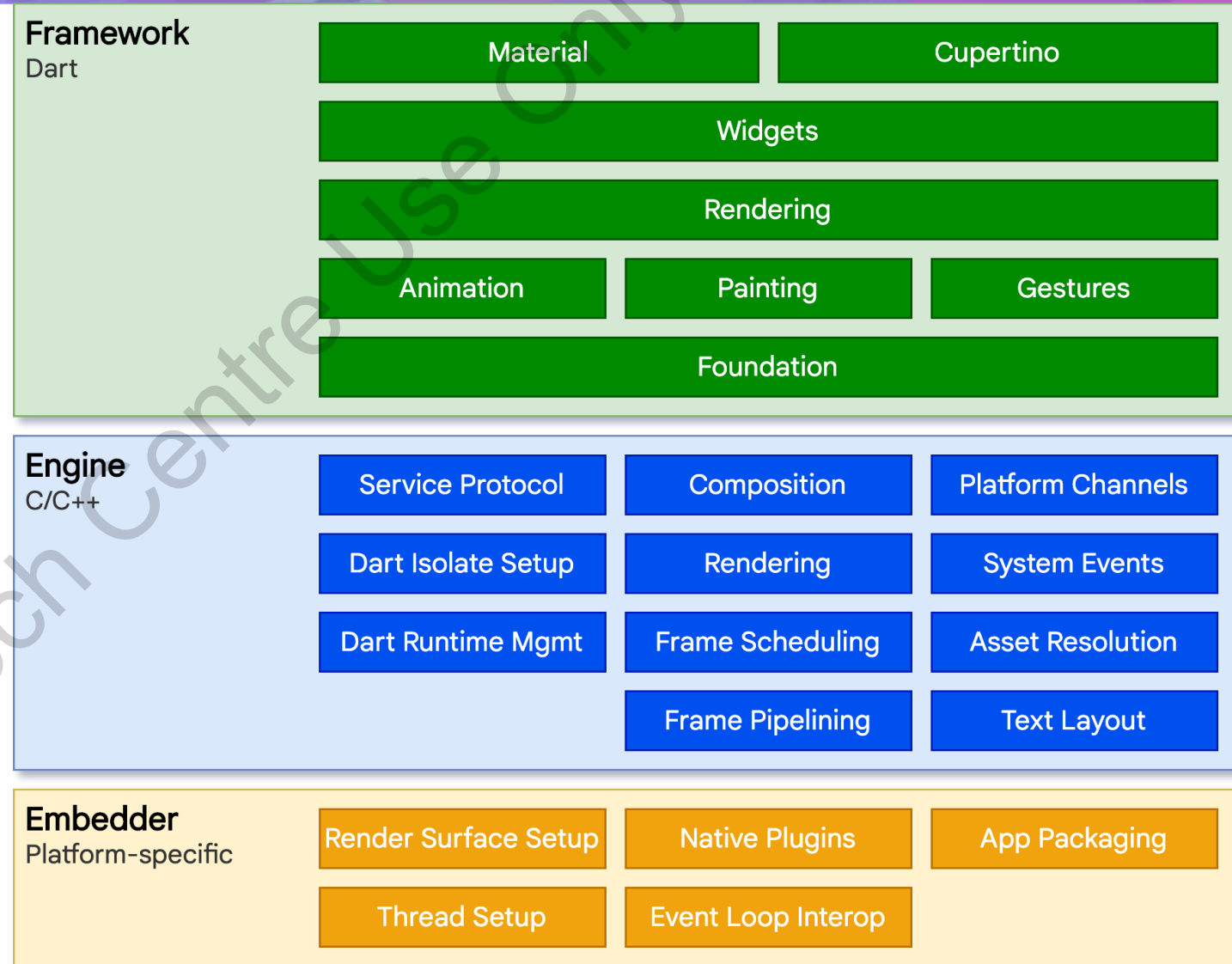


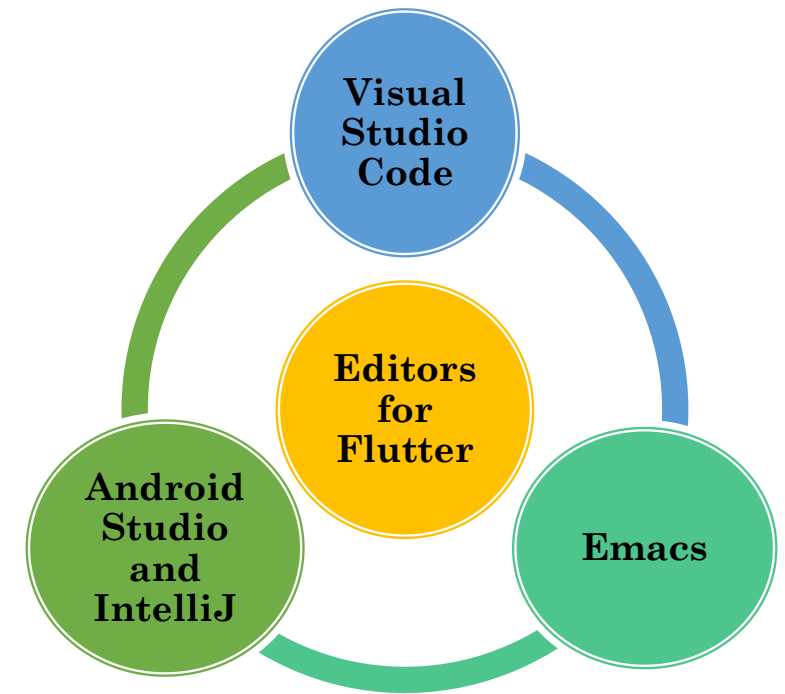
Image source: <https://www.perfecto.io/blog/what-is-flutter-framework>

Flutter Installation in Android Studio [1-5]

- ❖ Step 1: Check for system requirements before installation.
- ❖ Following link gives more information about the system requirements: <https://docs.flutter.dev/get-started/install>
- ❖ For instance, if the user is installing for Windows operating system, the requirement will be as follows:
 - OS – Windows 10 or later, 64 bit, x86-64 based
