
FLUTTER
FORWARD

Session 01

Google Developer Student Clubs

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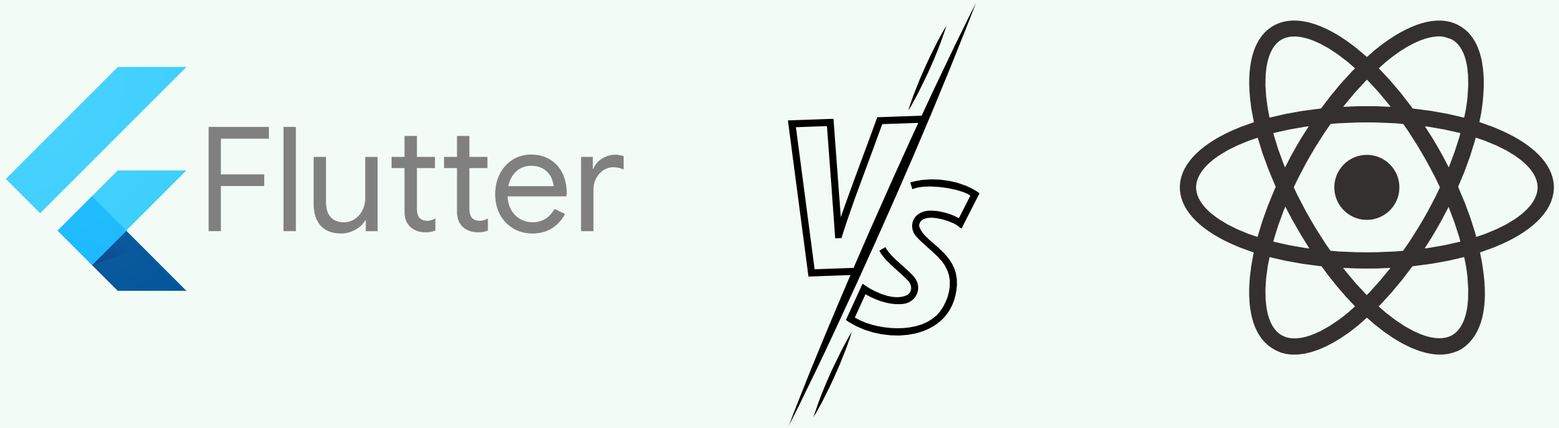
INTRODUCTION TO

Flutter

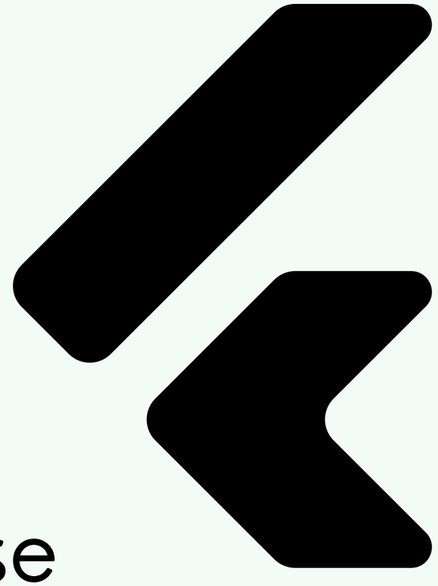
What is Flutter??

Flutter is an open-source UI software development kit created by Google. It is used to develop cross-platform applications for Android, iOS, Linux, macOS, Windows, Google Fuchsia, and the web from a single codebase.



Flutter vs. React Native – Why Choose Flutter?

- Flutter Supports All Operating Systems
- Flutter Provides a Productive Layout System
- Flutter Helps to Build Concise Software Apps
- Flutter Offers High Performance
- Flutter Assists in App development and Release Automation(Hot Reload)



and many more….

