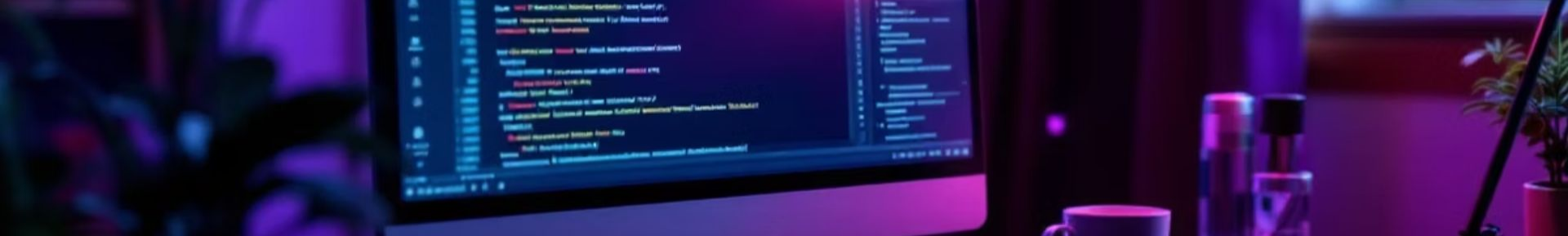




Build Once, Run Everywhere: Intro to Flutter Development

Welcome to our journey into Flutter, Google's UI toolkit for building beautiful apps for mobile, web, and desktop from a single codebase.

In this workshop, we'll explore the fundamentals and build a real app together.



What We'll Build Today



Intro to Flutter & Dart

UI toolkit for cross-platform apps



Build a Simple App

Live coding demonstration



Layouts, Widgets & State

UI building blocks



API Integration

Fetch real data

What is Flutter?

Google's UI toolkit

Open-source framework

Single codebase

Build for Multiple Platforms

- iOS & Android
- Web browsers
- Windows, macOS, Linux

Native Performance

Compiles to machine code

No interpreters

Why Choose Flutter?