 - Disk Space – 1.64 GB minimum (tools or IDE are not included in this)
 - Tools – Win PowerShell 5.0 or later (usually pre-installed), Git 2.x (Windows), git commands should run from command prompt

Flutter Installation in Android Studio [2-5]

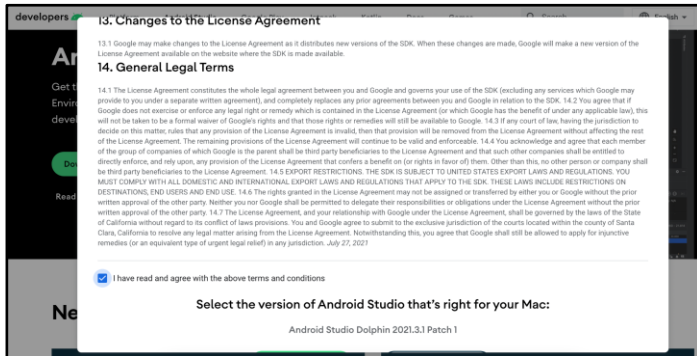
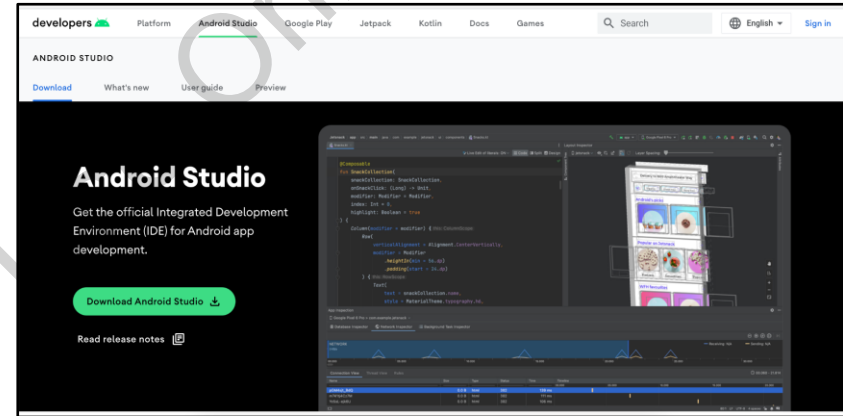
- ❖ Step 2: Downloading Flutter SDK from the link: <https://docs.flutter.dev/get-started/install/windows>
- ❖ Step 3: Setting the SDK path. This step is automatically done when SDK is installed.
- ❖ Step 4: Setting up an editor to install and run Flutter Apps.



