

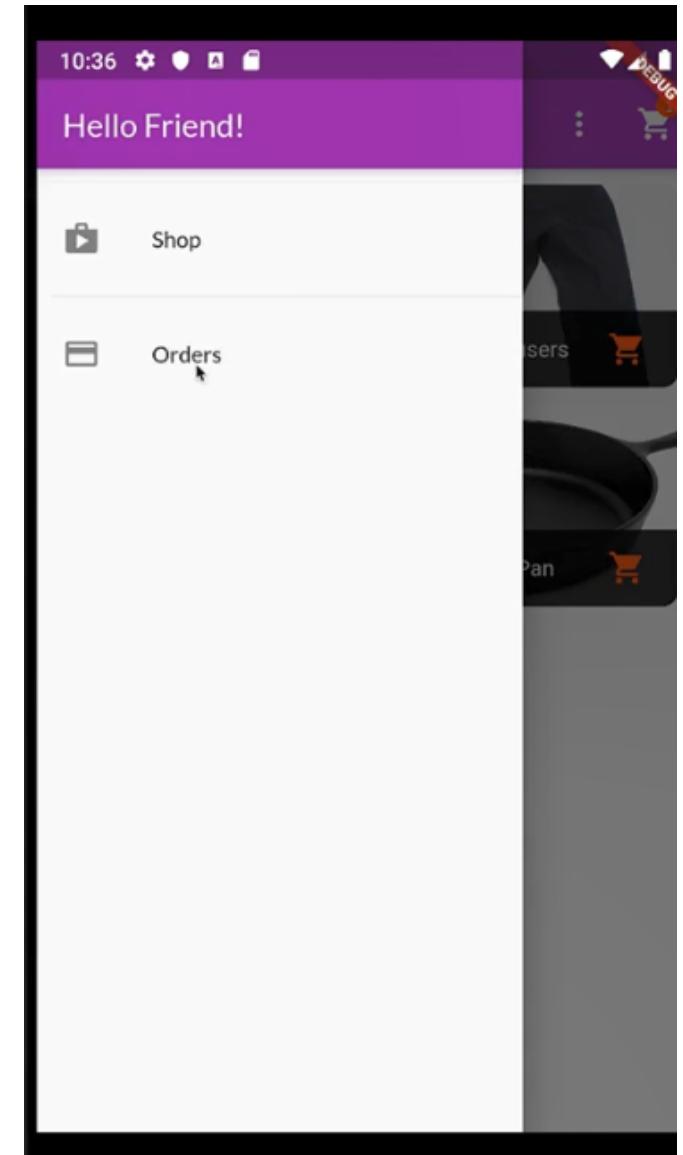
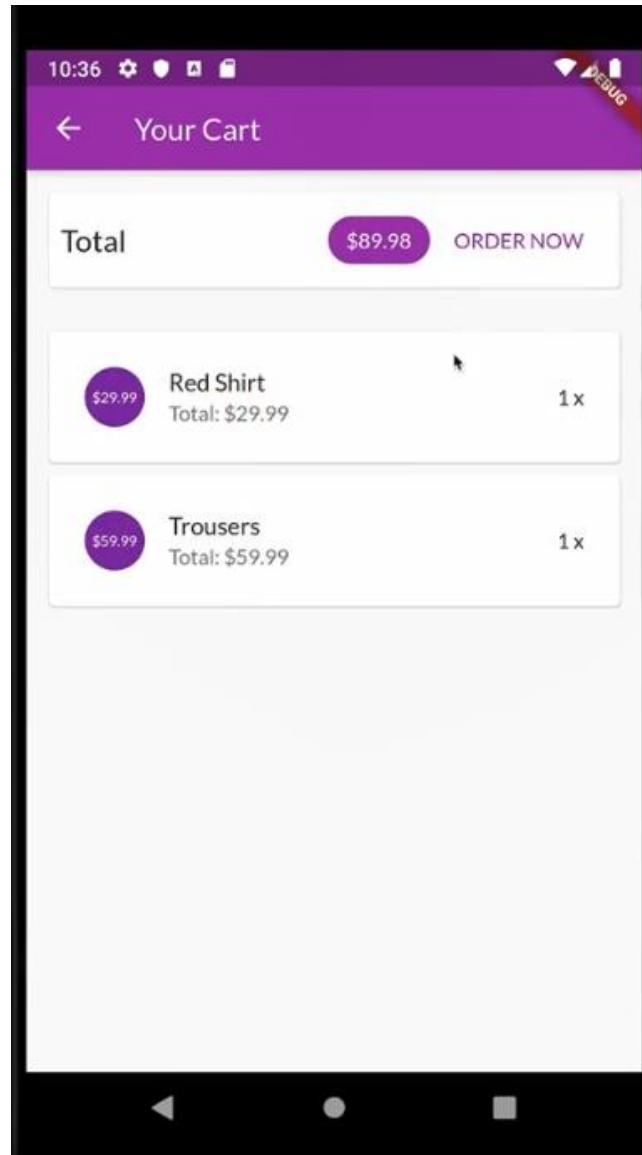
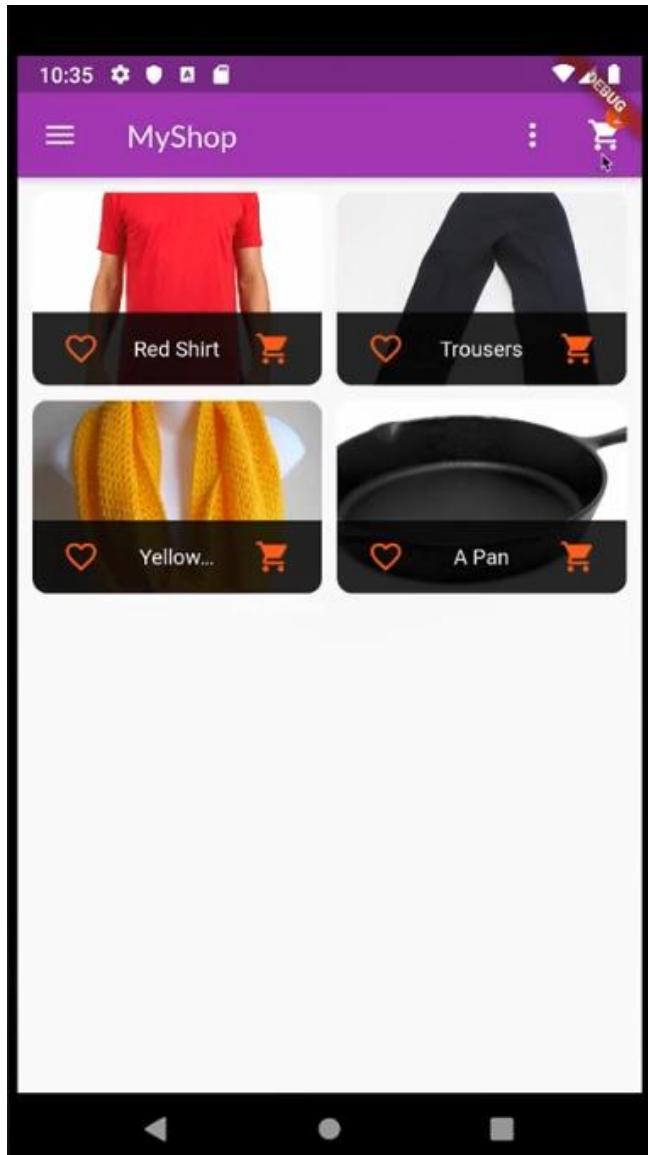
Advanced Apps & State Management

Managing Data & the UI Efficiently

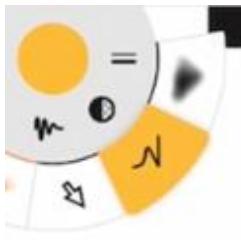
What's In This Section?

More Widgets & UI Patterns!

Managing State Efficiently



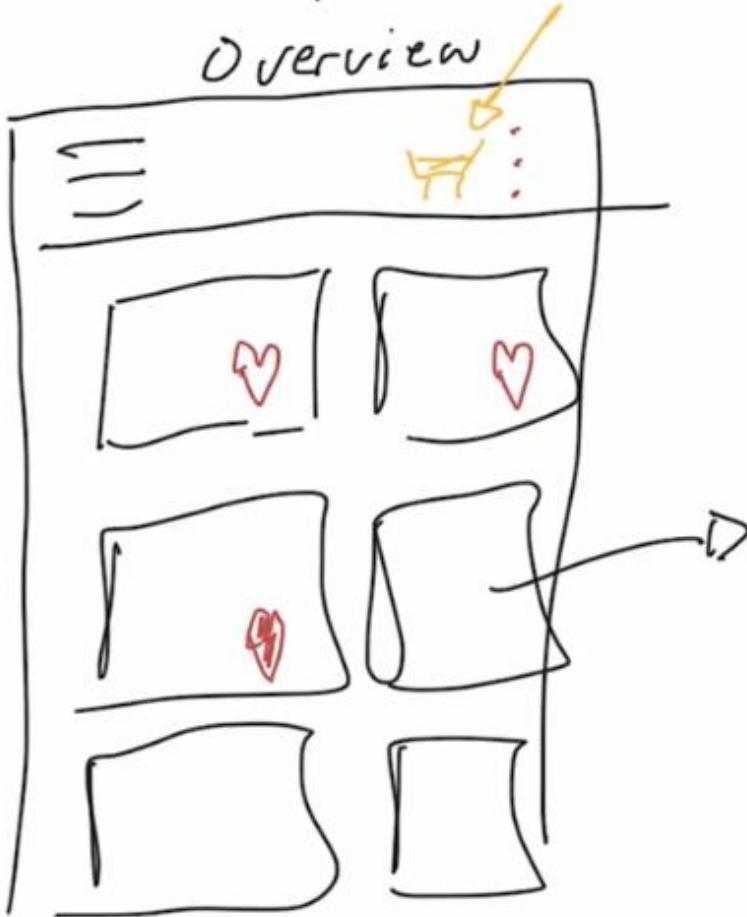
PLANNING THE APP



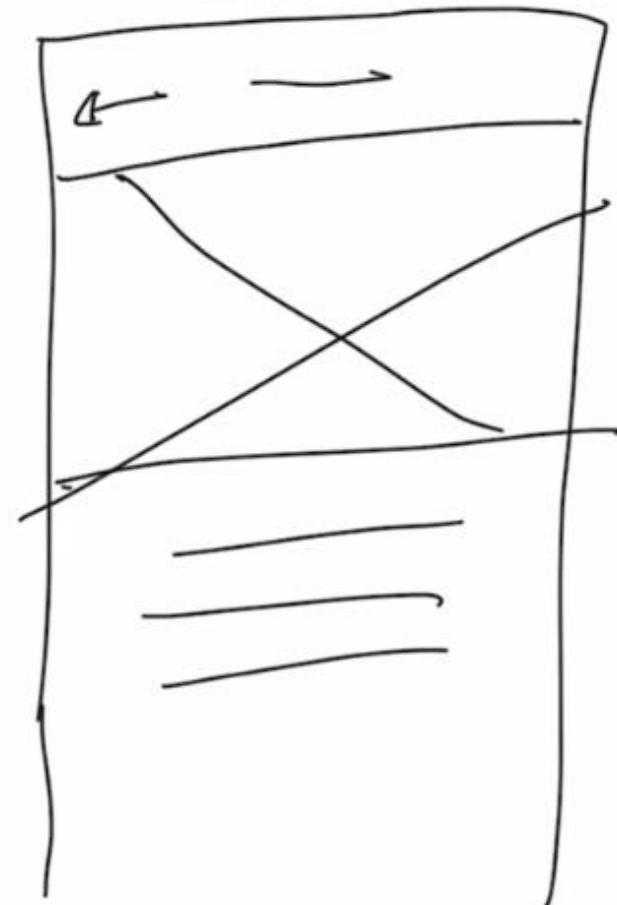
↑ ↓

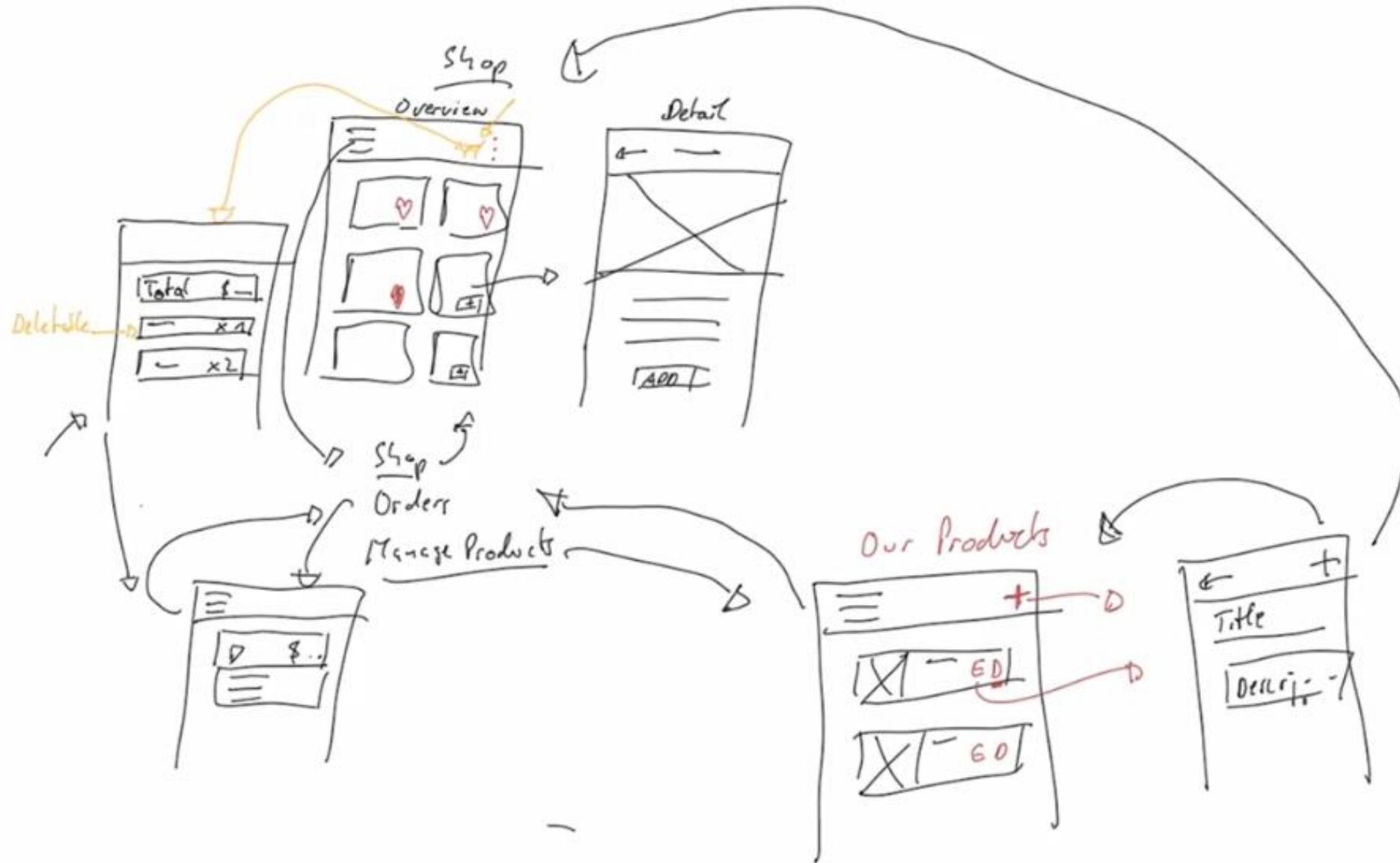
Shop

Overview



Detail





DEFINING A DATA MODEL

```
Q:\myworkspaces\flutter_ws>flutter create myshop_08
Creating project myshop_08...
  myshop_08\lib\main.dart (created)
  myshop_08\pubspec.yaml (created)
  myshop_08\README.md (created)
  myshop_08\test\widget_test.dart (created)
  myshop_08\.gitignore (created)
  myshop_08\.idea\libraries\Dart_SDK.xml (created)
  myshop_08\.idea\libraries\KotlinJavaRuntime.xml (created)
  myshop_08\.idea\modules.xml (created)
  myshop_08\.idea\runConfigurations\main_dart.xml (created)
  myshop_08\.idea\workspace.xml (created)
  myshop_08\.metadata (created)
  myshop_08\analysis_options.yaml (created)
  myshop_08\android\app\build.gradle (created)
  myshop_08\android\app\src\main\kotlin\com\example\myshop_08>MainActivity.kt (created)
  myshop_08\android\build.gradle (created)
  myshop_08\android\myshop_08_android.iml (created)
  myshop_08\android\.gitignore (created)
  myshop_08\android\app\src\debug\AndroidManifest.xml (created)
  myshop_08\android\app\src\main\AndroidManifest.xml (created)
  myshop_08\android\app\src\main\res\drawable\launch_background.xml (created)
  myshop_08\android\app\src\main\res\drawable-v21\launch_background.xml (created)
```

Command Prompt

```
myshop_08\web\favicon.png (created)
myshop_08\web\icons\Icon-192.png (created)
myshop_08\web\icons\Icon-512.png (created)
myshop_08\web\icons\Icon-maskable-192.png (created)
myshop_08\web\icons\Icon-maskable-512.png (created)
myshop_08\web\index.html (created)
myshop_08\web\manifest.json (created)
```

Running "flutter pub get" in myshop_08... 2,404ms

Wrote 81 files.

All done!

In order to run your application, type:

```
$ cd myshop_08
$ flutter run
```

Your application code is in myshop_08\lib\main.dart.

Q:\myworkspaces\flutter_ws>cd myshop_08

Q:\myworkspaces\flutter_ws\myshop_08>code .

Q:\myworkspaces\flutter_ws\myshop_08>

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ...

pubspec.yaml main.dart X lib > main.dart > ...

OPEN EDITORS

pubspec.yaml main.dart lib

MYSHOP_08

.dart_tool .idea android build ios lib main.dart test web .gitignore .metadata .packages analysis_options.yaml myshop_08.iml pubspec.lock pubspec.yaml README.md

OUTLINE

DEPENDENCIES

main.dart

import 'package:flutter/material.dart';

Run | Debug | Profile

void main() => runApp(MyApp());

class MyApp extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
 return MaterialApp(
 title: 'MyShop',
 theme: ThemeData(
 primarySwatch: Colors.blue,
), // ThemeData
 home: MyHomePage(),
); // MaterialApp
 }
}
class MyHomePage extends StatelessWidget {
 @override
 Widget build(BuildContext context) {
 return Scaffold(
);
 }
}

main.dart Running Gradle task 'assembleDebug'...

Ln 31, Col 1 Spaces: 2 UTF-8 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... pubspec.yaml main.dart X lib > main.dart > ...

OPEN EDITORS pubspec.yaml main.dart lib

MYSHOP_08 .dart_tool .idea android build ios lib main.dart test web .gitignore .metadata .packages analysis_options.yaml myshop_08.iml pubspec.lock pubspec.yaml README.md

OUTLINE DEPENDENCIES

10 theme: ThemeData(
11 | primarySwatch: Colors.blue,
12 |), // ThemeData
13 | home: MyHomePage(),
14); // MaterialApp
15 }
16 }
17
18 class MyHomePage extends StatelessWidget {
19 @override
20 Widget build(BuildContext context) {
21 return Scaffold(
22 | appBar: AppBar(
23 | | title: Text('MyShop'),
24 |), // AppBar
25 | body: Center(
26 | | child: Text('Let\'s build a shop!'),
27 |), // Center
28); // Scaffold
29 }
30 }
31 }

main.dart

9:57 MyShop Let's build a shop!

Power Volume Mute Screen Rotation Camera Search Magnifying Glass More

Ln 31, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help product.dart - myshop_08 - Visual Studio Code

EXPLORER ...

OPEN EDITORS pubspec.yaml main.dart product.dart X lib > models > product.dart > ...