Hot Reload

See changes instantly



Beautiful UIs

Custom, animated designs



High Performance

60fps animations



Growing Ecosystem

Large package library

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19     create cabill);;  
20     falling tartling' = 'leap; // the l names louse inside the section;  
21
```

Dart Quickstart

Modern OOP Language

- Familiar syntax
- Type-safe
- Null safety

Async Support

- Futures
- Async/await
- Streams

Easy for JS Devs

- Similar functions
- Object literals
- String interpolation

Setting Up Flutter

Install Flutter SDK

Download and extract

Setup IDE

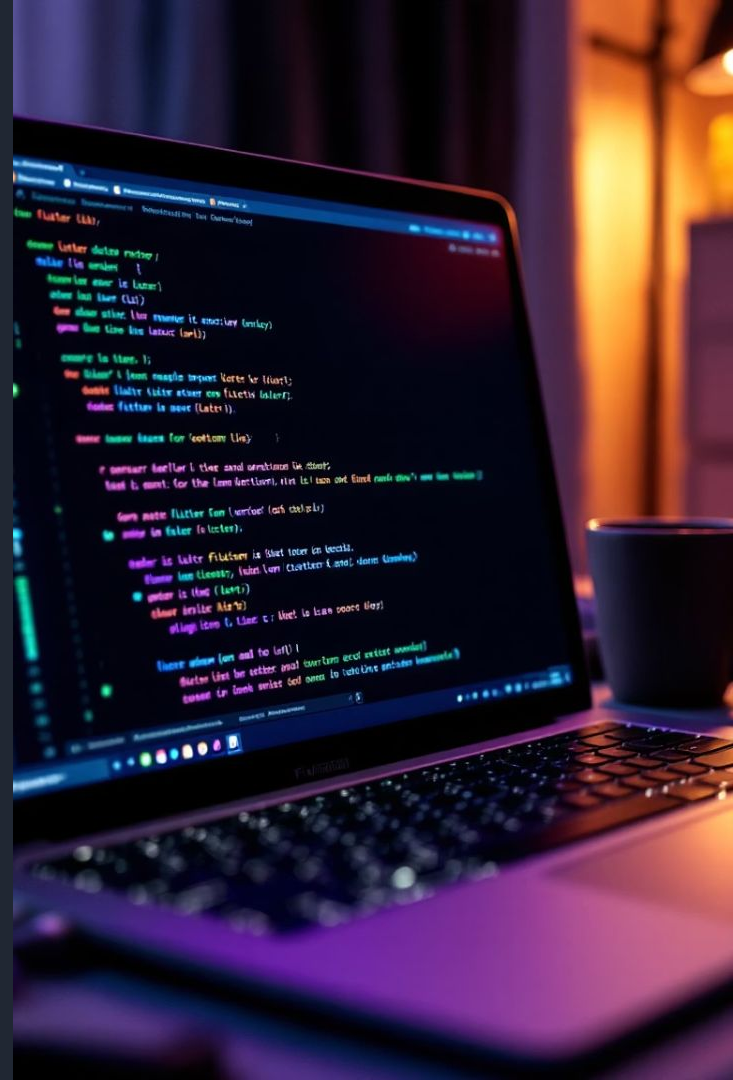
VS Code, IntelliJ or Android Studio

Run flutter doctor

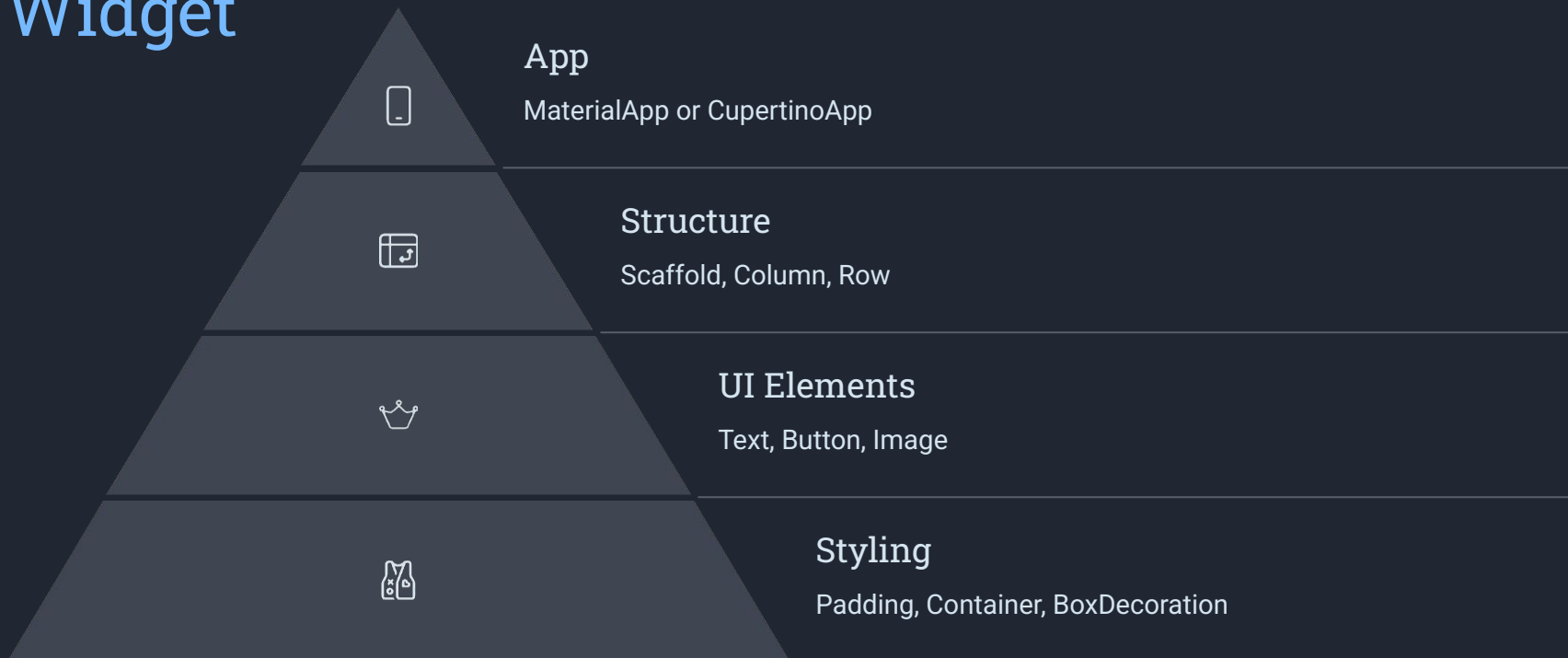
Check dependencies

Create Project

`flutter create my_app`



Everything is a Widget



Managing State with `setState()`

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Initialize State

Define variables to track

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Modify State

Call `setState()` method

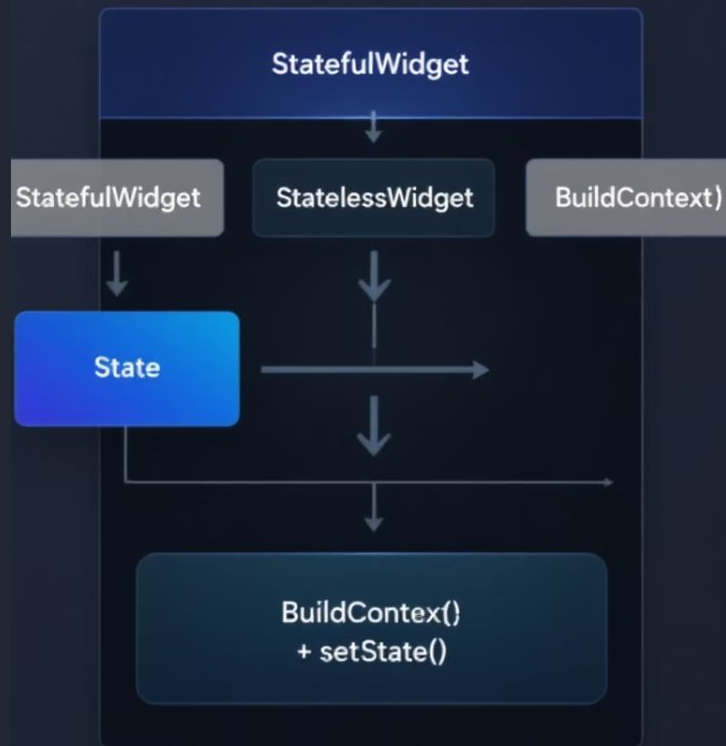
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UI Updates