Flutter Installation in Android Studio [3-5]

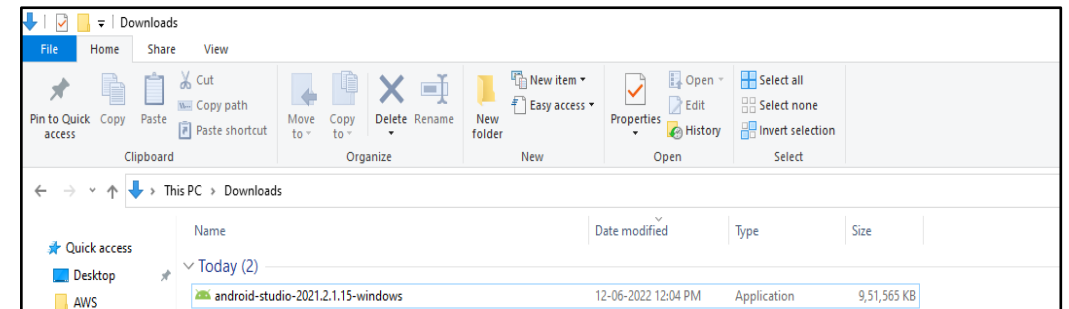
❖ Step 5: Downloading Android Studio for Windows.

Download using the link:
<https://developer.android.com/studio>.



Accept the license and click download.

Downloaded file is shown under the Downloads folder.



Flutter Installation in Android Studio [4-5]

Image 1:



Image 2:

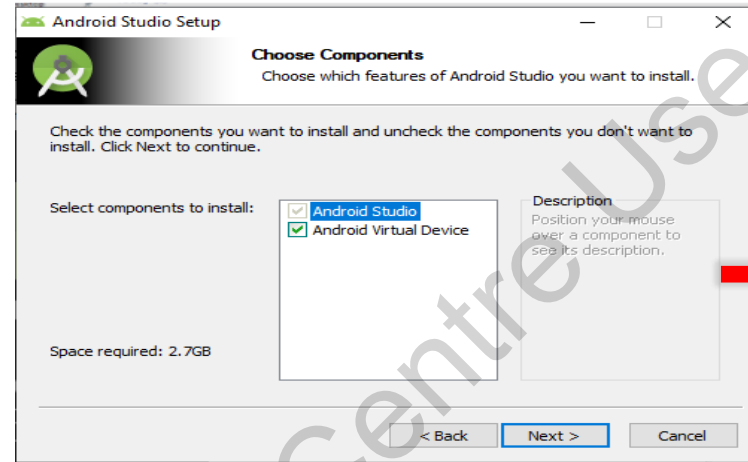


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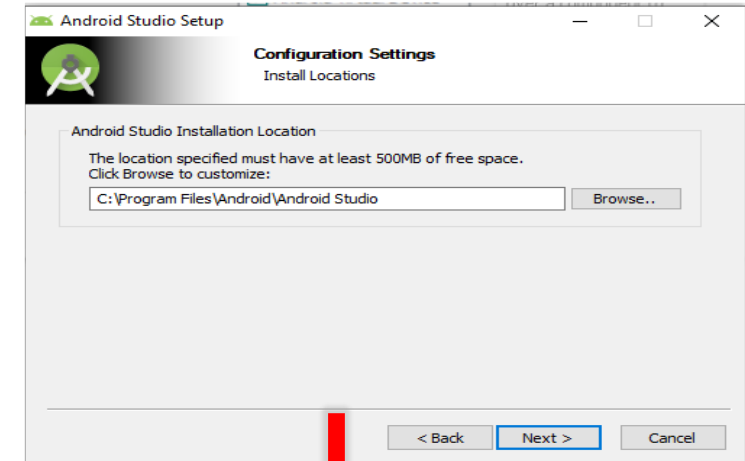