MYSHOP_08 .dart_tool .idea android build ios lib models product.dart screens widgets main.dart test web .gitignore .metadata .packages analysis_options.yaml myshop_08.iml pubspec.lock pubspec.yaml README.md

models\product.dart

```
1 import 'package:flutter/foundation.dart';
2
3 class Product {
4     final String id;
5     final String title;
6     final String description;
7     final double price;
8     final String imageUrl;
9     bool isFavorite;
10
11 Product({
12     @required this.id,
13     @required this.title,
14     @required this.description,
15     @required this.price,
16     @required this.imageUrl,
17     this.isFavorite = false,
18 });
19 }
20 }
```

> OUTLINE
> DEPENDENCIES

Ln 20, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

IMPORTANT – ADJUSTING THE STARTING PROJECT

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** pubspec.yaml - myshop_08 - Visual Studio Code.
- Left Sidebar (Explorer):** Shows the project structure under "MYSHOP_08". Key files listed include .dart_tool, .idea, android, build, ios, lib (models: product.dart), screens (products_overview_screen.dart), widgets (main.dart), test, web, .gitignore, .metadata, .packages, analysis_options.yaml, myshop_08.iml, pubspec.lock, and README.md.
- Central Area:** The pubspec.yaml file is open in the editor. The code is as follows:

```
name: myshop_08
description: A new Flutter project.

# The following line prevents the package from being accidentally published to
# pub.dev using `flutter pub publish`. This is preferred for private packages.
publish_to: "none" # Remove this line if you wish to publish to pub.dev

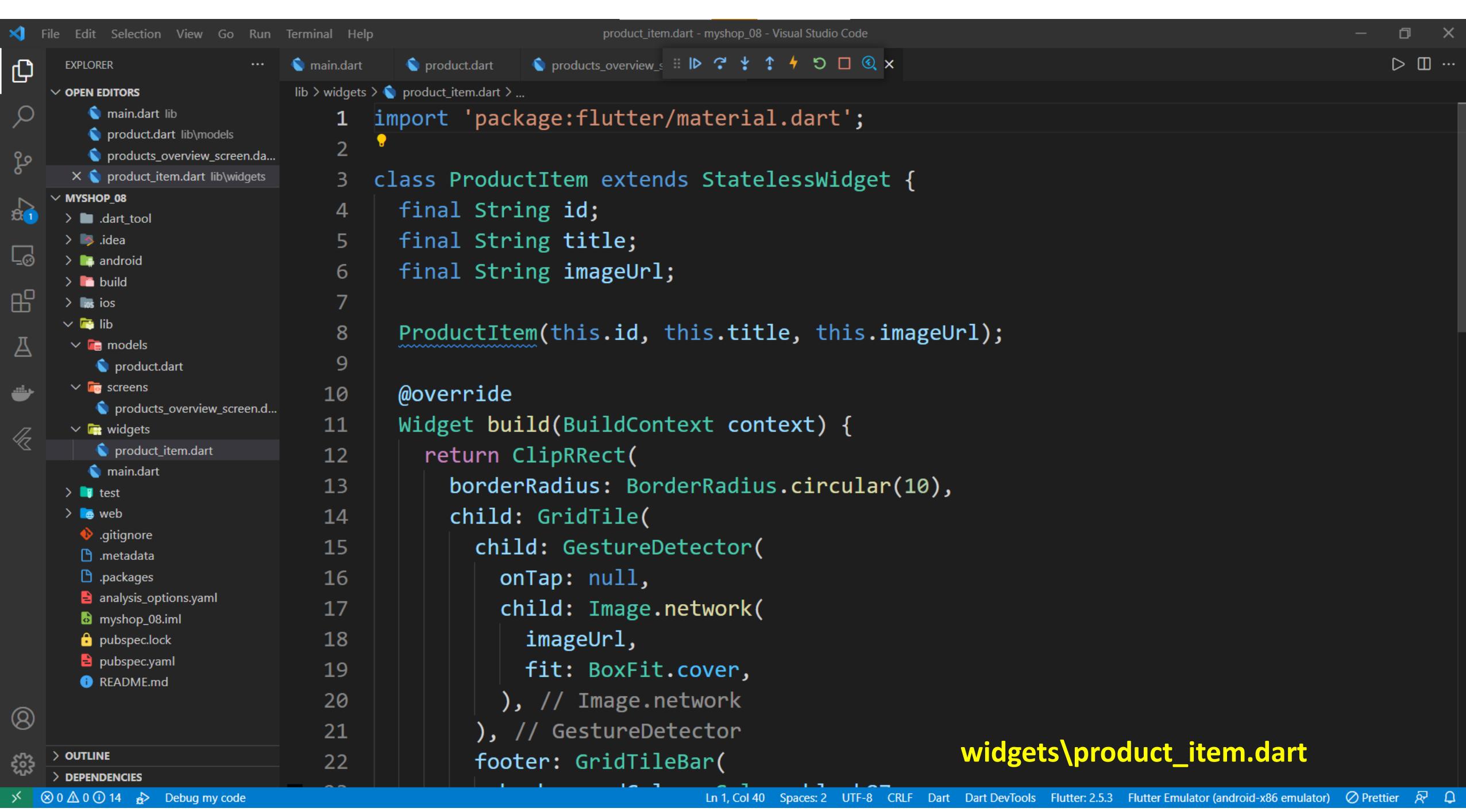
# The following defines the version and build number for your application.
# A version number is three numbers separated by dots, like 1.2.43
# followed by an optional build number separated by a +.
# Both the version and the builder number may be overridden in flutter
# build by specifying --build-name and --build-number, respectively.
# In Android, build-name is used as versionName while build-number used as versionCode.
# Read more about Android versioning at https://developer.android.com/studio/publish/versioning
# In iOS, build-name is used as CFBundleShortVersionString while build-number used as CFBundleVersion.
# Read more about iOS versioning at
# https://developer.apple.com/library/archive/documentation/General/Reference/InfoPlistKeyReference/Articles/StandardInfoPlistKeys.html#//apple\_ref/doc/uid/TP40009251-SW1
version: 1.0.0+1

environment:
  sdk: ">=2.11.0 <3.0.0"
```

Bottom Status Bar: Ln 22, Col 1 (26 selected) | Spaces: 2 | UTF-8 | CRLF | YAML | Dart DevTools | Flutter: 2.5.3 | Flutter Emulator (android-x86 emulator) | ✓ Prettier | 🔍

Bottom Center: pubspec.yaml

WORKING ON THE PRODUCTS GRID AND ITEM WIDGETS



File Edit Selection View Go Run Terminal Help product_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... main.dart product.dart products_overview.dart product_item.dart lib > widgets > product_item.dart > ...

OPEN EDITORS main.dart lib product.dart lib\models products_overview_screen.dart product_item.dart lib\widgets

MYSHOP_08 .dart_tool .idea android build ios lib models product.dart screens products_overview_screen.dart widgets product_item.dart main.dart test web .gitignore .metadata .packages analysis_options.yaml myshop_08.iml pubspec.lock pubspec.yaml README.md

product_item.dart

backgroundColor: Colors.black87,
leading: IconButton(
icon: Icon(Icons.favorite),
color: Theme.of(context).accentColor,
onPressed: () {},
, // IconButton
title: Text(
title,
textAlign: TextAlign.center,
, // Text
trailing: IconButton(
icon: Icon(
Icons.shopping_cart,
, // Icon
onPressed: () {},
color: Theme.of(context).accentColor,
, // IconButton
, // GridTileBar
, // GridTile
); // ClipRRect
}
}
}

windows\product_item.dart

Ln 1, Col 40 Spaces: 2 UTF-8 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

main.dart

product.dart

products_overview_screen.dart

product_item.dart



...

lib > screens > products_overview_screen.dart > ProductsOverviewScreen > build

```
1 import 'package:flutter/material.dart';
2
3 import '../models/product.dart';
4 import '../widgets/product_item.dart';
5
6 class ProductsOverviewScreen extends StatelessWidget {
7   final List<Product> loadedProducts = [
8     Product(
9       id: 'p1',
10      title: 'Red Shirt',
11      description: 'A red shirt - it is pretty red!',
12      price: 29.99,
13      imageUrl:
14        'https://cdn.pixabay.com/photo/2016/10/02/22/17/red-t-shirt-1710578\_1280.jpg',
15    ),
16    Product(
17      id: 'p2',
18      title: 'Trousers',
19      description: 'A nice pair of trousers.',
20      price: 59.99,
21      imageUrl:
22        'https://upload.wikimedia.org/wikipedia/commons/thumb/e/e8/Trousers%2C\_dress\_%28AM\_1960.022-8%29'
```

screens\product_overview_screen.dart

File Edit Selection View Go Run Terminal Help products_overview_screen.dart - myshop_08 - Visual Studio Code

main.dart product.dart products_overview_screen.dart product_item.dart

lib > screens > products_overview_screen.dart > ProductsOverviewScreen > build

```
22     'https://upload.wikimedia.org/wikipedia/commons/thumb/e/e8/Trousers%2C_dress_%28AM_1960.022-8%29.jpg',
23 ),
24 Product(
25   id: 'p3',
26   title: 'Yellow Scarf',
27   description: 'Warm and cozy - exactly what you need for the winter.',
28   price: 19.99,
29   imageUrl:
30     'https://live.staticflickr.com/4043/4438260868_cc79b3369d_z.jpg',
31 ),
32 Product(
33   id: 'p4',
34   title: 'A Pan',
35   description: 'Prepare any meal you want.',
36   price: 49.99,
37   imageUrl:
38     'https://upload.wikimedia.org/wikipedia/commons/thumb/1/14/Cast-Iron-Pan.jpg/1024px-Cast-Iron-Pan.jpg',
39 ),
40 ];
41
42 @override
43 Widget build(BuildContext context) {
```

screens\product_overview_screen.dart

Ln 49, Col 45 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help products_overview_screen.dart - myshop_08 - Visual Studio Code

main.dart product.dart products_overview_screen.dart product_item.dart

lib > screens > products_overview_screen.dart > ProductsOverviewScreen > build

```
43     Widget build(BuildContext context) {
44       return Scaffold(
45         appBar: AppBar(
46           title: Text('MyShop'),
47         ), // AppBar
48         body: GridView.builder(
49           padding: const EdgeInsets.all(10.0),
50           itemCount: loadedProducts.length,
51           itemBuilder: (ctx, i) => ProductItem(
52             loadedProducts[i].id,
53             loadedProducts[i].title,
54             loadedProducts[i].imageUrl,
55           ), // ProductItem
56           gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
57             crossAxisCount: 2,
58             childAspectRatio: 3 / 2,
59             crossAxisSpacing: 10,
60             mainAxisSpacing: 10,
61           ), // SliverGridDelegateWithFixedCrossAxisCount
62         ), // GridView.builder
63       ); // Scaffold
64     }
```

screens\product_overview_screen.dart

Debug my code

Ln 49, Col 45 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



EXPLORER

...

main.dart X product.dart products_overview_s pubspec.yaml



OPEN EDITORS

main.dart lib
product.dart lib\models
products_overview_screen.d...
product_item.dart lib\widgets
pubspec.yaml

MYSHOP_08

.dart_tool
.idea
android
assets\fonts
Anton-Regular.ttf
Lato-Bold.ttf
Lato-Regular.ttf

build

ios

lib

models
product.dart

screens

products_overview_screen.d...

widgets

product_item.dart

main.dart

test

web

.gitignore

.metadata

.packages

analysis_options.yaml

myshop_08.iml

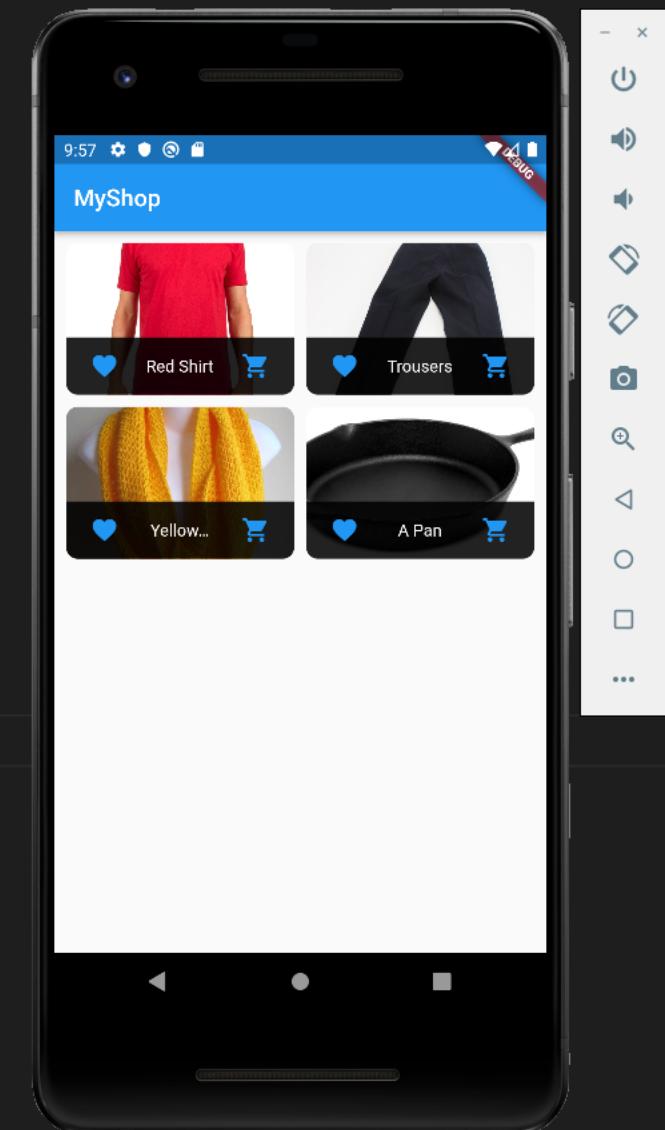
pubspec.lock



> OUTLINE

> DEPENDENCIES

```
1 import 'package:flutter/material.dart';
2 import 'screens/products_overview_screen.dart';
3
4 void main() => runApp(MyApp());
5
6 class MyApp extends StatelessWidget {
7   @override
8   Widget build(BuildContext context) {
9     return MaterialApp(
10       title: 'MyShop',
11       theme: ThemeData(
12         primarySwatch: Colors.blue,
13       ), // ThemeData
14       home: ProductsOverviewScreen(),
15     ); // MaterialApp
16   }
17 }
18 }
```



main.dart

STYLING THE APP AND ADDING A THEME TO THE APP

File Edit Selection View Go Run Terminal Help

pubspec.yaml - myshop_08 - Visual Studio Code

EXPLORER ...

main.dart product.dart products_overview_s pubspec.yaml

OPEN EDITORS

main.dart lib product.dart lib\models products_overview_screen.dart product_item.dart lib\widgets pubspec.yaml

MYSHOP_08

.dart_tool .idea android assets\fonts Anton-Regular.ttf Lato-Bold.ttf Lato-Regular.ttf build ios lib models product.dart screens products_overview_screen.dart widgets product_item.dart main.dart test web .gitignore .metadata .packages analysis_options.yaml myshop_08.iml pubspec.lock

OUTLINE

DEPENDENCIES

For details regarding adding assets from package dependencies, see
<https://flutter.dev/assets-and-images/#from-packages>

To add custom fonts to your application, add a fonts section here,
in this "flutter" section. Each entry in this list should have a
"family" key with the font family name, and a "fonts" key with a
list giving the asset and other descriptors for the font. For
example:

fonts:

family: Lato

fonts:

asset: assets/fonts/Lato-Regular.ttf

asset: assets/fonts/Lato-Bold.ttf

weight: 700

family: Anton

fonts:

asset: assets/fonts/Anton-Regular.ttf

#

For details regarding fonts from package dependencies,
see <https://flutter.dev/custom-fonts/#from-packages>

pubspec.yaml

Ln 83, Col 1 (244 selected) Spaces: 2 CRLF YAML Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) ✓ Prettier

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... main.dart X product.dart products_overview_s pubspec.yaml

lib > main.dart > ...

```
1 import 'package:flutter/material.dart';
2 import 'screens/products_overview_screen.dart';
3
4 void main() => runApp(MyApp());
5
6 class MyApp extends StatelessWidget {
7     @override
8     Widget build(BuildContext context) {
9         return MaterialApp(
10             title: 'MyShop',
11             theme: ThemeData(
12                 primarySwatch: Colors.purple,
13                 fontFamily: 'Lato',
14             ), // ThemeData
15             home: ProductsOverviewScreen(),
16         ); // MaterialApp
17     }
18 }
19 }
```

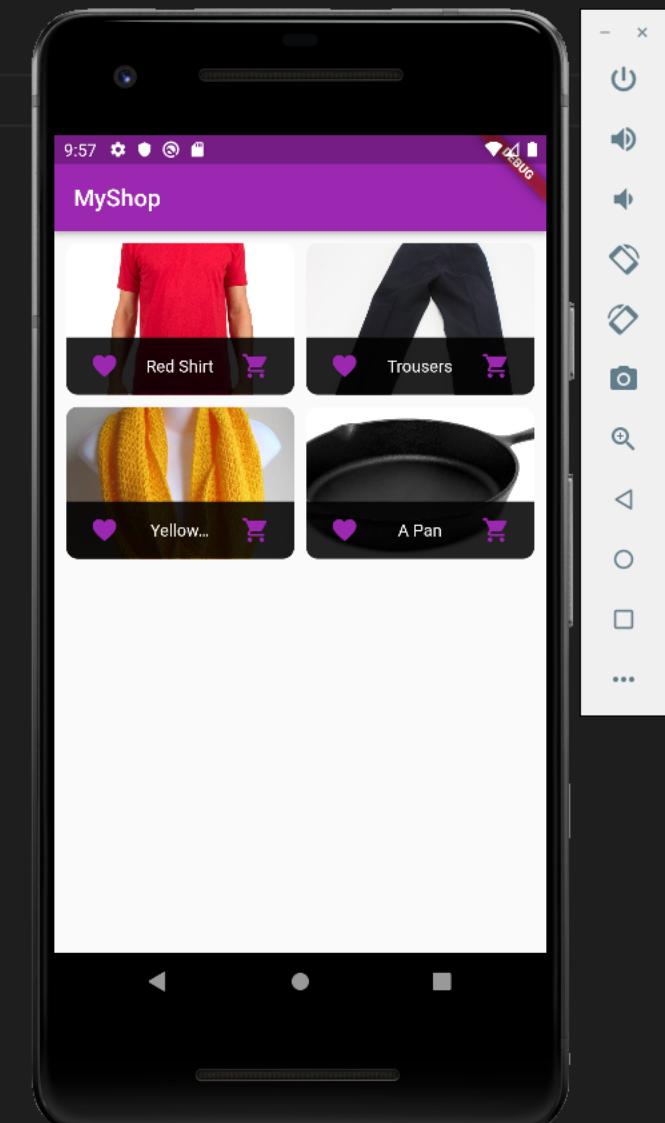
Run | Debug | Profile

MYSHOP_08 .dart_tool .idea android assets\fonts Anton-Regular.ttf Lato-Bold.ttf Lato-Regular.ttf build ios lib models product.dart screens products_overview_screen.d... widgets product_item.dart main.dart test web .gitignore .metadata .packages analysis_options.yaml myshop_08.iml pubspec.lock

OUTLINE

DEPENDENCIES

main.dart



Ln 2, Col 9 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... main.dart X product.dart products_overview_s pubspec.yaml