Widget rebuilds automatically

`setState()` tells Flutter that something has changed. This triggers a rebuild of the widget with updated values.

Flutter mannaagement widgets



Let's Build a Random Joke App!

Create Layout
Scaffold with centered column

Style App
Add fonts, colors, animations



Add API Call
Fetch random quotes

Manage State
Update UI when data arrives



Calling an API in Flutter



Create async function

Define a function to fetch data



Make HTTP request

Use http package to call API



Parse JSON response

Convert response to Dart objects



Display with FutureBuilder

Handle loading, error, and success states

Make It Look Beautiful

Layout Widgets

- Padding for spacing
- Container for styling
- SizedBox for dimensions

Styling Options

- Custom fonts with `google_fonts`
- `ThemeData` for consistent look
- `BoxDecoration` for shadows and borders

Good design isn't just about looks. It improves usability and creates a professional impression.

Must-Know Flutter Packages

http

Make network requests easily. Essential for connecting to APIs and web services.

google_fonts

Access 1000+ Google Fonts directly. No need to download font files.

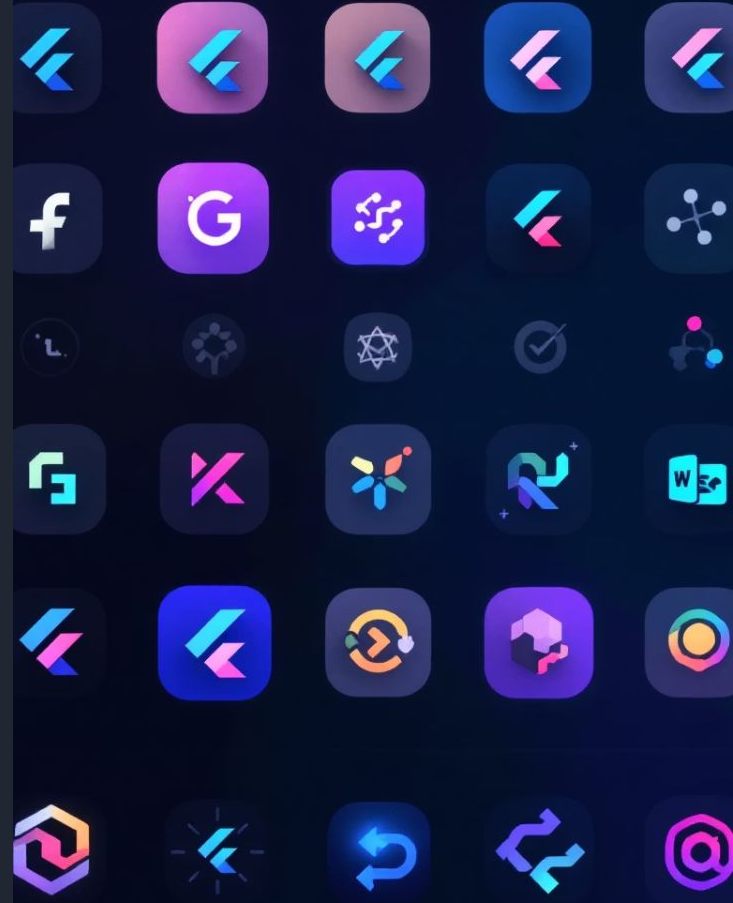
shared_preferences

Store simple data persistently. Perfect for saving user settings and preferences.

lottie

Add beautiful animations. Render Adobe After Effects animations natively.

Find thousands more packages at pub.dev, Flutter's official package repository.



Debug & Iterate Faster



Hot Reload

See changes instantly without losing state. Press R in console or click the lightning icon.



Widget Inspector

Examine the widget tree. Find layout issues and hierarchy problems quickly.

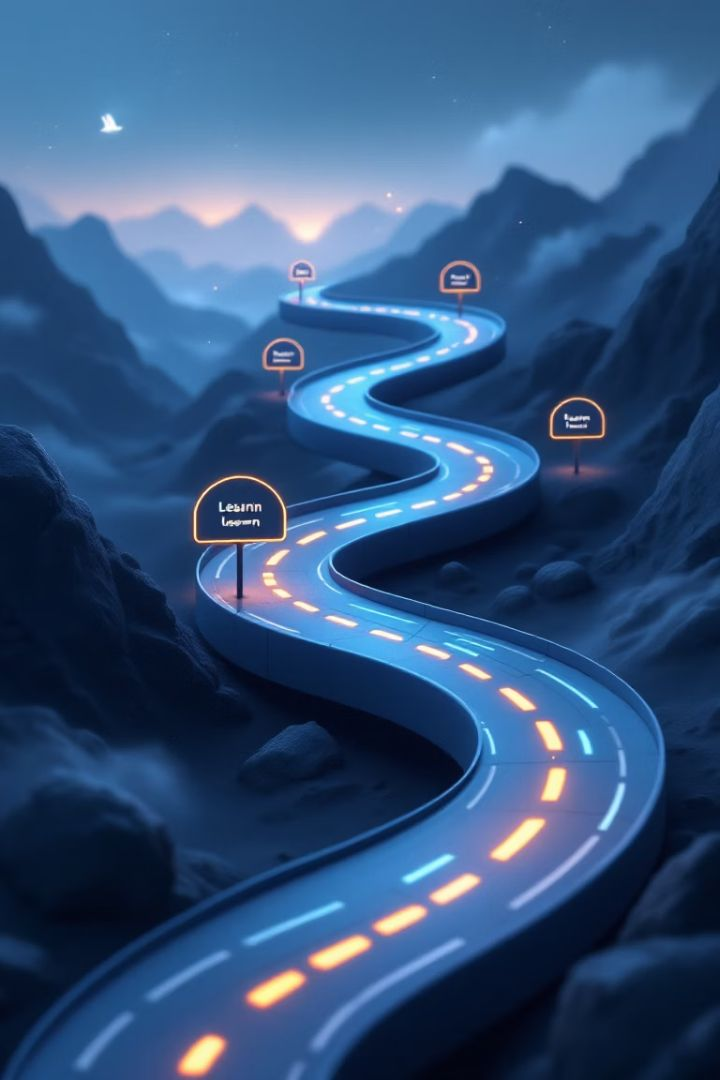


Performance Tab

Monitor app performance. Identify and fix UI jank and slow operations.

DevTools is your secret weapon. Master these tools to become a more efficient Flutter developer.





Keep Learning, Keep Building



Official Documentation

Visit flutter.dev/learn and dart.dev for comprehensive guides and tutorials.



Open Source Projects

Explore real-world code on GitHub. Study how others solve problems.



Video Tutorials

Follow Flutter channels on YouTube for visual learning.



Build Projects

"The best way to learn is to build." Start small and grow your skills.



Thanks for Joining!