Famous Flutter Applications include:

Google Adsense

Alibaba Group

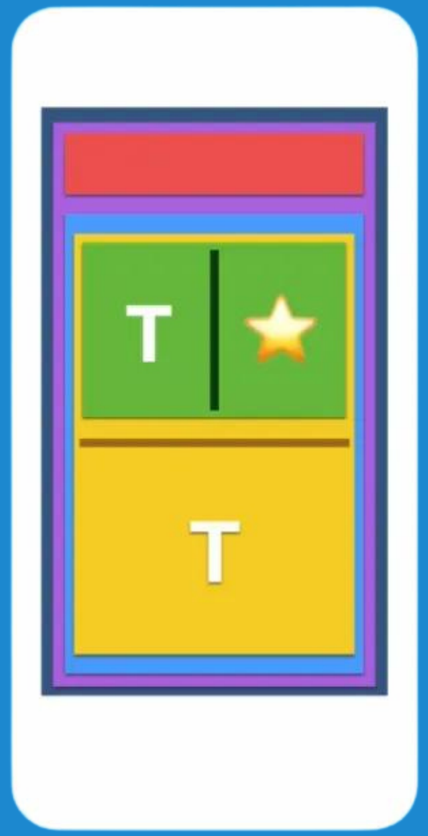
Dream11

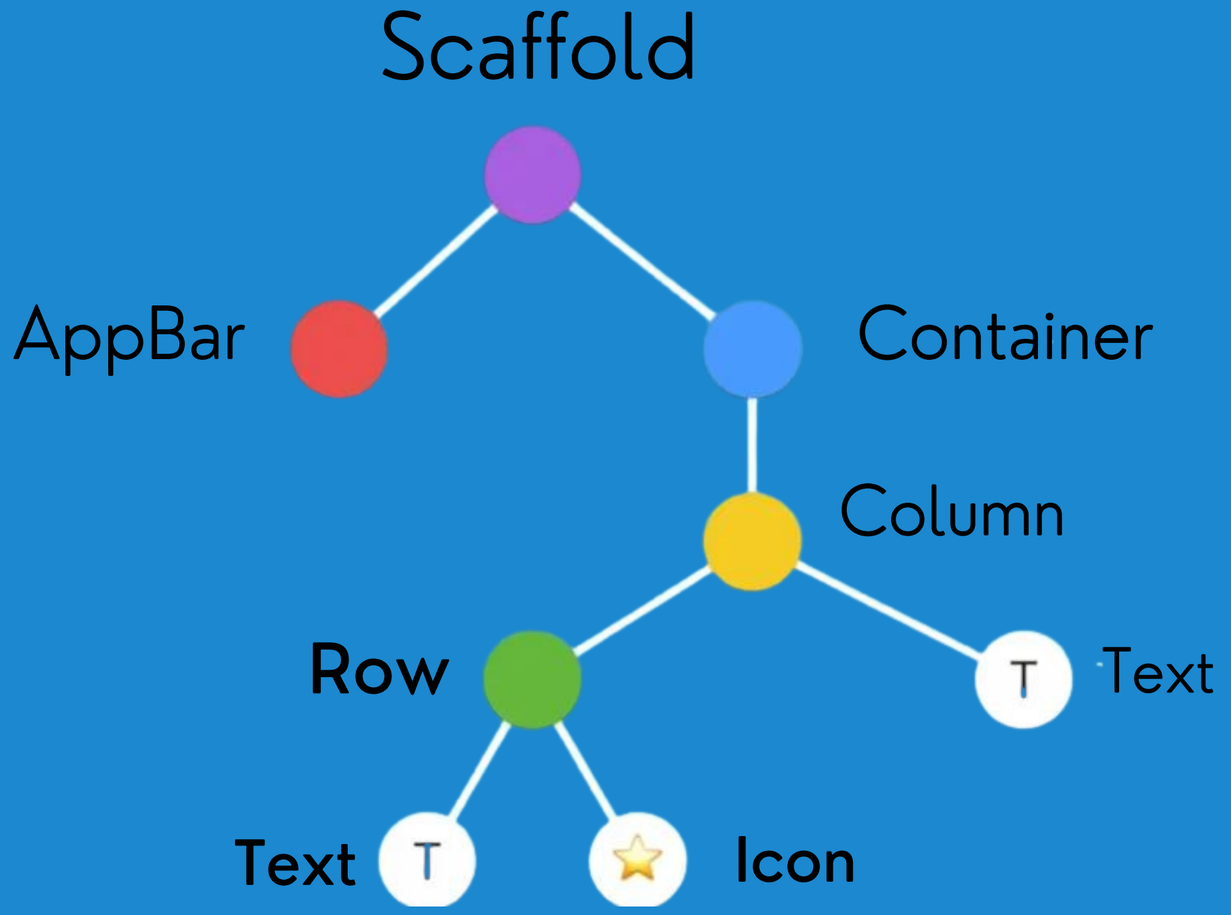
Google Pay

and many more....

https://flutter.dev/showcase

Anatomy of a Flutter App-Widget Tree





```
      home: Scaffold(
        appBar: AppBar(
          title: const Text('My Home Page'),
        ),
        body: Center(
          child: Builder(
            builder: (context) {
              return Column(
                children: [
                  const Text('Hello World'),
                  const SizedBox(height: 20),
                  ElevatedButton(
                    onPressed: () {
                      print('Click!');
```

TIMELINE FOR FLUTTER FORWARD

March 1 2023

DAY 1

BASICS OF FLUTTER AND DART

DAY 2

March 3 2023

March 6 2023

DAY 3

DAY 4

March 10 2023

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Basics of Dart Programming Language

What is Dart??

- Flutter allows the development of iOS/Android apps which uses Dart as the programming language.
- Dart is an Open-Source, client-side programming language. It is easy to learn, stable, and creates high-performance applications.

Dart Pad

DartPad is an open source tool that lets you play with the Dart language in any modern browser.(dartpad.dev)

Dart-Step by Step

- Print
- Variables
- Datatypes
- String Interpolation
- Comments
- Imports
- Arithmetic Operators

- Equality,Relational Operators
- Logical Operators
- Control flows:If else,Switch case enums
- Control flows: while,do-while,for
- Collections: Lists,sets,Maps
- Functions
- Arrow Syntax
- Anonymous Functions

- Classes, Objects
- Constructors