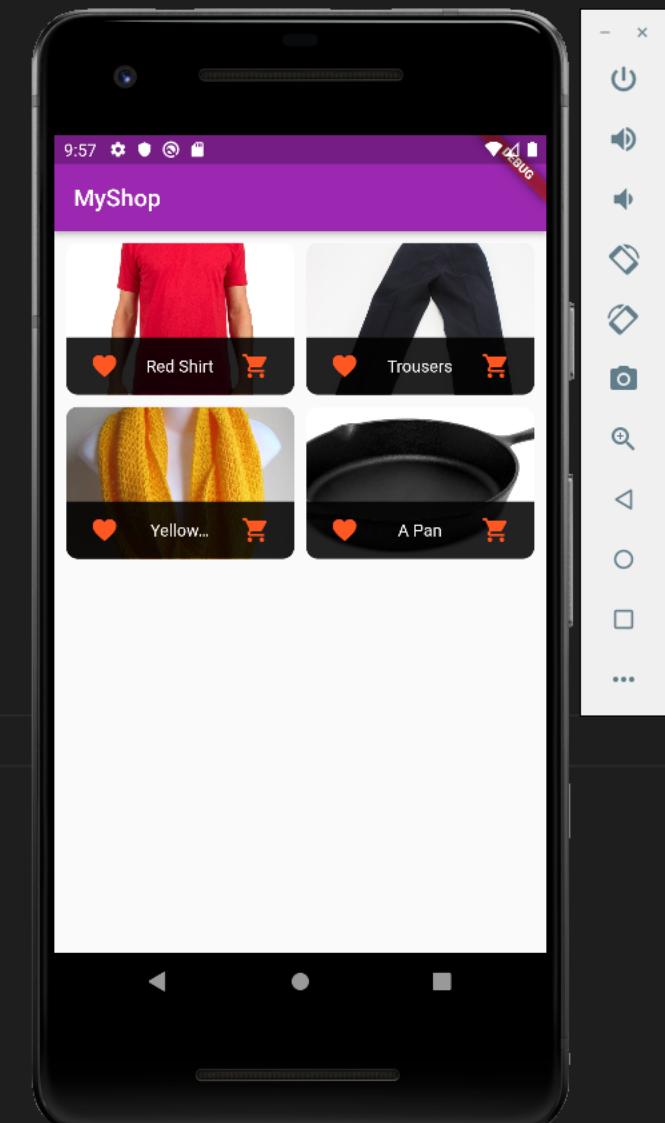
lib > main.dart > MyApp > build

```
1 import 'package:flutter/material.dart';
2 import 'screens/products_overview_screen.dart';
3
4 void main() => runApp(MyApp());
5
6 class MyApp extends StatelessWidget {
7     @override
8     Widget build(BuildContext context) {
9         return MaterialApp(
10             title: 'MyShop',
11             theme: ThemeData(
12                 primarySwatch: Colors.purple,
13                 accentColor: Colors.deepOrange,
14                 fontFamily: 'Lato',
15             ), // ThemeData
16             home: ProductsOverviewScreen(),
17         ); // MaterialApp
18     }
19 }
20 }
```

Run | Debug | Profile

MYSHOP_08 .dart_tool .idea android assets\fonts Anton-Regular.ttf Lato-Bold.ttf Lato-Regular.ttf build ios lib models product.dart screens products_overview_screen.d... widgets product_item.dart main.dart test web .gitignore .metadata .packages analysis_options.yaml myshop_08.iml pubspec.lock

main.dart



main.dart

ADDING NAVIGATION TO THE APP

File Edit Selection View Go Run Terminal Help product_item.dart - myshop_08 - Visual Studio Code

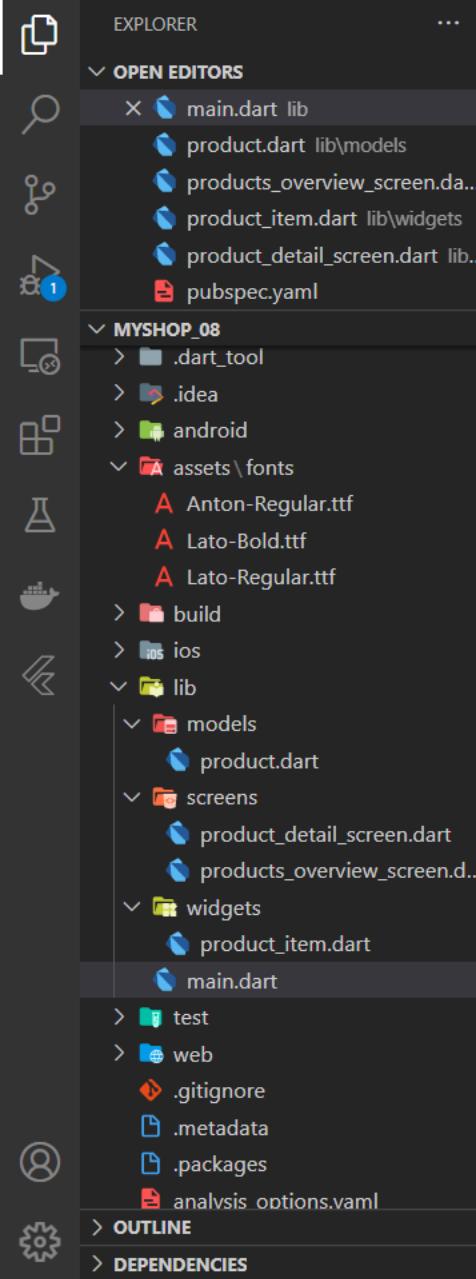
EXPLORER ... main.dart product.dart products_overview.dart product_item.dart product_detail_screen.dart pubspec.yaml

lib > widgets > product_item.dart > ProductItem > build

```
1 import 'package:flutter/material.dart';
2 import '../screens/product_detail_screen.dart';
3
4 class ProductItem extends StatelessWidget {
5     final String id;
6     final String title;
7     final String imageUrl;
8
9     ProductItem(this.id, this.title, this.imageUrl);
10
11    @override
12    Widget build(BuildContext context) {
13        return ClipRRect(
14            borderRadius: BorderRadius.circular(10),
15            child: GridTile(
16                child: GestureDetector(
17                    onTap: () {
18                        Navigator.of(context).pushNamed(
19                            ProductDetailScreen.routeName,
20                            arguments: id,
21                        );
22                    },
23                ),
24            ),
25        );
26    }
27}
```

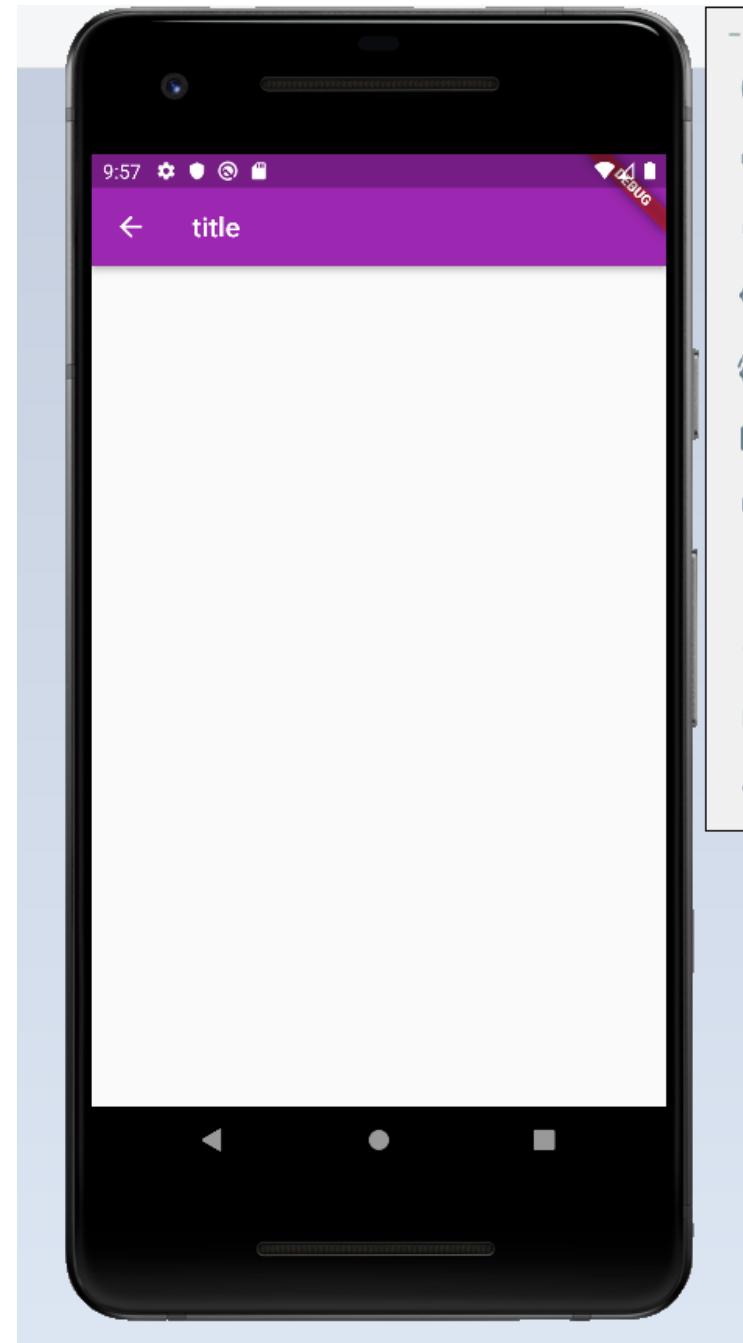
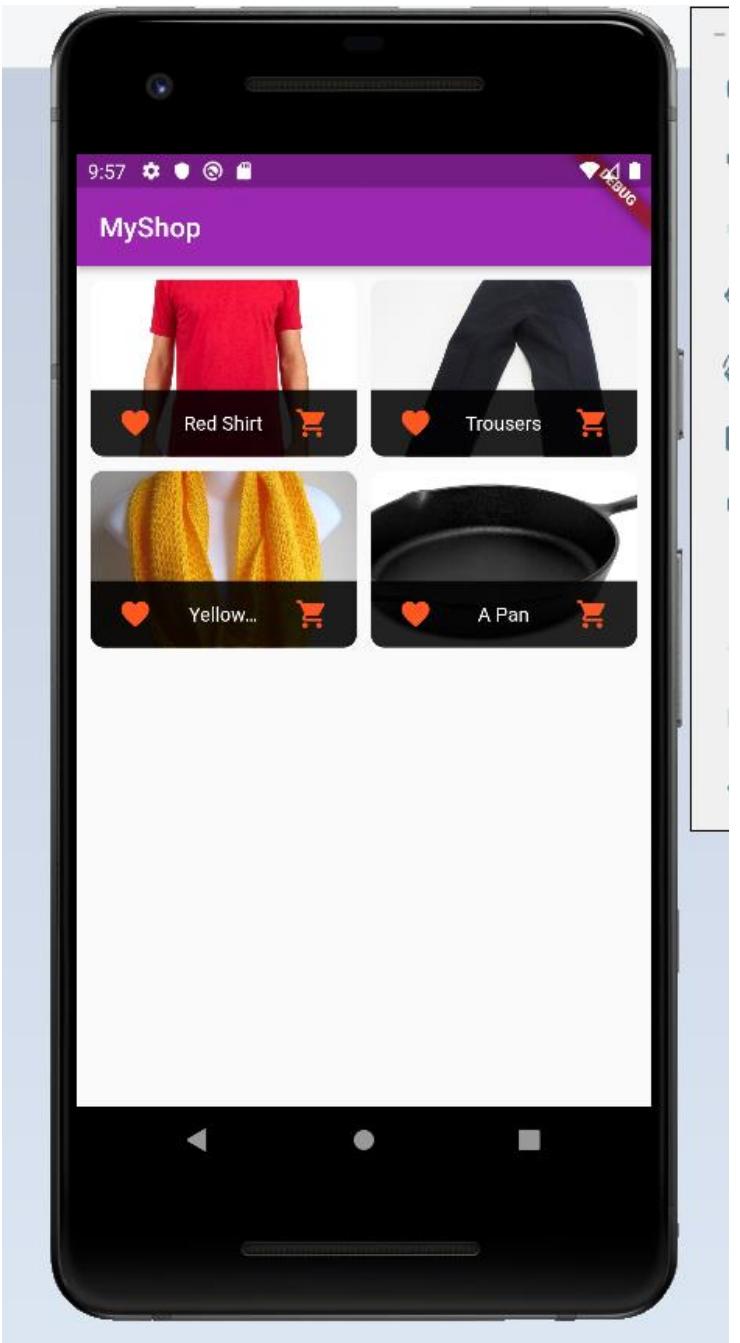
windows\product_item.dart

Ln 23, Col 1 (175 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



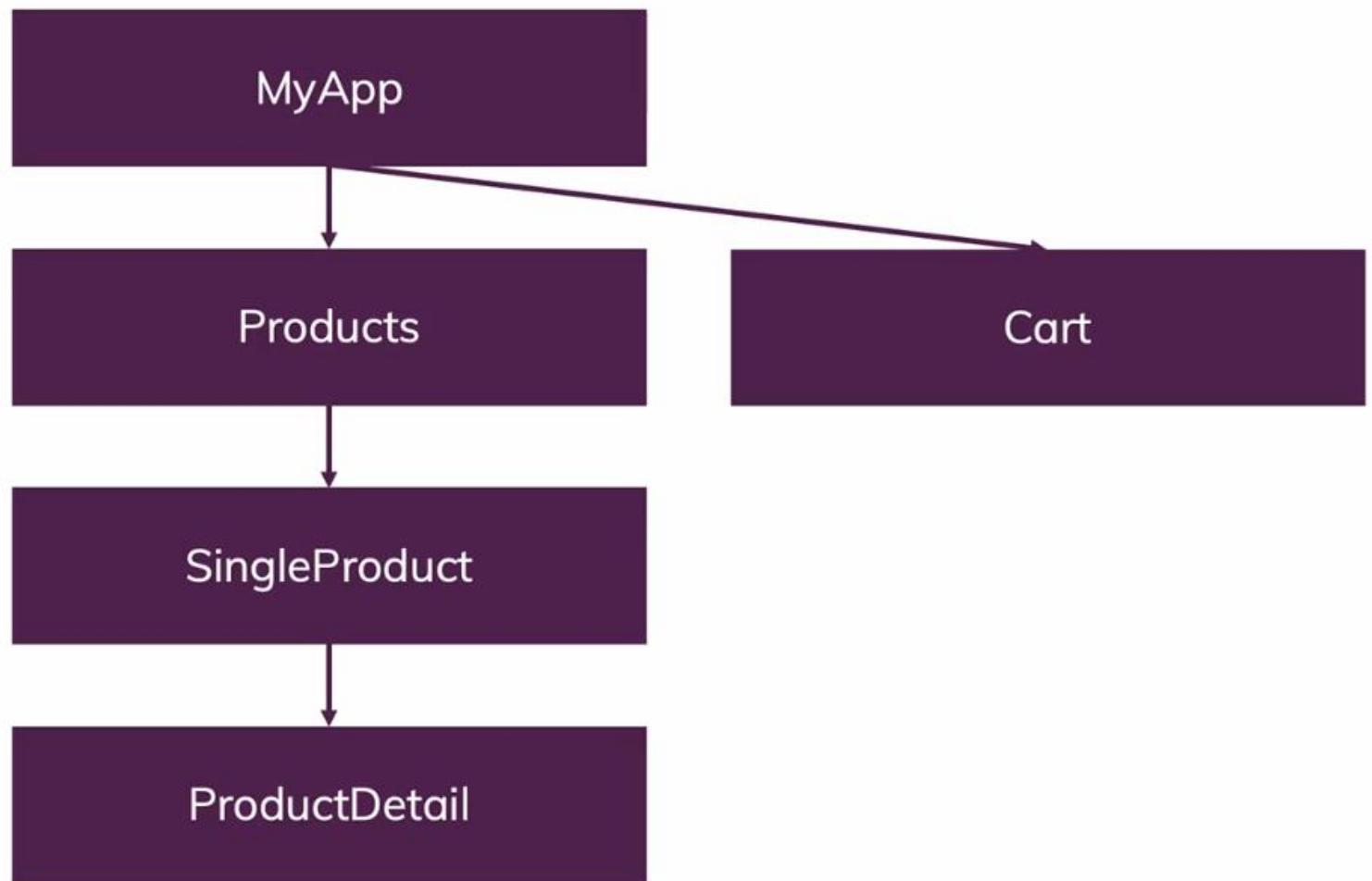
```
1 import 'package:flutter/material.dart';
2 import 'screens/product_detail_screen.dart';
3 import 'screens/products_overview_screen.dart';
4
5 Run | Debug | Profile
6
7 void main() => runApp(MyApp());
8
9
10 class MyApp extends StatelessWidget {
11   @override
12   Widget build(BuildContext context) {
13     return MaterialApp(
14       title: 'MyShop',
15       theme: ThemeData(
16         primarySwatch: Colors.purple,
17         accentColor: Colors.deepOrange,
18         fontFamily: 'Lato',
19       ), // ThemeData
20       home: ProductsOverviewScreen(),
21       routes: {
22         ProductDetailScreen.routeName: (ctx) => ProductDetailScreen(),
23       });
24   }
25 }
```