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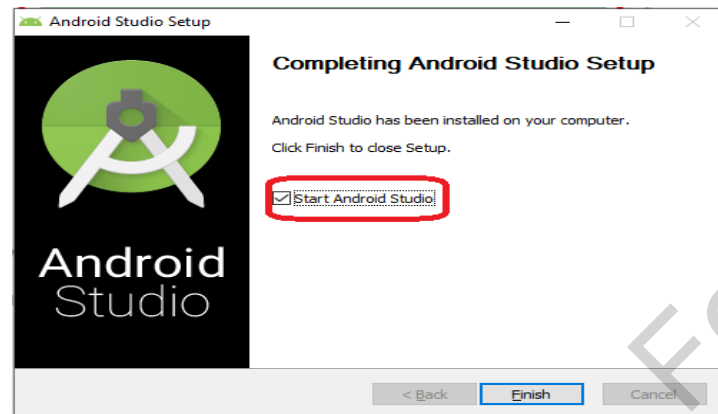


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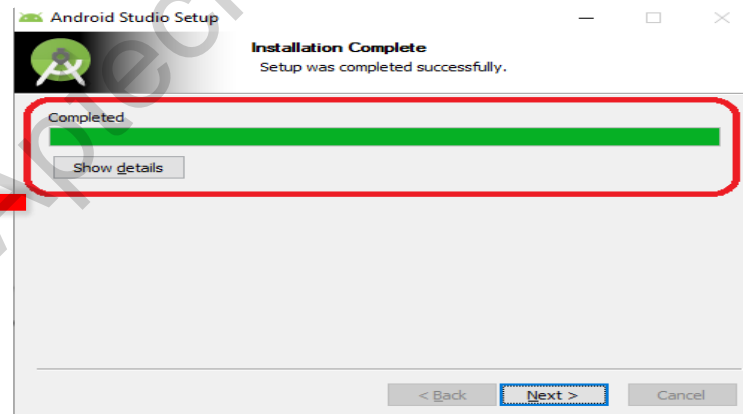
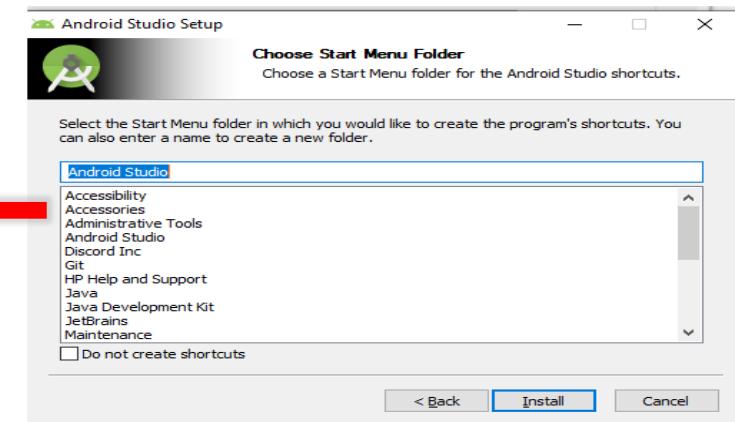
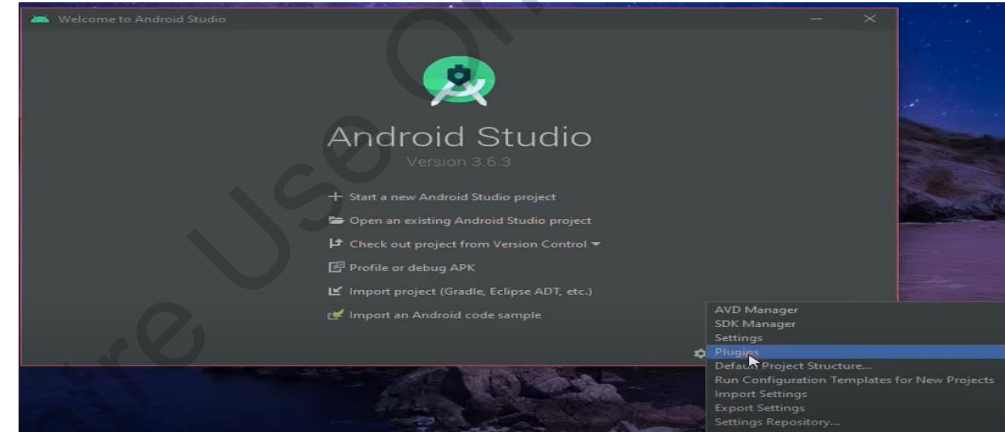