- Exceptions: Throw, Catch, Finally
- Futures
- Null and Null Aware
- Ternary Operator
- Spread Operator
- Cascade Notation
- Conditional Property Access

Widgets in Flutter

- Widgets are the central class hierarchy in the Flutter framework. A widget is an immutable description of part of a user interface.
- Widgets can be inflated into elements, which manage the underlying render tree.
- Widgets themselves have no mutable state (all their fields must be final).
- If you wish to associate mutable state with a widget, consider using a StatefulWidget, which creates a State object (via StatefulWidget.createState) whenever it is inflated into an element and incorporated into the tree.

Enums:

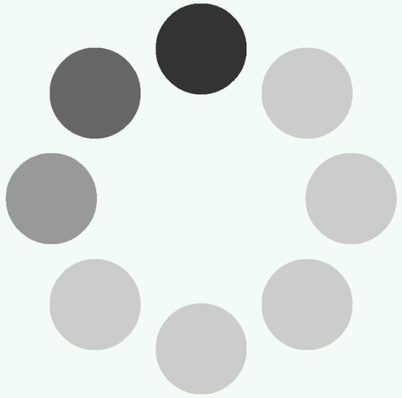
Enum is simply a special kind of class used to represent a fixed number of constant values.

Exception Handling

An exception is an error that takes place inside the program. When an exception occurs inside a program the normal flow of the program is disrupted and it terminates abnormally, displaying the error and exception stack as output. So, an exception must be taken care to prevent the application from termination.

Asynchronous codes/Stream Futures:

Asynchronous operations let your program complete work while waiting for another operation to finish. Here are some common asynchronous operations:



- Fetching data over a network.
- Writing to a database.
- Reading data from a file.

Such asynchronous computations usually provide their result as a Future or, if the result has multiple parts, as a Stream.

Next Session on March 3rd

Stay Tuned!!!!!!!!

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