main.dart

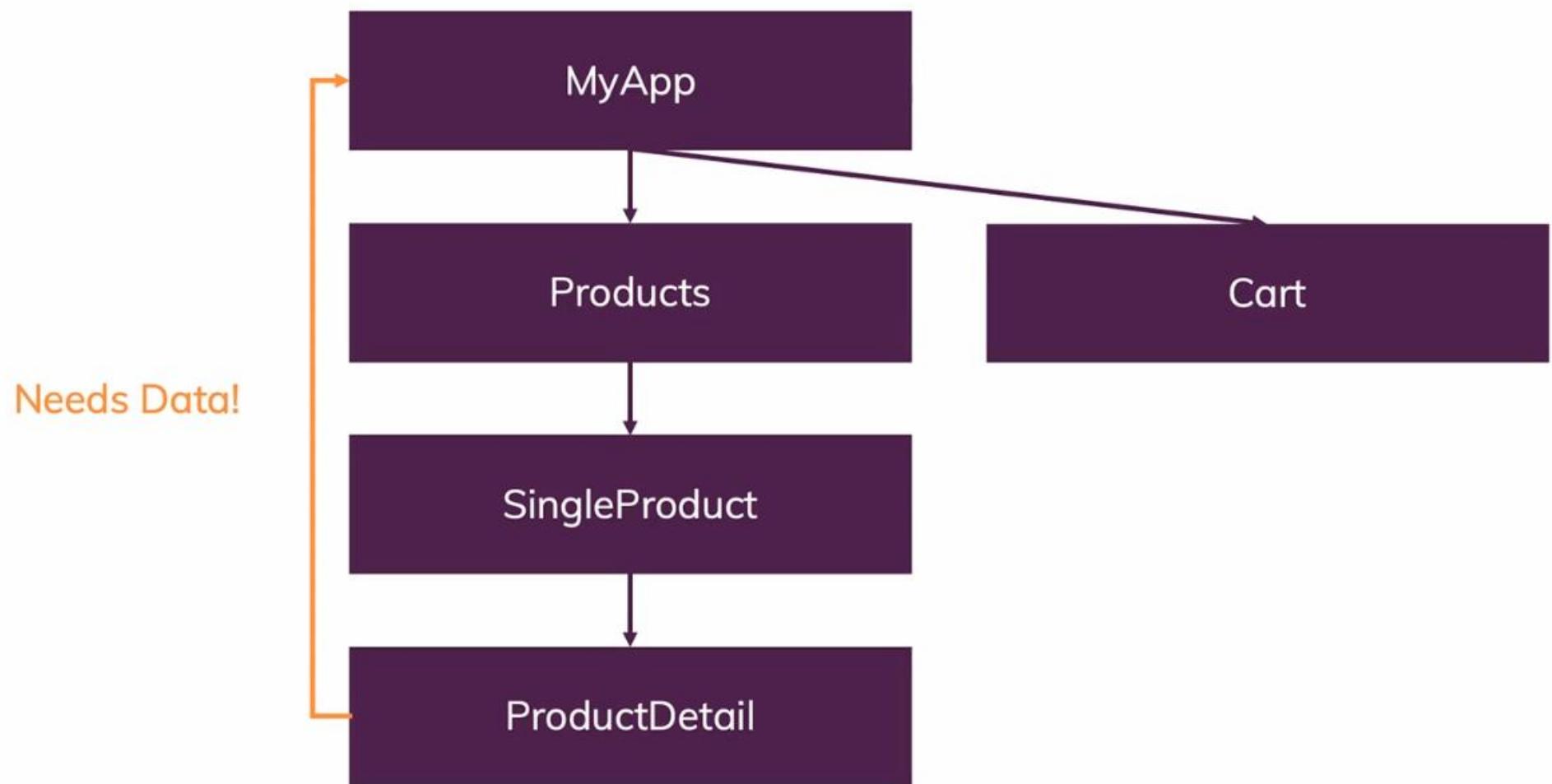


WHY STATE MANAGEMENT AND WHAT IS STATE AND STATE MANAGEMENT

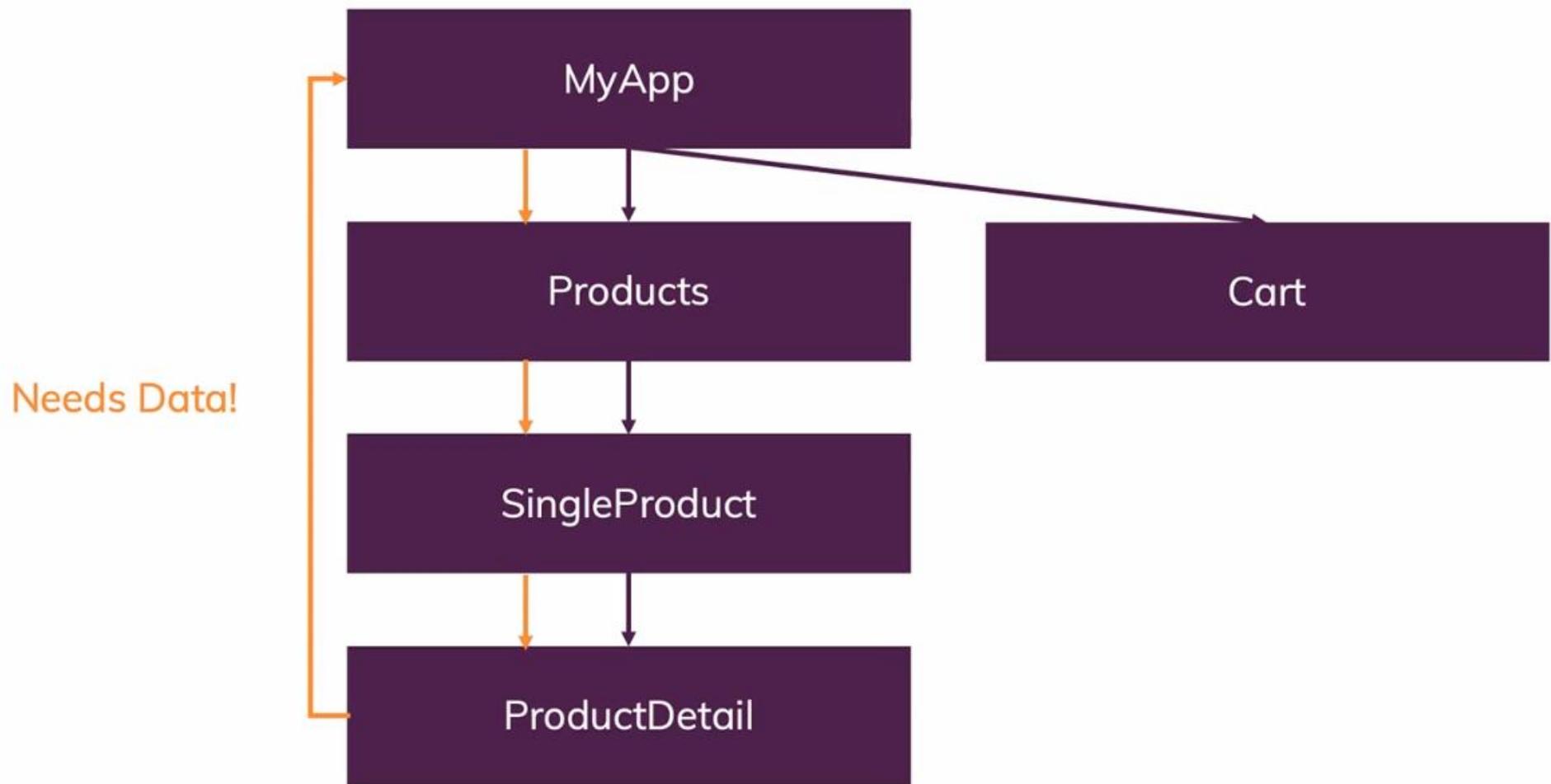
What's the Problem?



What's the Problem?



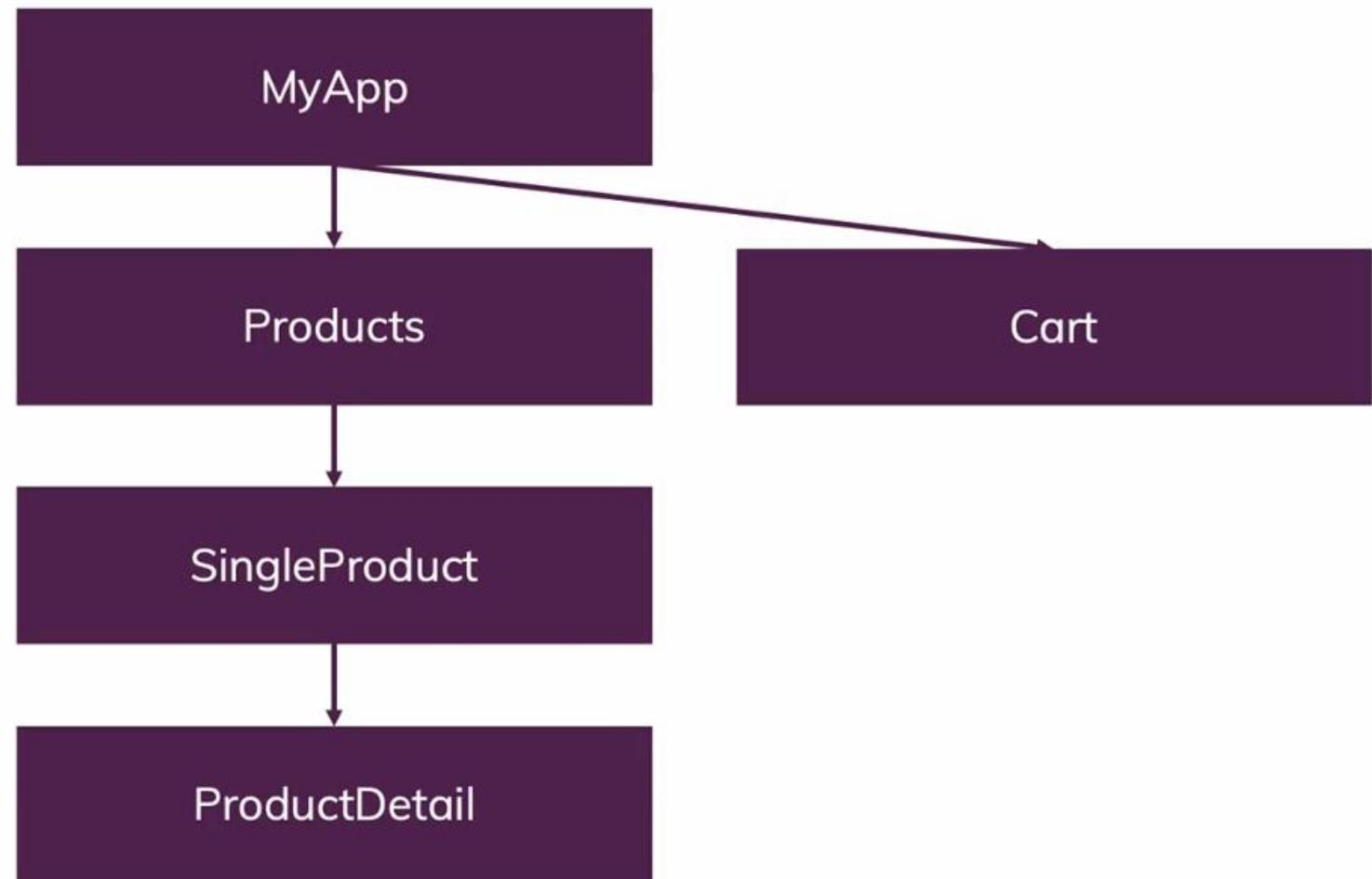
What's the Problem?



What's the Problem?

Passing data via
constructors can be
cumbersome &
difficult

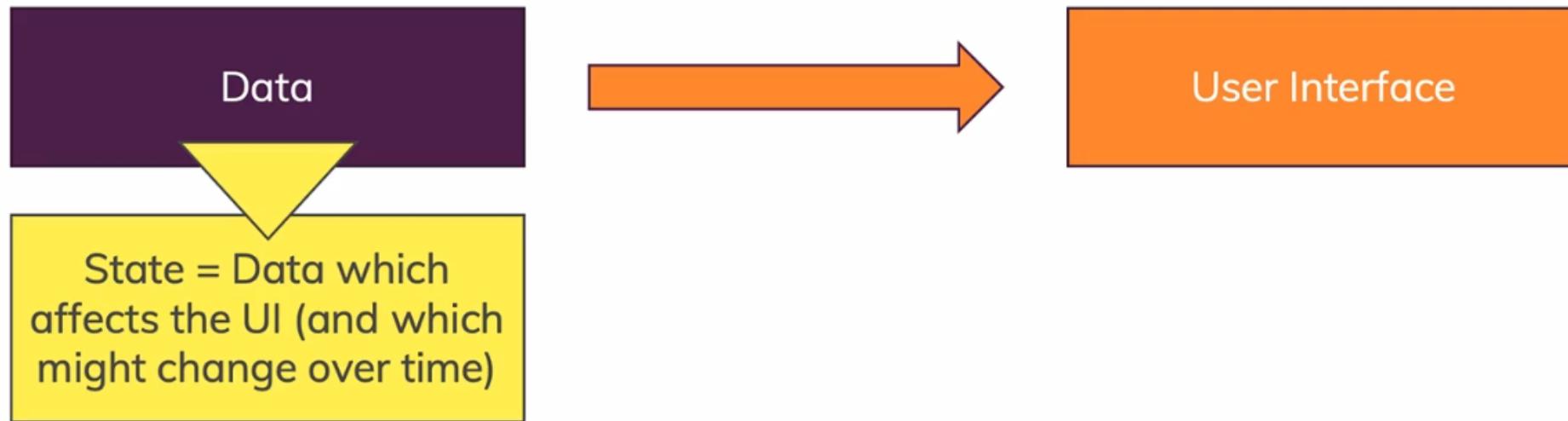
Unnecessary rebuilds
of the entire app or
major parts of the app



What's “State” and “State Management”

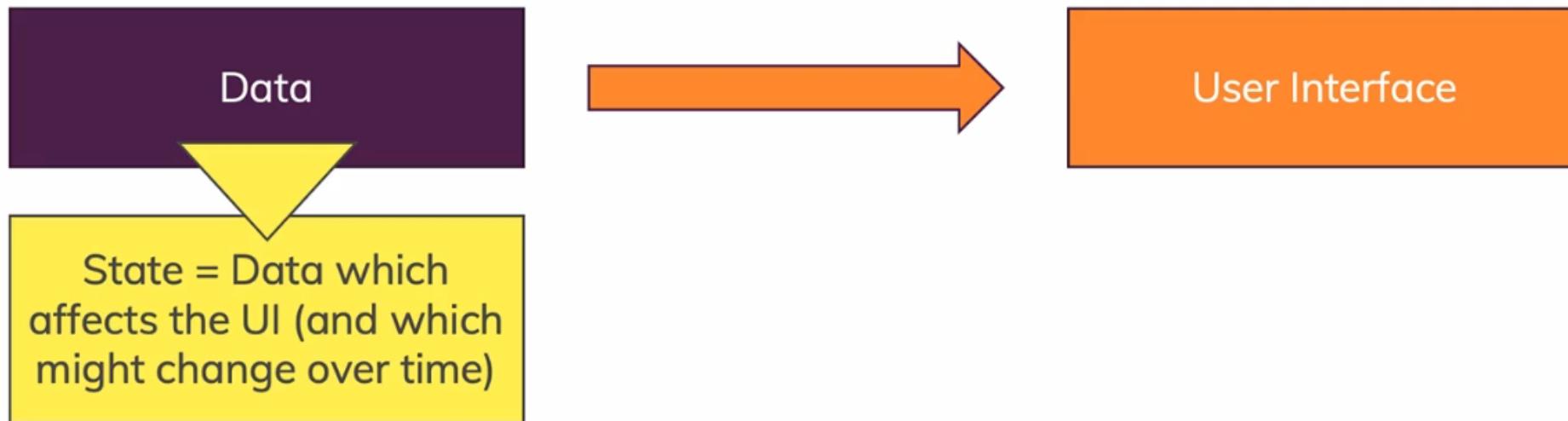


What's “State” and “State Management”



What's “State” and “State Management”

The User Interface is a **function of your data (state)**



What's “State” and “State Management”

The User Interface is a **function of your data (state)**



State = Data which
affects the UI (and which
might change over time)

App-wide State

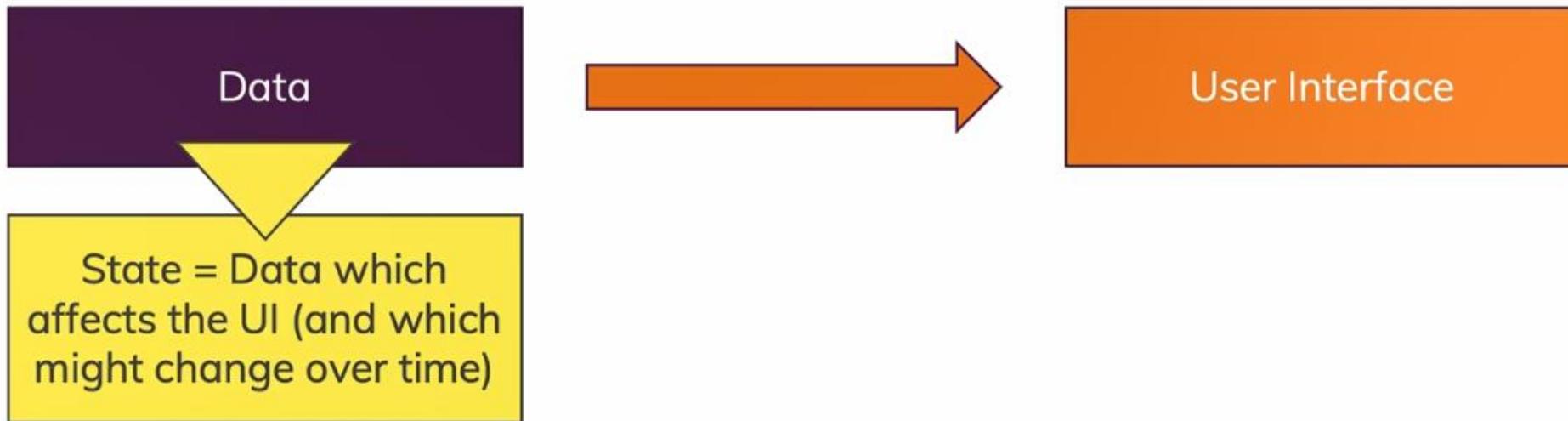
Affects entire app or significant parts of
the app

Authentication ("is the user
authenticated?"), Loaded Products, ...

Widget (Local) State

What's “State” and “State Management”

The User Interface is a **function of your data (state)**



App-wide State

Affects entire app or significant parts of the app

Authentication ("is the user authenticated?"), Loaded Products, ...

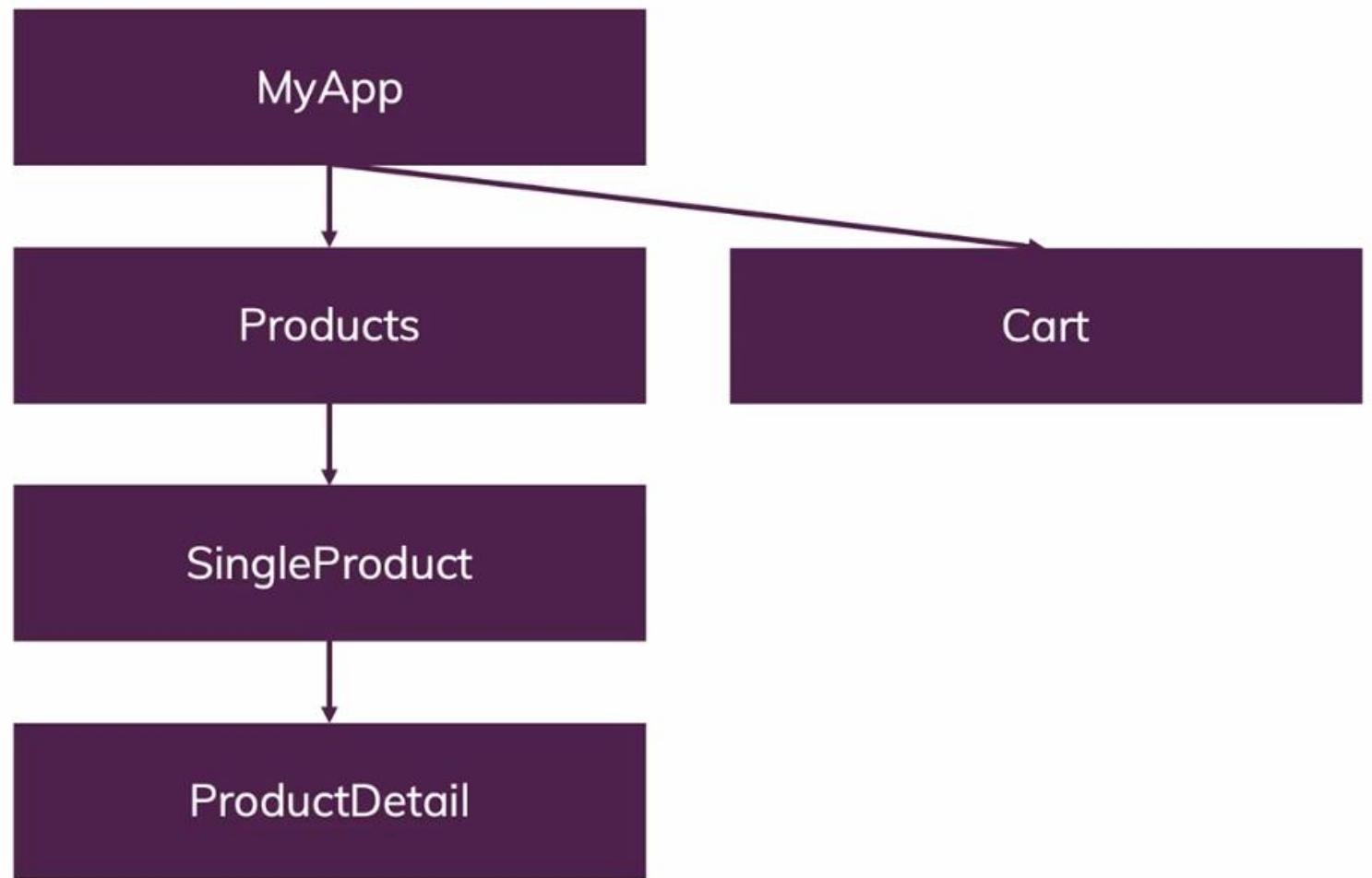
Widget (Local) State

Affects only a widget on its own (does not affect other widgets)