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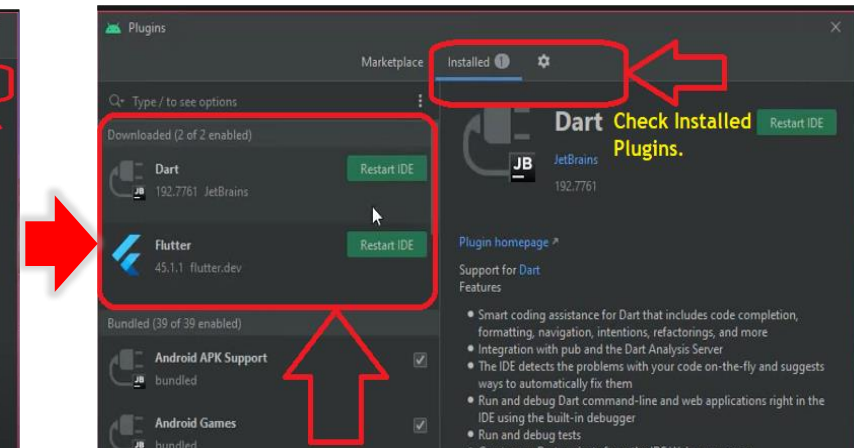
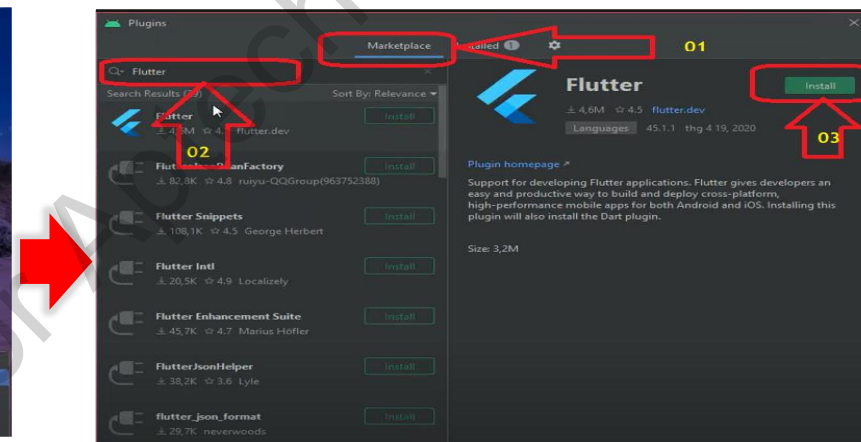
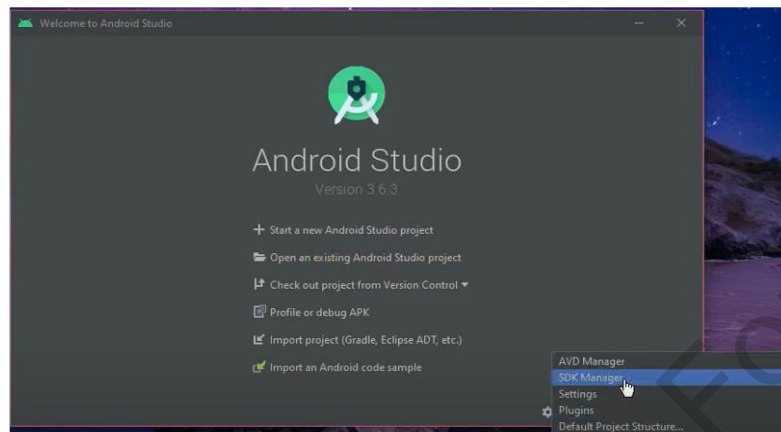


Flutter Installation in Android Studio [5-5]

❖ Step 6: Setting up SDK manager.



❖ Step 7: Installing plug-ins.



Summary

- ❖ Flutter is a UI toolkit and framework for developing cross-platform applications.
- ❖ Advantages of Flutter include - Hot Reload, Hot Restart, Open Source, and Cross-Platform.
- ❖ Architectural components of Flutter are - Framework, Engine, and Platform.
- ❖ Flutter can be installed on any Operating System.
- ❖ Flutter apps can be developed using various editors or IDEs such as VS Code Editor or Android Studio.