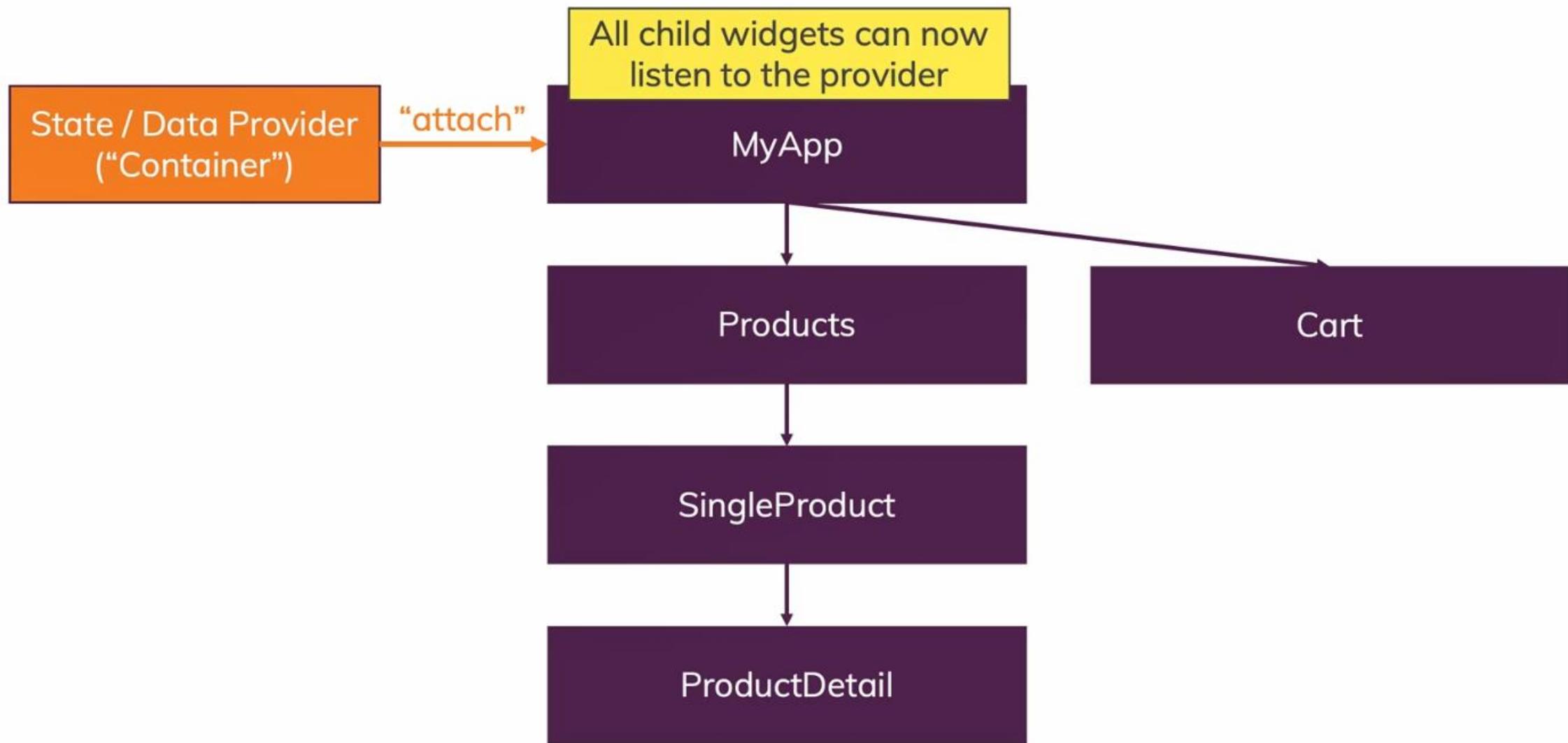
"Should a loading spinner be displayed?", Form Input, ...

UNDERSTANDING THE PROVIDER PACKAGE AND APPROACH

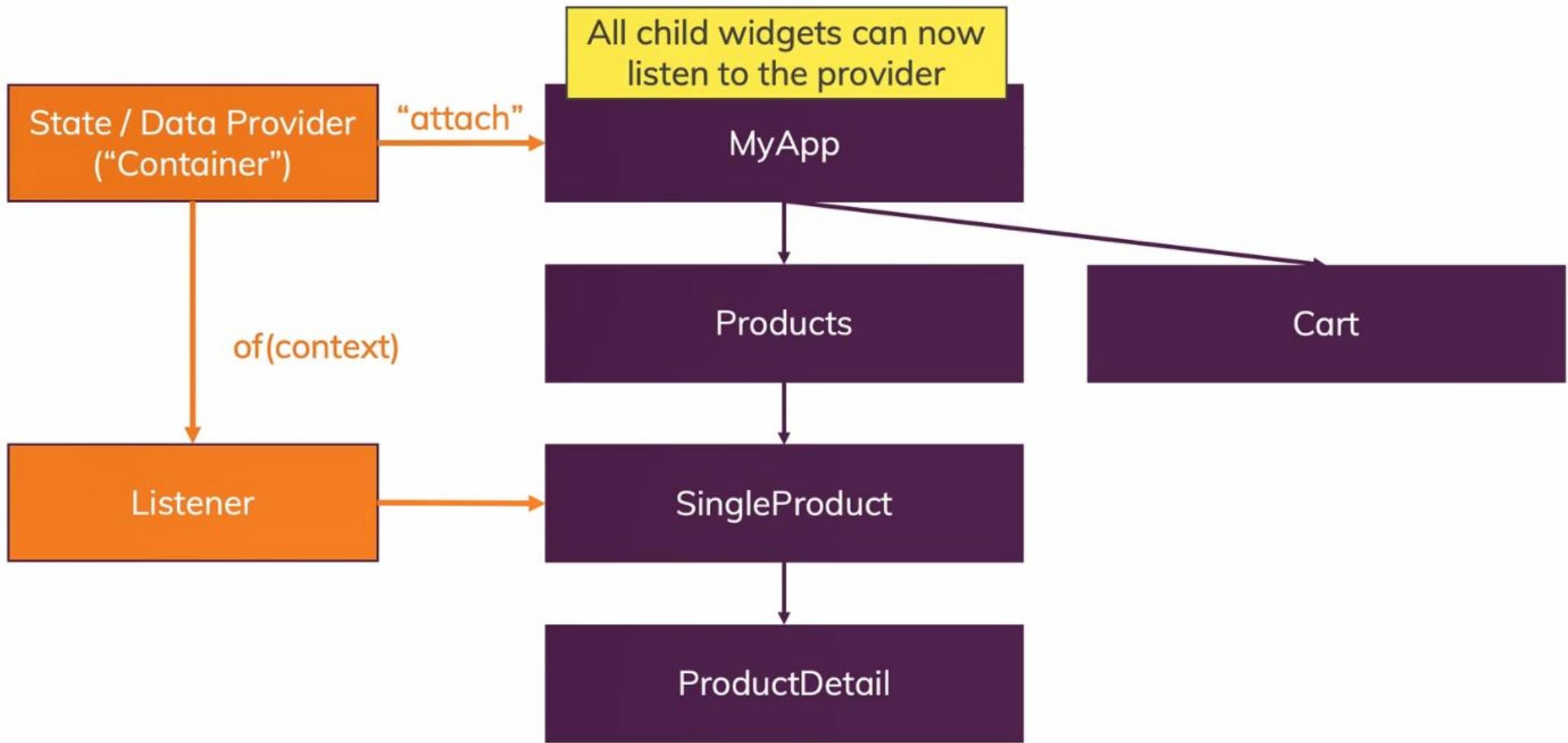
The Provider Package & Pattern



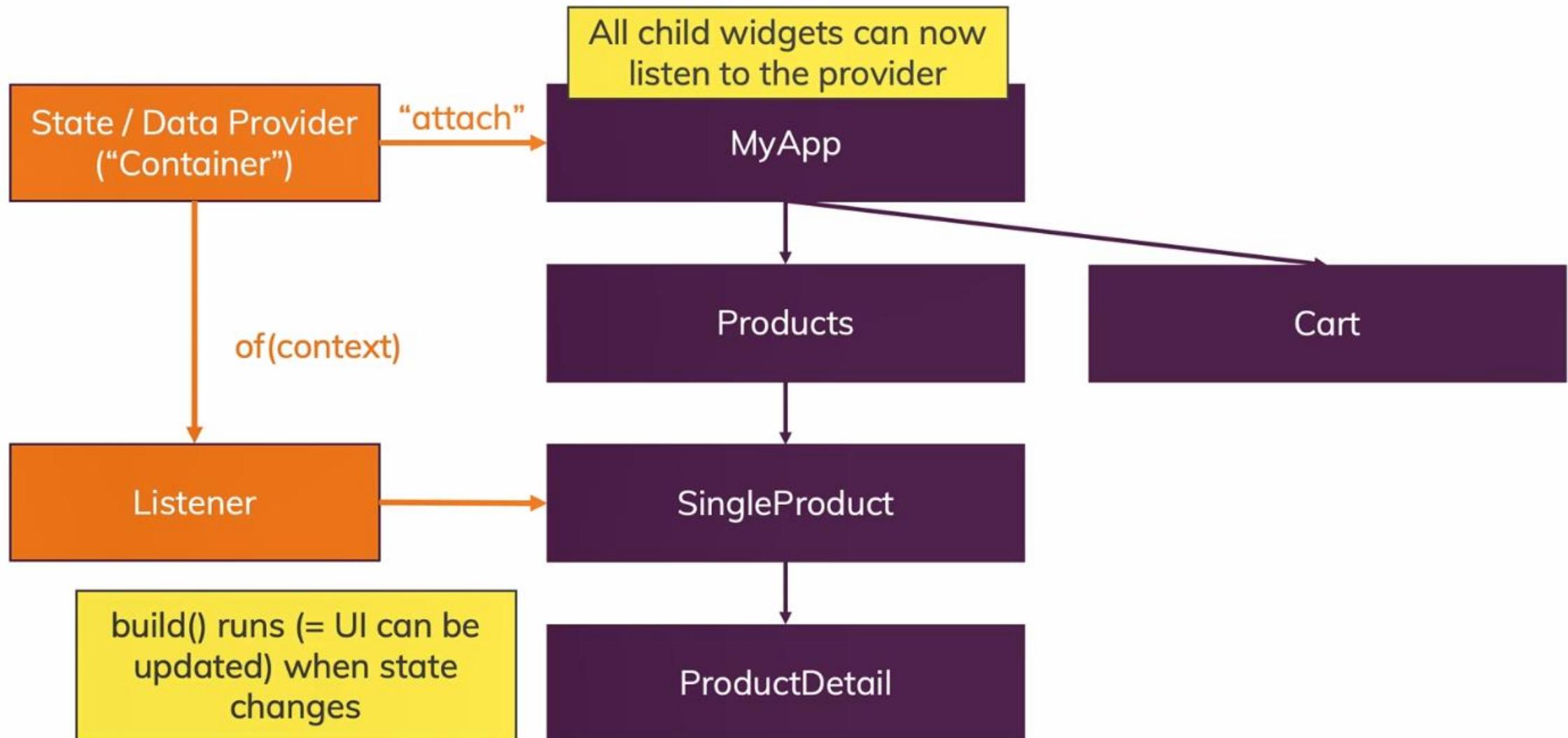
The Provider Package & Pattern



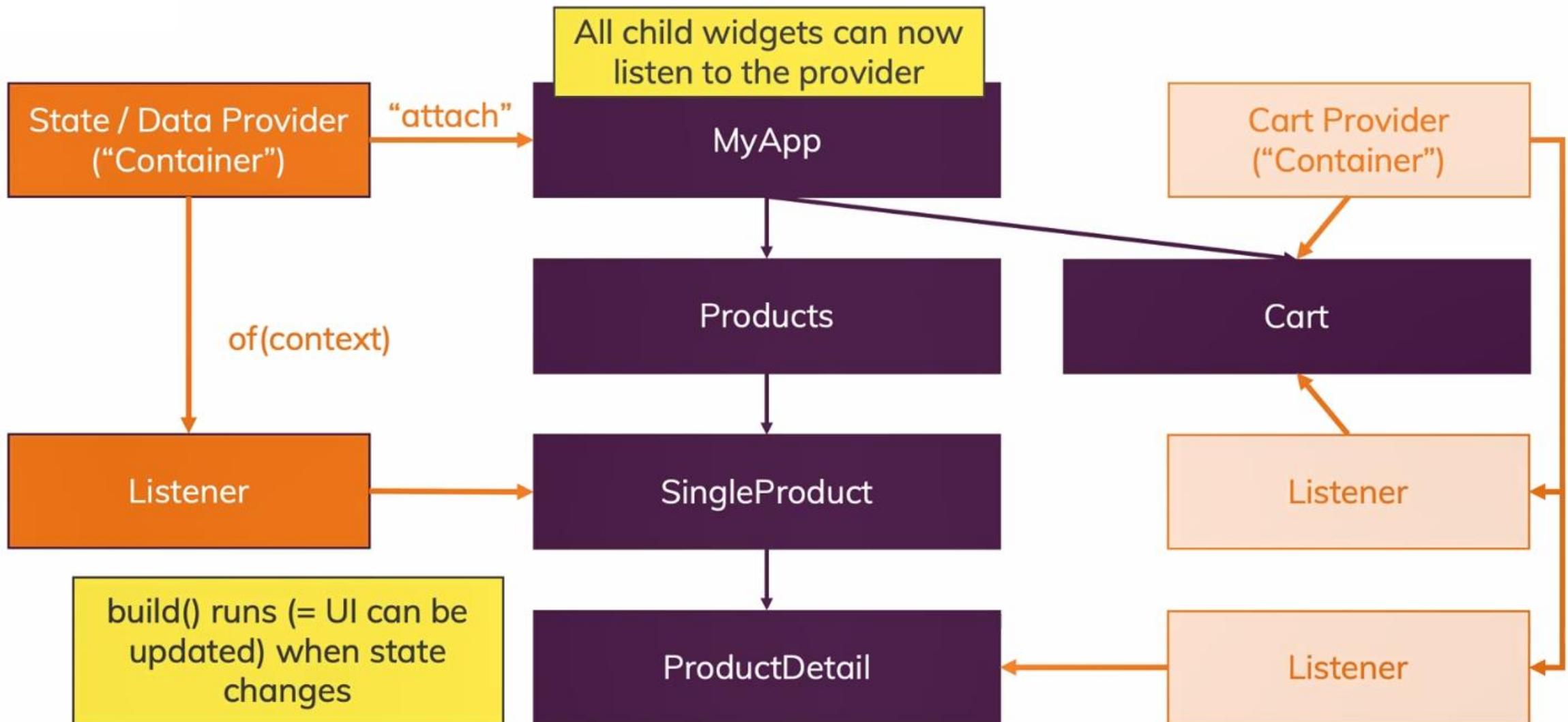
The Provider Package & Pattern



The Provider Package & Pattern



The Provider Package & Pattern



WORKING WITH PROVIDERS AND LISTENERS

dart pad - Bing | DartPad | Diagnostic messages | Dart | provider | Flutter Package | +

https://pub.dev/packages/provider

pub.dev

Sign in Help

provider 6.0.1

Published Sep 24, 2021 ·  dash-overflow.net Null safety

FLUTTER | ANDROID | IOS | LINUX | MACOS | WEB | WINDOWS

5.52K

[Readme](#) [Changelog](#) [Example](#) [Installing](#) [Versions](#) [Scores](#)

5523 | 130 | 100%
LIKES | PUB POINTS | POPULARITY

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 Build passing  codecov 99%  chat 80 online



A wrapper around [InheritedWidget](#) to make them easier to use and more reusable.

By using `provider` instead of manually writing `InheritedWidget`, you get:

Publisher

 dash-overflow.net

Metadata

A wrapper around `InheritedWidget` to make them easier to use and more reusable.

[Repository \(GitHub\)](#)

[View/report issues](#)

Documentation

[API reference](#)

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** pubspec.yaml - myshop_08 - Visual Studio Code.
- Left Sidebar (Explorer):** Shows the project structure under 'MYSHOP_08'. Key files include main.dart, product.dart, products_overview.dart, product_item.dart, product_detail_screen.dart, pubspec.yaml, Lato-Bold.ttf, Lato-Regular.ttf, build, ios, lib (containing models and screens), test, web, .gitignore, .metadata, .packages, analysis_options.yaml, myshop_08.iml, pubspec.lock, README.md, OUTLINE, and DEPENDENCIES.
- Central Area:** The pubspec.yaml file is open. The code content is as follows:

```
27 # the latest version available on pub.dev. To see which dependencies have newer
28 # versions available, run `flutter pub outdated`.
29 dependencies:
30   flutter:
31     sdk: flutter
32
33   # The following adds the Cupertino Icons font to your application.
34   # Use with the CupertinoIcons class for iOS style icons.
35   cupertino_icons: ^1.0.2
36
37 dev_dependencies:
38   flutter_test:
39     sdk: flutter
40   provider: ^6.0.1
41   # The "flutter_lints" package below contains a set of recommended lints to
42   # encourage good coding practices. The lint set provided by the package is
43   # activated in the `analysis_options.yaml` file located at the root of your
44   # package. See that file for information about deactivating specific lint
45   # rules and activating additional ones.
46   flutter_lints: ^1.0.0
47
48   # For information on the generic Dart part of this file, see the
```

A large green rectangular highlight covers the entire content area of the code editor, spanning from line 27 to line 48.

lib > providers > products.dart > Products > _items

```
1 import 'package:flutter/material.dart';
2
3 import '../models/product.dart';
4
5 class Products with ChangeNotifier {
6   List<Product> _items = [
7     Product(
8       id: 'p1',
9       title: 'Red Shirt',
10      description: 'A red shirt - it is pretty red!',
11      price: 29.99,
12      imageUrl:
13        'https://cdn.pixabay.com/photo/2016/10/02/22/17/red-t-shirt-1710578_1280.jpg',
14    ),
15    Product(
16      id: 'p2',
17      title: 'Trousers',
18      description: 'A nice pair of trousers.',
19      price: 59.99,
20      imageUrl:
21        'https://upload.wikimedia.org/wikipedia/commons/thumb/e/e8/Trousers%2C_dress_%28AM_1960.022-8%29.jpg',
22    ),
23  ];
24
25  void addProduct(Product product) {
26    _items.add(product);
27    notifyListeners();
28  }
29
30  void updateProduct(String id, Product newProduct) {
31    final index = _items.indexWhere((product) => product.id == id);
32    if (index != -1) {
33      _items[index] = newProduct;
34      notifyListeners();
35    }
36  }
37
38  void removeProduct(String id) {
39    _items.removeWhere((product) => product.id == id);
40    notifyListeners();
41  }
42}
```



lib > providers > products.dart > Products > items

```
20     imageUrl:
21         'https://upload.wikimedia.org/wikipedia/commons/thumb/e/e8/Trousers%2C_dress_%28AM_1960.022-8%2
22     ),
23     Product(
24         id: 'p3',
25         title: 'Yellow Scarf',
26         description: 'Warm and cozy - exactly what you need for the winter.',
27         price: 19.99,
28         imageUrl:
29             'https://live.staticflickr.com/4043/4438260868_cc79b3369d_z.jpg',
30     ),
31     Product(
32         id: 'p4',
33         title: 'A Pan',
34         description: 'Prepare any meal you want.',
35         price: 49.99,
36         imageUrl:
37             'https://upload.wikimedia.org/wikipedia/commons/thumb/1/14/Cast-Iron-Pan.jpg/1024px-Cast-Iron-Pa
38     ),
39 ];
40
41 List<Product> get items {
```

models\products.dart



main.dart

product.dart

products_overview_screen.dart

product_item.dart

product_detail_screen.dart

pubspec.yaml

product



lib > providers > products.dart > Products

```
33     title: 'A Pan',
34     description: 'Prepare any meal you want.',
35     price: 49.99,
36     imageUrl:
37       'https://upload.wikimedia.org/wikipedia/commons/thumb/1/14/Cast-Iron-Pan.jpg/1024px-Cast-Iron-P
38     ),
39   ];
40
41   List<Product> get items {
42     return [..._items];
43   }
44
45   Product findById(String id) {
46     return _items.firstWhere((prod) => prod.id == id);
47   }
48
49   void addProduct() {
50     // _items.add(value);
51     notifyListeners();
52   }
53 }
54 }
```

models\products.dart

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... main.dart product.dart products_overview_screen.dart product_item.dart product_detail_screen.dart products.dart

lib > main.dart > MyApp > build

```
1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3
4 import 'providers/products.dart';
5 import 'screens/product_detail_screen.dart';
6 import 'screens/products_overview_screen.dart';
7
8 void main() => runApp(MyApp());
9
10 class MyApp extends StatelessWidget {
11   @override
12   Widget build(BuildContext context) {
13     return ChangeNotifierProvider(
14       create: (ctx) => Products(),
15       child: MaterialApp(
16         title: 'MyShop',
17         theme: ThemeData(
18           primarySwatch: Colors.purple,
19           accentColor: Colors.deepOrange,
20           fontFamily: 'Lato',
21         ), // ThemeData
22     );
23   }
24 }
```

Run | Debug | Profile

main.dart

.idea android assets\fonts Anton-Regular.ttf Lato-Bold.ttf Lato-Regular.ttf build ios lib models product.dart providers products.dart screens product_detail_screen.dart products_overview_screen.dart widgets product_item.dart main.dart test web .gitignore

OUTLINE DEPENDENCIES

0 △ 0 ① 15 ↗ Debug my code

Ln 15, Col 1 (72 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help

products_grid.dart - myshop_08 - Visual Studio Code

EXPLORER ... main.dart products_grid.dart X product.dart products_overview_screen.dart product_item.dart lib widgets products_grid.dart ... pubspec.yaml

OPEN EDITORS main.dart lib products_grid.dart lib\widgets product.dart lib\models products_overview_screen.dart... product_item.dart lib\widgets product_detail_screen.dart lib\s... pubspec.yaml products.dart lib\providers

MYSHOP_08 Lato-Regular.ttf build ios lib models product.dart providers products.dart screens product_detail_screen.dart products_overview_screen.dart widgets product_item.dart products_grid.dart main.dart test web .gitignore .metadata .packages analysis_options.yaml mvshop 08.iml

products_grid.dart

```
1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3
4 import '../providers/products.dart';
5 import './product_item.dart';
6
7 class ProductsGrid extends StatelessWidget {
8   @override
9   Widget build(BuildContext context) {
10    final productsData = Provider.of<Products>(context);
11    final products = productsData.items;
12    return GridView.builder(
13      padding: const EdgeInsets.all(10.0),
14      itemCount: products.length,
15      itemBuilder: (ctx, i) => ProductItem(
16        products[i].id,
17        products[i].title,
18        products[i].imageUrl,
19      ), // ProductItem
20      gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
21        crossAxisCount: 2,
22        childAspectRatio: 3 / 2,
```

windows\products_grid.dart

Ln 29, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** products_grid.dart - myshop_08 - Visual Studio Code.
- Explorer View:** Shows the project structure under "MYSHOP_08".
 - lib: main.dart, products_grid.dart (selected), product.dart, products_overview_screen.dart, product_item.dart.
 - MYSHOP_08: build, ios, lib (models: product.dart), providers (products.dart), screens (product_detail_screen.dart, products_overview_screen.dart), widgets (product_item.dart, selected), main.dart.
 - test, web, .gitignore, .metadata, .packages, analysis_options.yaml, mvshop_08.iml.
- Editor View:** The "products_grid.dart" file is open, showing Dart code for a "ProductsGrid" StatelessWidget.

```
7 class ProductsGrid extends StatelessWidget {  
8     @override  
9         Widget build(BuildContext context) {  
10             final productsData = Provider.of<Products>(context);  
11             final products = productsData.items;  
12             return GridView.builder(  
13                 padding: const EdgeInsets.all(10.0),  
14                 itemCount: products.length,  
15                 itemBuilder: (ctx, i) => ProductItem(  
16                     products[i].id,  
17                     products[i].title,  
18                     products[i].imageUrl,  
19                 ), // ProductItem  
20                 gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(  
21                     crossAxisCount: 2,  
22                     childAspectRatio: 3 / 2,  
23                     crossAxisSpacing: 10,  
24                     mainAxisSpacing: 10,  
25                 ), // SliverGridDelegateWithFixedCrossAxisCount  
26             ); // GridView.builder  
27         }  
28     }
```
- Bottom Status Bar:** Includes file status (0 0 0 0 14), "Debug my code", and various developer tools like Linting, Dart DevTools, and Flutter Emulator.
- Bottom Right:** A yellow watermark-like text: "widgets\products_grid.dart".

File Edit Selection View Go Run Terminal Help products_overview_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... products_grid.dart product.dart products_overview_screen.dart X product_item.dart product_detail_screen.dart products.dart

lib > screens > products_overview_screen.dart > ...

```
1 import 'package:flutter/material.dart';
2
3 import '../widgets/products_grid.dart';
4
5 class ProductsOverviewScreen extends StatelessWidget {
6     @override
7     Widget build(BuildContext context) {
8         return Scaffold(
9             appBar: AppBar(
10                 title: Text('MyShop'),
11             ), // AppBar
12             body: ProductsGrid(),
13         ); // Scaffold
14     }
15 }
16 }
```

screens\products_overview_screen.dart

Ln 16, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

0 △ 0 ① 14 Debug my code

File Edit Selection View Go Run Terminal Help product_detail_screen.dart - myshop_08 - Visual Studio Code

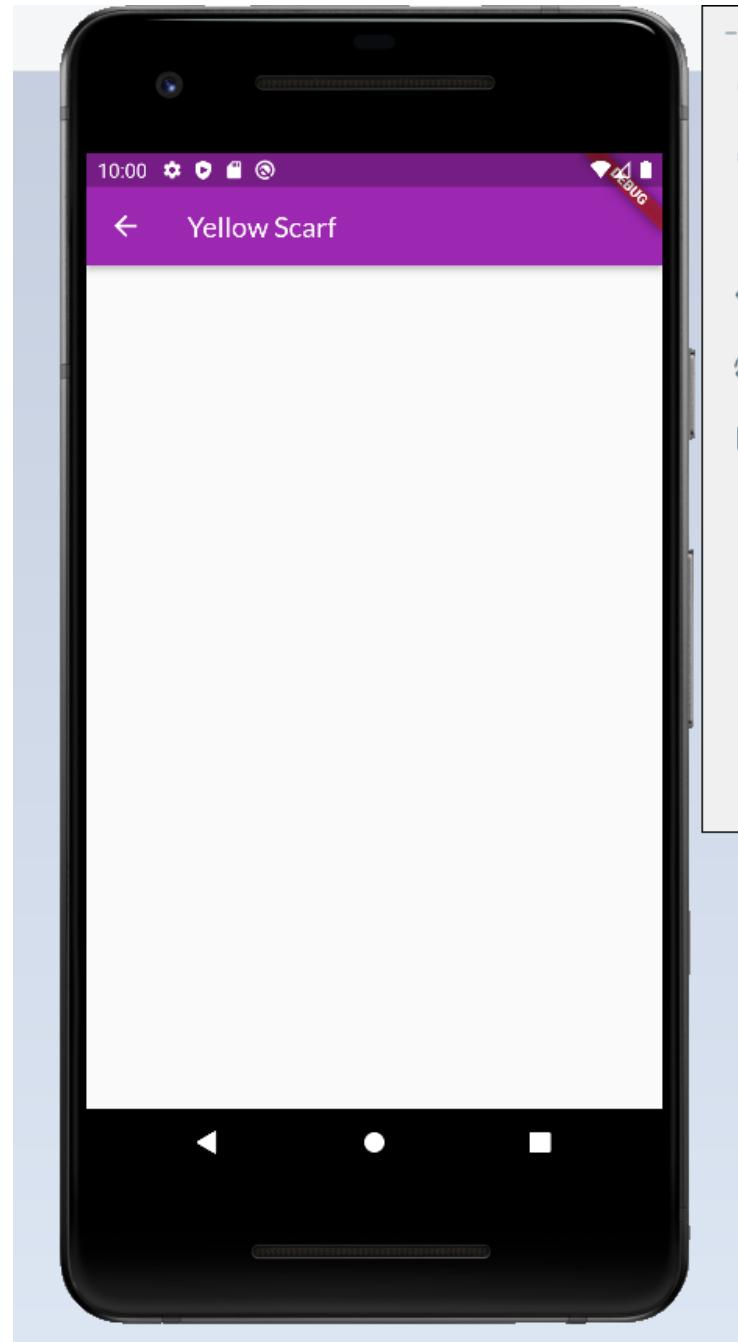
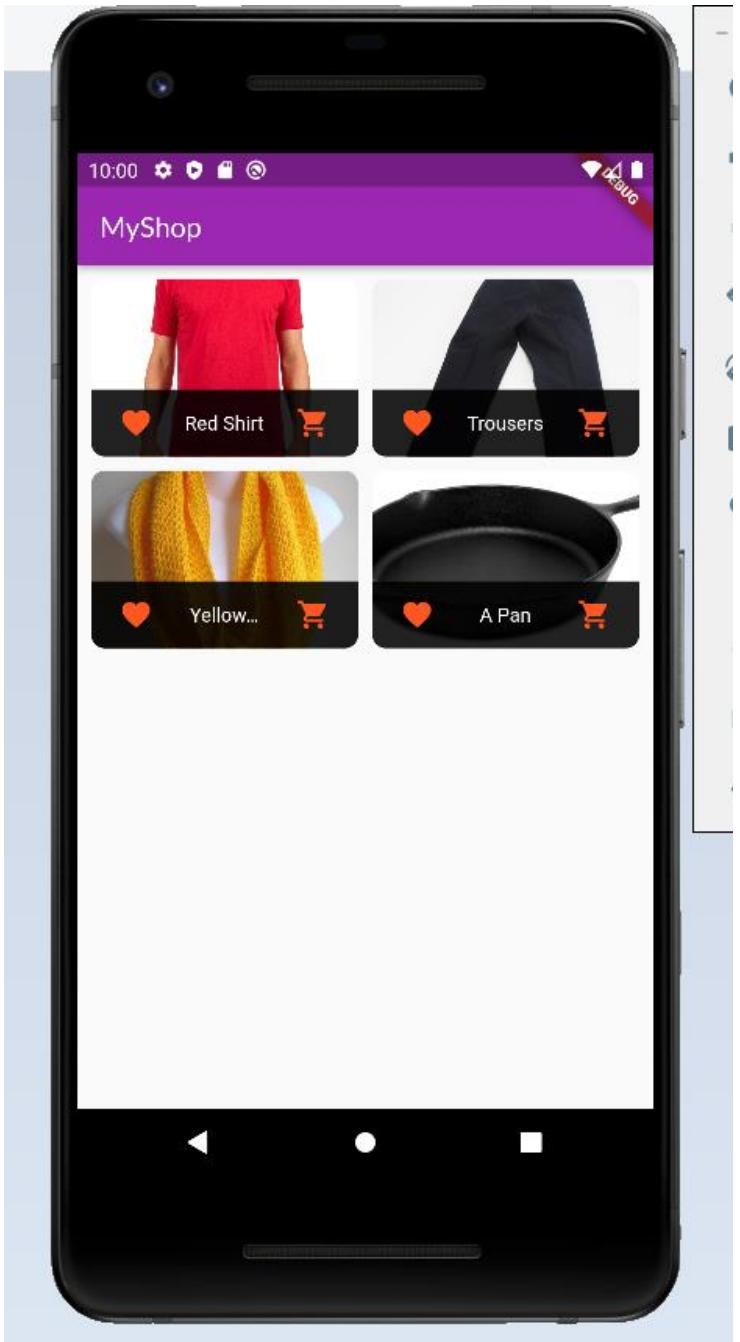
EXPLORER ... main.dart products_grid.dart product.dart products_overview_screen.dart product_item.dart pubspec.yaml ...

lib > screens > product_detail_screen.dart > ProductDetailScreen > build

```
6 class ProductDetailScreen extends StatelessWidget {  
7     // final String title;  
8     // final double price;  
9  
10    // ProductDetailScreen(this.title, this.price);  
11    static const routeName = '/product-detail';  
12  
13    @override  
14    Widget build(BuildContext context) {  
15        final productId =  
16            ModalRoute.of(context).settings.arguments as String; // is the id!  
17        final loadedProduct = Provider.of<Products>(  
18            context,  
19            listen: false,  
20        ).findById(productId);  
21        return Scaffold(  
22            appBar: AppBar(  
23                title: Text(loadedProduct.title),  
24            ), // AppBar  
25        ); // Scaffold  
26    }  
27 }
```

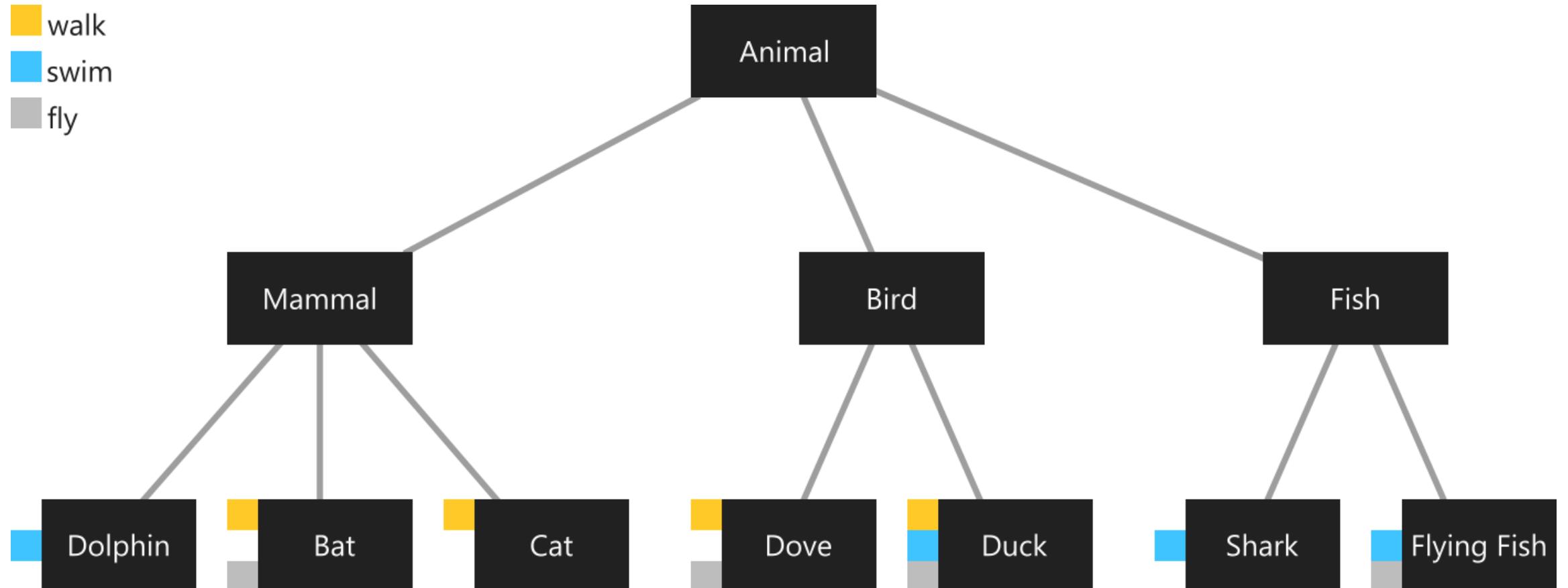
screens\products_detail_screen.dart

Ln 19, Col 21 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

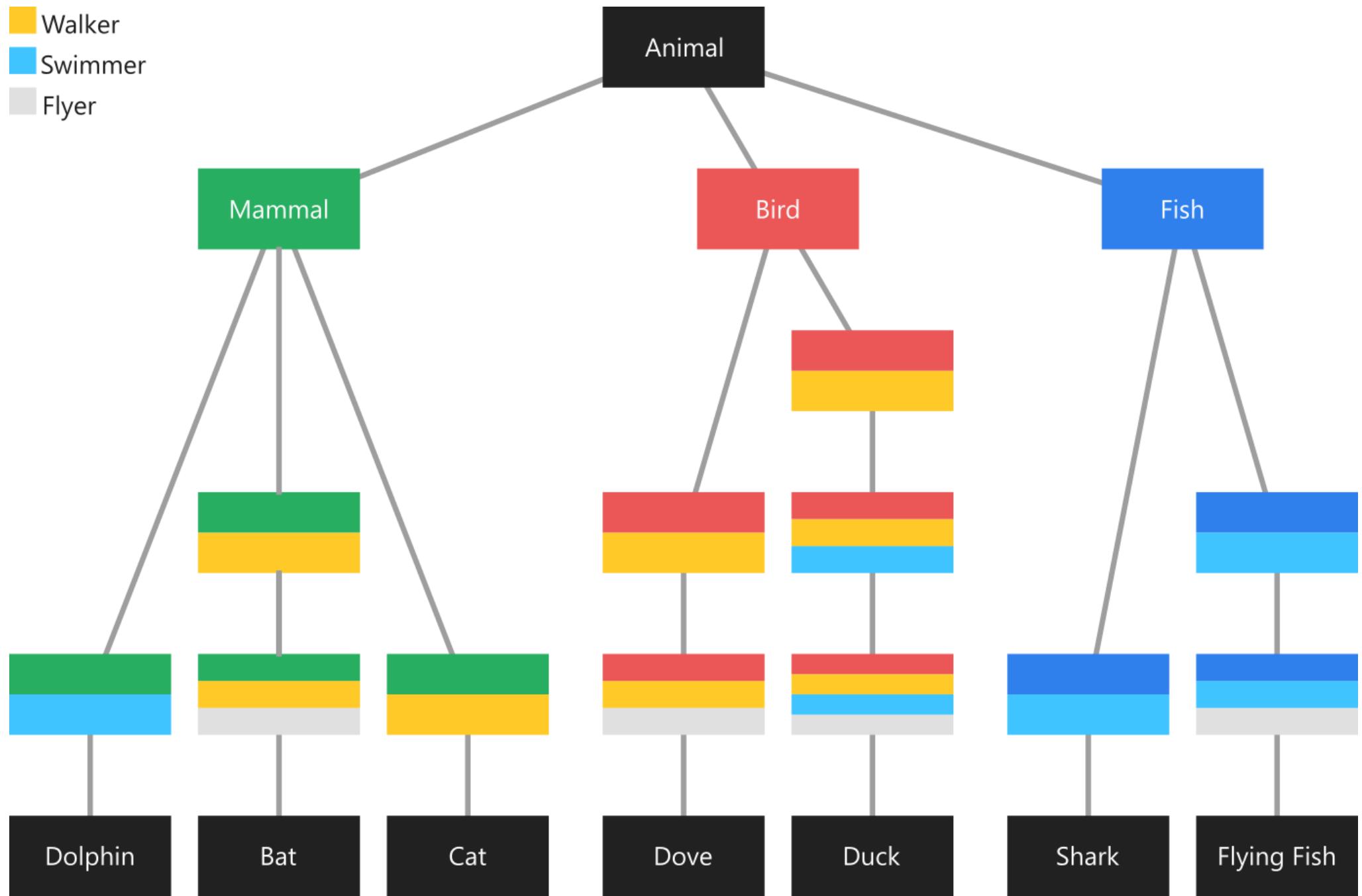


[DART DEEP DIVE] INHERITANCE (EXTENDS) VERSUS MIXINS (WITH)

█ walk
█ swim
█ fly



Walker
Swimmer
Flyer



EXTENDS

- This is the typical OOP inheritance that can be used when you want to add new features in a subclass.
- When you use class B extends A {} you are NOT forced to override every method of class A. Inheritance takes place so you can override as many methods as you want.
- You can use extends only on classes (Dart supports single inheritance).

IMPLEMENTS

- Interfaces are useful when you don't want to provide an implementation of methods but just their API. It's like if the interface was a wall socket and the class was the plug to insert.
- When you use class B implements A {} you must override every method of class A. Inheritance does NOT take place because methods just provide an API and not a concrete implementation.
- You can use implements with one or more classes.

MIXIN

- Mixins are useful when you need code sharing without using inheritance.
- When you use class B with A {} you are importing every method of mixin A into your class B. Optionally, the usage of a mixin can be constrained to a certain type using the on keyword.
- You can use with one or more mixins.

LISTENING IN DIFFERENT PLACES AND WAYS

File Edit Selection View Go Run Terminal Help products.dart - myshop_08 - Visual Studio Code

EXPLORER ... products_grid.dart product.dart products_overview_screen.dart product_item.dart product_detail_screen.dart products.dart lib > providers > products.dart > Products

main.dart lib products_grid.dart lib\widgets product.dart lib\models products_overview_screen.dart product_item.dart lib\widgets product_detail_screen.dart lib\s... pubspec.yaml

products.dart lib\providers

MYSHOP_08 Lato-Regular.ttf build ios lib models product.dart providers products.dart screens product_detail_screen.dart products_overview_screen.dart widgets product_item.dart products_grid.dart main.dart test web .gitignore .metadata .packages analysis_options.vaml

OUTLINE TIMELINE DEPENDENCIES

stable Debug my code Ln 48, Col 1 (94 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

```
title: 'A Pan',
description: 'Prepare any meal you want.',
price: 49.99,
imageUrl:
  'https://upload.wikimedia.org/wikipedia/commons/thumb/1/14/Cast-Iron-Pan.jpg',
),
];

List<Product> get items {
  return [..._items];
}

Product findById(String id) {
  return _items.firstWhere((prod) => prod.id == id);
}

void addProduct() {
  // _items.add(value);
  notifyListeners();
}
```

providers\products.dart

File Edit Selection View Go Run Terminal Help product_detail_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... products_grid.dart product.dart products_overview_screen.dart product_item.dart product_detail_screen.dart ProductDetailScreen build

lib > screens > product_detail_screen.dart > ProductDetailScreen > build

```
13 @override
14 Widget build(BuildContext context) {
15   final productId =
16     ModalRoute.of(context).settings.arguments as String; // is the id!
17
18   // final loadedProduct = Provider.of<Products>(context)
19   //   .items
20   //   .firstWhere((prod) => prod.id == productId);
21
22   final loadedProduct = Provider.of<Products>(
23     context,
24     listen: false,
25   ).findById(productId);
26
27   return Scaffold(
28     appBar: AppBar(
29       title: Text(loadedProduct.title),
30     ), // AppBar
31   ); // Scaffold
32 }
33 }
34 }
```

screens\products_detail_screen.dart

Ln 26, Col 1 (116 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

USING NESTED MODELS AND PROVIDERS

File Edit Selection View Go Run Terminal Help product.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart ● product.dart X lib > providers > product.dart > Product

OPEN EDITORS 1 UNSAVED

- products.dart lib\providers
- product.dart lib\providers

MYSHOP_08

- assets\fonts
 - Anton-Regular.ttf
 - Lato-Bold.ttf
 - Lato-Regular.ttf
- > build
- > ios
- > lib
 - models
 - providers
 - product.dart
 - products.dart
 - screens
 - product_detail_screen.dart
 - products_overview_screen.dart
 - widgets
 - product_item.dart
 - products_grid.dart
 - main.dart
- > test
- > web
 - .gitignore
 - .metadata
 - .packages
 - analysis_options.yaml
 - myshop_08.iml
 - pubspec.lock
 - pubspec.yaml

OUTLINE

TIMELINE

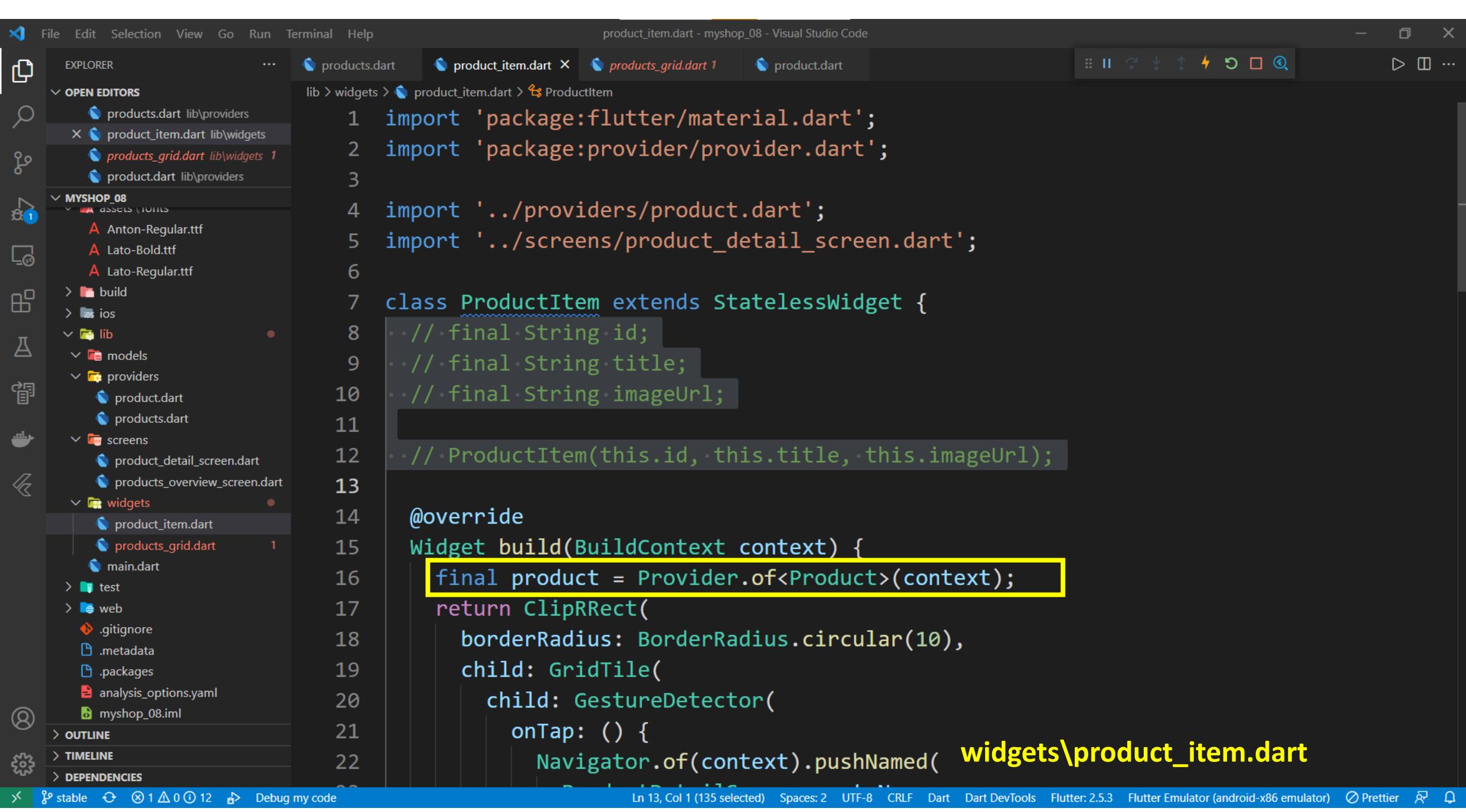
DEPENDENCIES

1

```
3 class Product with ChangeNotifier {  
4     final String id;  
5     final String title;  
6     final String description;  
7     final double price;  
8     final String imageUrl;  
9     bool isFavorite;  
10  
11    Product({  
12        @required this.id,  
13        @required this.title,  
14        @required this.description,  
15        @required this.price,  
16        @required this.imageUrl,  
17        this.isFavorite = false,  
18    });  
19  
20    void toggleFavoriteStatus() {  
21        isFavorite = !isFavorite;  
22        notifyListeners();  
23    }  
24}
```

providers\product.dart

stable Debug my code Ln 24, Col 1 (93 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



File Edit Selection View Go Run Terminal Help

product_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_item.dart × products_grid.dart 1 product.dart

lib > widgets > product_item.dart > ProductItem > build

27 child: Image.network(
28 product.imageUrl,
29 fit: BoxFit.cover,
30), // Image.network
31), // GestureDetector
32 footer: GridTileBar(
33 backgroundColor: Colors.black87,
34 leading: IconButton(
35 icon: Icon(
36 product.isFavorite ? Icons.favorite : Icons.favorite_border,
37), // Icon
38 color: Theme.of(context).accentColor,
39 onPressed: () {
40 product.toggleFavoriteStatus();
41 },
42), // IconButton
43 title: Text(
44 product.title,
45 textAlign: TextAlign.center,
46), // Text
47 trailing: IconButton(
48 icon: Icon(

windows\product_item.dart

Ln 43, Col 1 (306 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help products_grid.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_item.dart products_grid.dart X product.dart

lib > widgets > products_grid.dart > ProductsGrid > build

6

7 class **ProductsGrid** extends StatelessWidget {

8 @Override

9 Widget build(BuildContext context) {

10 final productsData = Provider.of<Products>(context);

11 final products = productsData.items;

12 return GridView.builder(

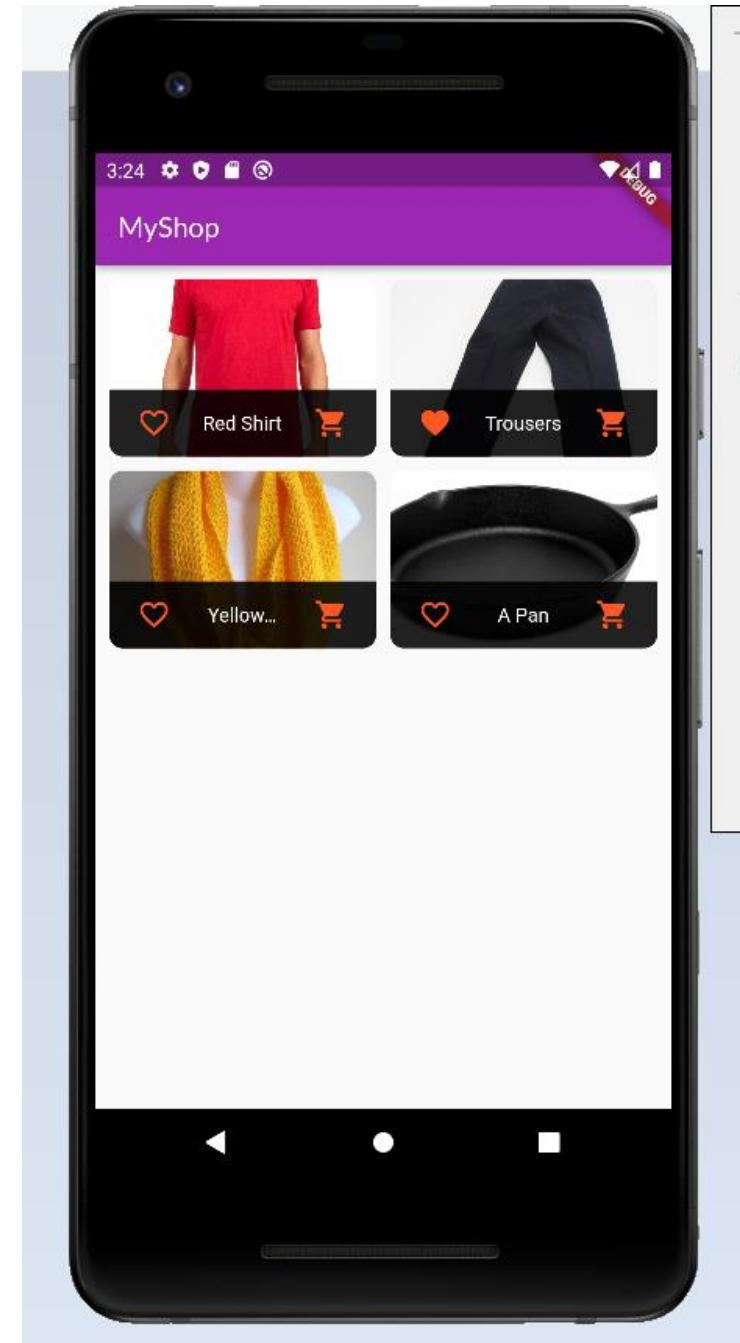
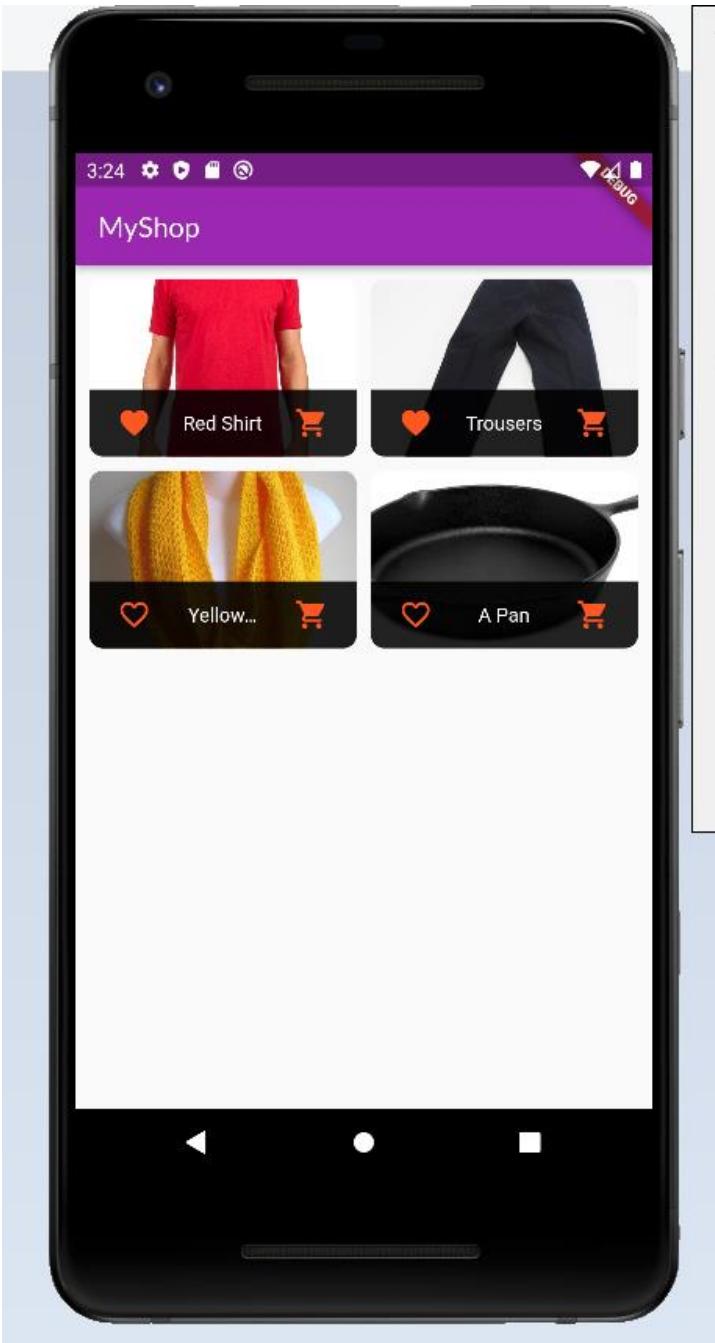
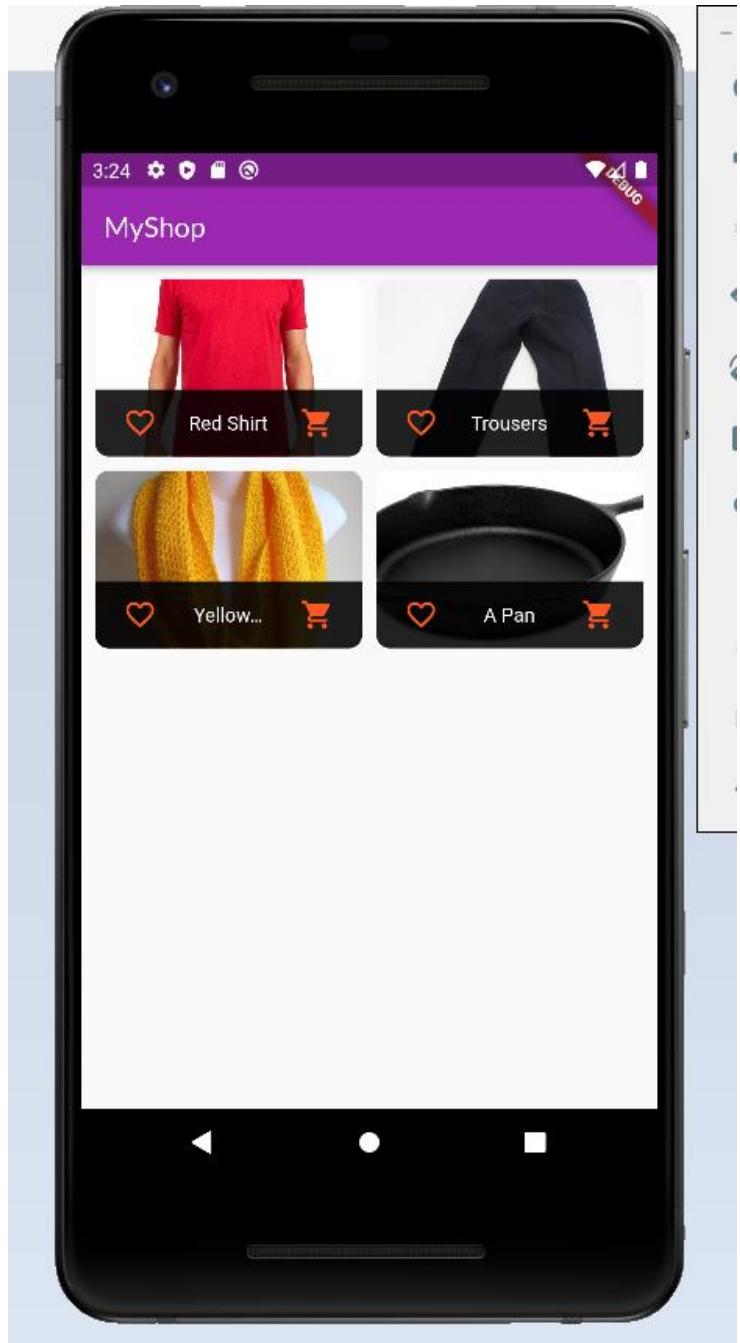
13 padding: const EdgeInsets.all(10.0),

14 itemCount: products.length,

15 itemBuilder: (ctx, i) => ProductItem(
16 // products[i].id,
17 // products[i].title,
18 // products[i].imageUrl,
19 //),
20 itemBuilder: (ctx, i) => ChangeNotifierProvider(
21 create: (c) => products[i],
22 child: ProductItem(),
23), // ChangeNotifierProvider
24 gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
25 crossAxisCount: 2,
26 childAspectRatio: 3 / 2,
27 crossAxisSpacing: 10,
28 mainAxisSpacing: 10

widgets\products_grid.dart

stable Debug my code Ln 24, Col 1 (288 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



EXPLORING ALTERNATIVE PROVIDER SYNTAXES

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_item.dart products_grid.dart main.dart X product.dart

lib > main.dart > MyApp > build

5 import 'screens/product_detail_screen.dart';
6 import 'screens/products_overview_screen.dart';
7
Run | Debug | Profile
8 void main() => runApp(MyApp());
9
10 class MyApp extends StatelessWidget {
11 @override
12 Widget build(BuildContext context) {
13 // return ChangeNotifierProvider.value(
14 // value: Products(),
15 return ChangeNotifierProvider(
16 create: (ctx) => Products(),
17 child: MaterialApp(
18 title: 'MyShop',
19 theme: ThemeData(
20 primarySwatch: Colors.purple,
21 accentColor: Colors.deepOrange,
22 fontFamily: 'Lato',
23), // ThemeData
24 home: ProductsOverviewScreen(),
25 routes: {

main.dart

stable Debug my code Ln 17, Col 1 (72 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help

products_grid.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_item.dart products_grid.dart X main.dart product.dart

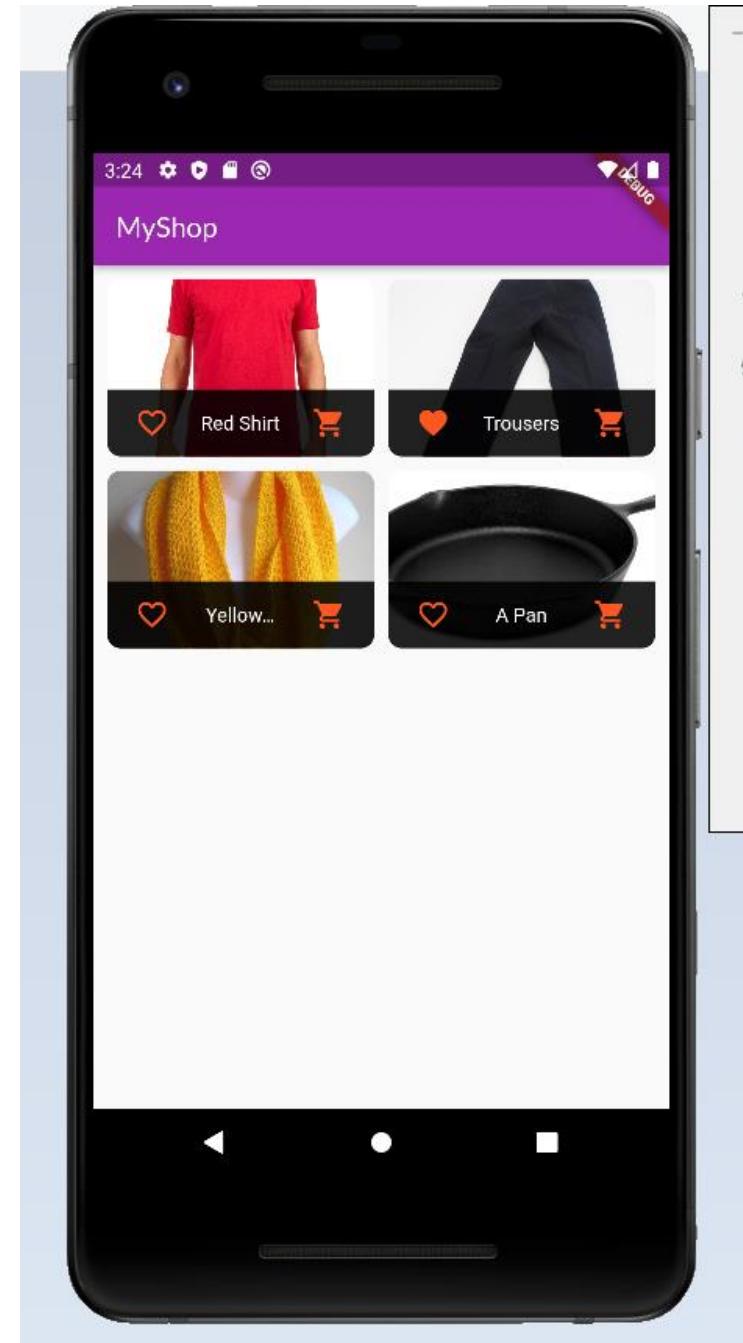
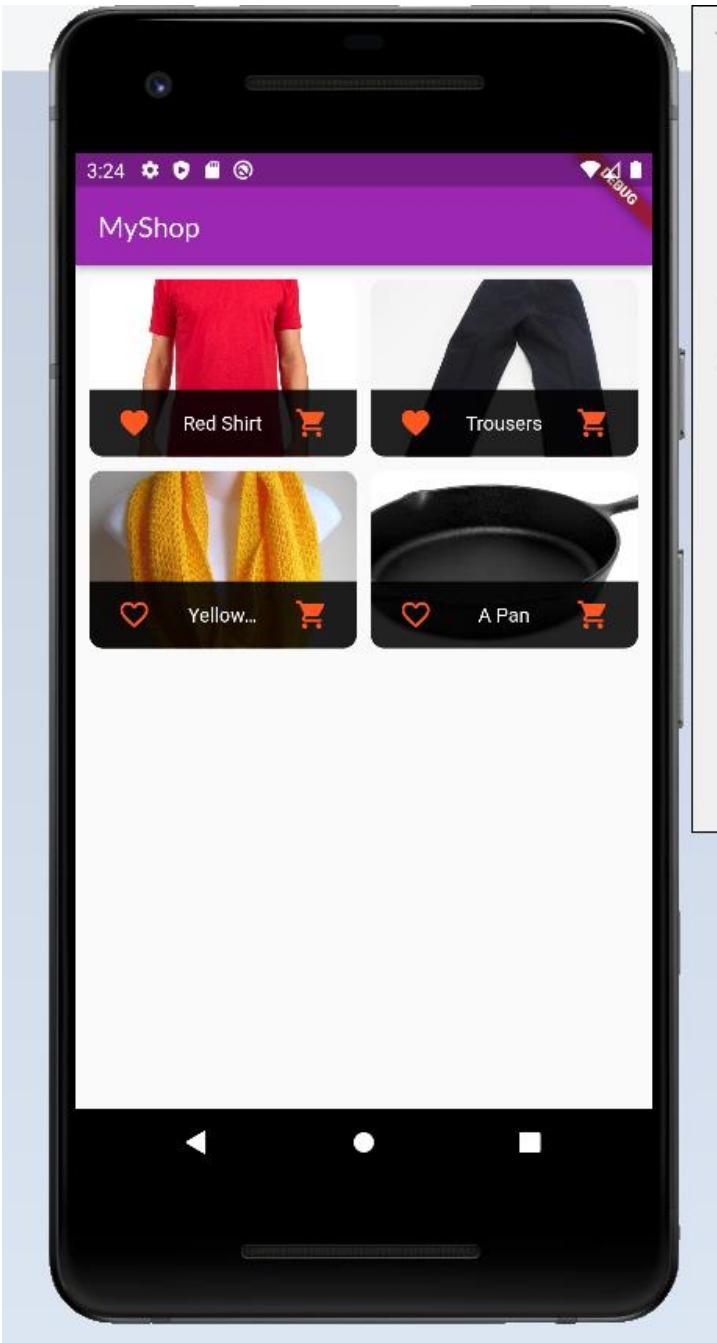
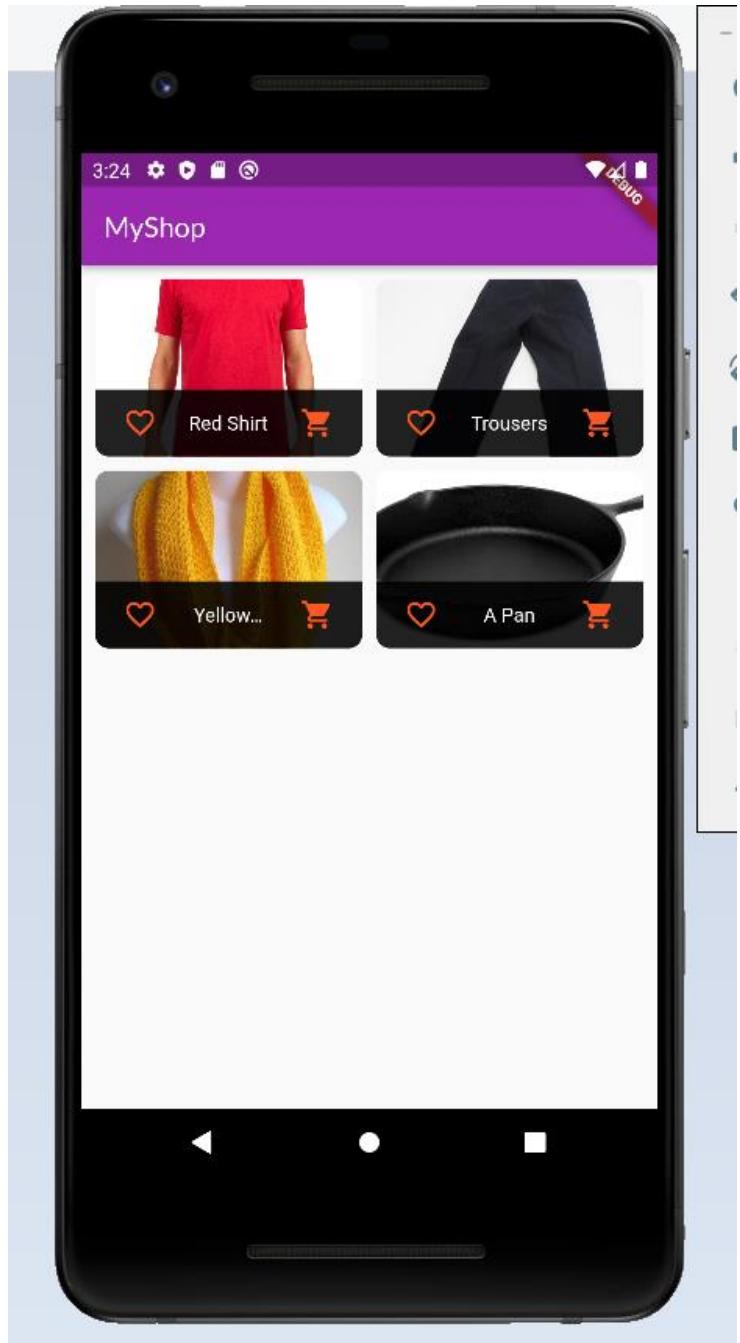
lib > widgets > products_grid.dart > ProductsGrid > build

```
8 @override
9 Widget build(BuildContext context) {
10   final productsData = Provider.of<Products>(context);
11   final products = productsData.items;
12   return GridView.builder(
13     padding: const EdgeInsets.all(10.0),
14     itemCount: products.length,
15     // itemBuilder: (ctx, i) => ProductItem(
16     //   products[i].id,
17     //   products[i].title,
18     //   products[i].imageUrl,
19     // ),
20     itemBuilder: (ctx, i) => ChangeNotifierProvider.value(
21       // create: (c) => products[i],
22       value: products[i],
23       child: ProductItem(),
24     ), // ChangeNotifierProvider.value
25     gridDelegate: SliverGridDelegateWithFixedCrossAxisCount(
26       crossAxisCount: 2,
27       childAspectRatio: 3 / 2,
28       crossAxisSpacing: 10,
29       mainAxisSpacing: 10,
30     ), // SliverGridDelegateWithFixedCrossAxisCount
```

windows\products_grid.dart

stable Debug my code

Ln 25, Col 1 (172 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



USING CONSUMER INSTEAD OF PROVIDER.OF

File Edit Selection View Go Run Terminal Help

product_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_item.dart X products_grid.dart main.dart product.dart

lib > widgets > product_item.dart > ProductItem > build

```
7 class ProductItem extends StatelessWidget {  
8     // final String id;  
9     // final String title;  
10    // final String imageUrl;  
11  
12    // ProductItem(this.id, this.title, this.imageUrl);  
13  
14    @override  
15    Widget build(BuildContext context) {  
16        final product = Provider.of<Product>(context, listen: false);  
17        print('Product rebuild');  
18        return ClipRRect(  
19            borderRadius: BorderRadius.circular(10),  
20            child: GridTile(  
21                child: GestureDetector(  
22                    onTap: () {  
23                        Navigator.of(context).pushNamed(  
24                            ProductDetailScreen.routeName,  
25                            arguments: product.id,  
26                        );  
27                    },  
28                    child: Image.network(  
29                ),  
30            ),  
31        );  
32    }  
33}
```

windows\product_item.dart

stable Debug my code

Ln 18, Col 1 (98 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help

product_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_item.dart X products_grid.dart main.dart product.dart

lib > widgets > product_item.dart > ProductItem > build

```
27     child: Image.network(
28         product.imageUrl,
29         fit: BoxFit.cover,
30     ), // Image.network
31 ), // GestureDetector
32 footer: GridTileBar(
33     backgroundColor: Colors.black87,
34     leading: Consumer<Product>(
35         builder: (ctx, product, child) => IconButton(
36             icon: Icon(
37                 product.isFavorite ? Icons.favorite : Icons.favorite_border,
38             ), // Icon
39             color: Theme.of(context).accentColor,
40             onPressed: () {
41                 product.toggleFavoriteStatus();
42             },
43         ), // IconButton
44     ), // Consumer
45     title: Text(
46         product.title,
47         textAlign: TextAlign.center,
48     ), // Text
```

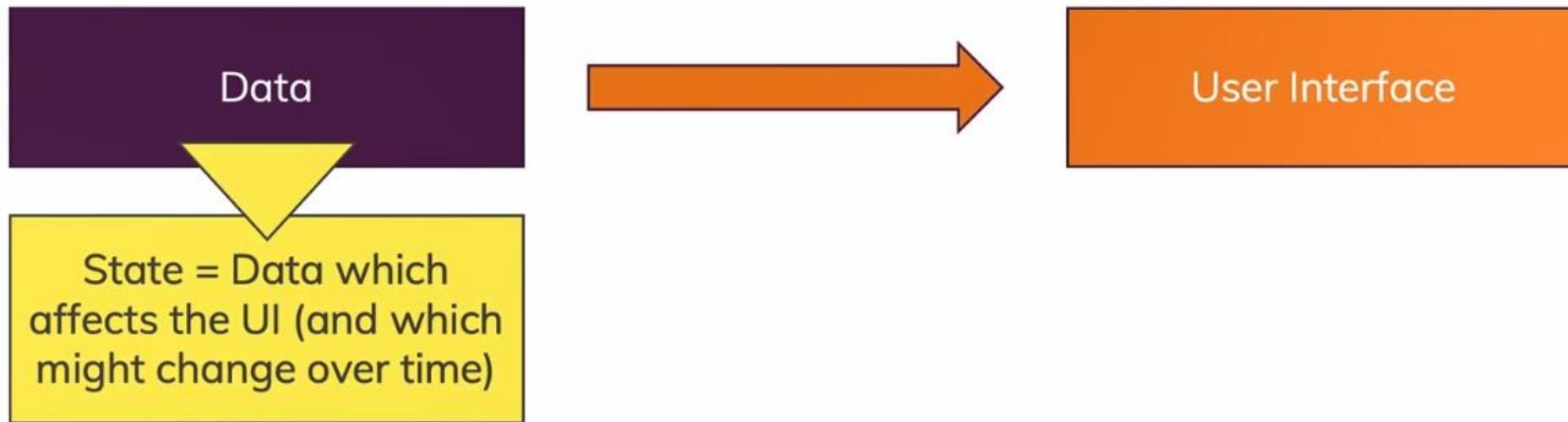
windows\product_item.dart

stable Debug my code Ln 45, Col 1 (402 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

LOCAL STATE VERSUS APP-WIDE STATE

What's “State” and “State Management”

The User Interface is a **function of your data (state)**



App-wide State

Affects entire app or significant parts of the app

Authentication ("is the user authenticated?"), Loaded Products, ...

Widget (Local) State

Affects only a widget on its own (does not affect other widgets)

"Should a loading spinner be displayed?", Form Input, ...

File Edit Selection View Go Run Terminal Help

product_item.dart - myshop_08 - Visual Studio Code

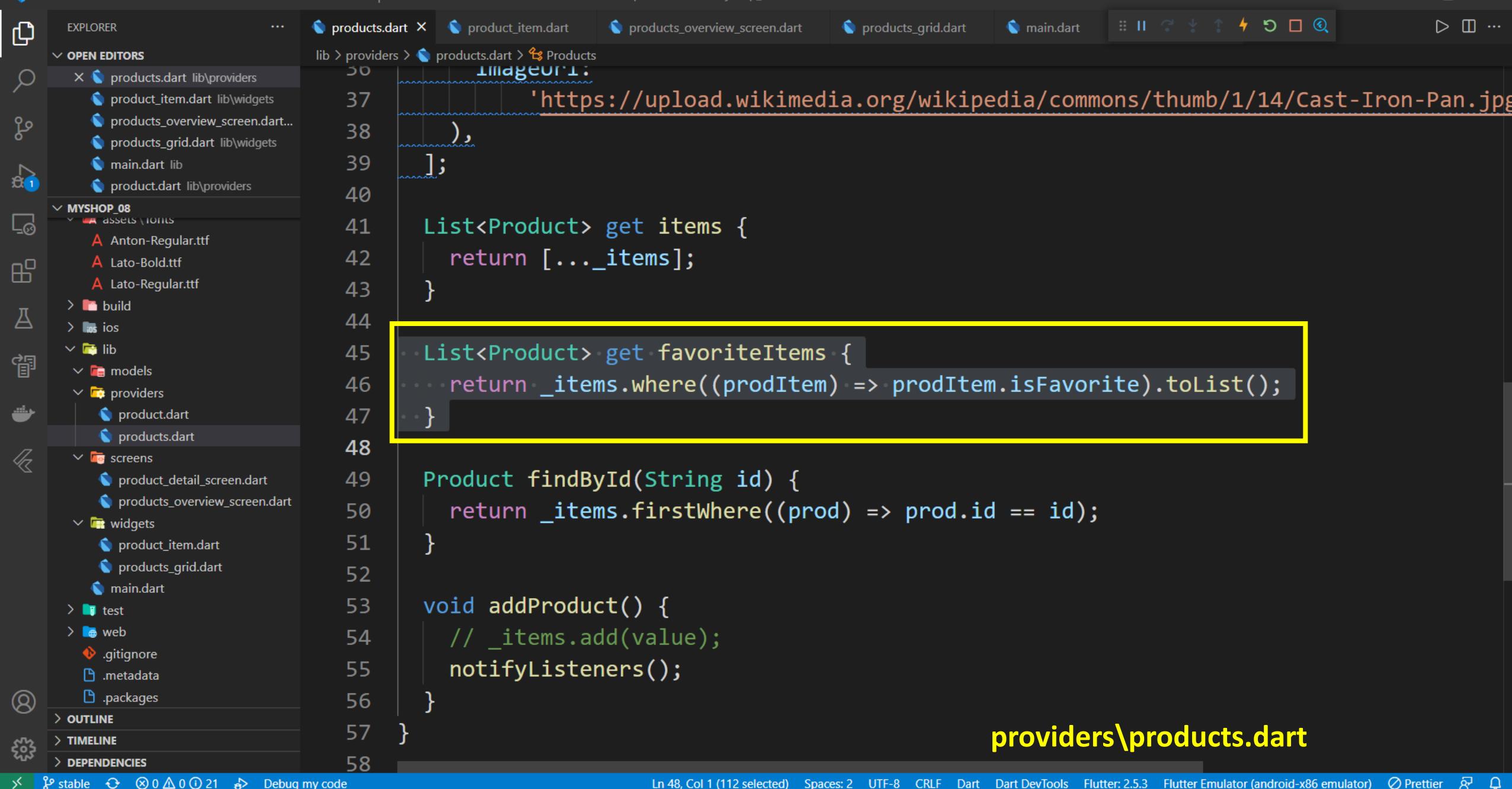
EXPLORER ... products.dart product_item.dart X products_grid.dart main.dart product.dart

lib > widgets > product_item.dart > ProductItem > build

```
29     product.imageUrl,
30         fit: BoxFit.cover,
31     ), // Image.network
32     ), // GestureDetector
33     footer: GridTileBar(
34         backgroundColor: Colors.black87,
35         leading: Consumer<Product>(
36             builder: (ctx, product, _) => IconButton(
37                 icon: Icon(
38                     product.isFavorite ? Icons.favorite : Icons.favorite_border,
39                 ), // Icon
40                 color: Theme.of(context).accentColor,
41                 onPressed: () {
42                     product.toggleFavoriteStatus();
43                 },
44             ), // IconButton
45         ), // Consumer
46         title: Text(
47             product.title,
48             textAlign: TextAlign.center,
49         ), // Text
50         trailing: IconButton(
```

windows\product_item.dart

stable Debug my code Ln 46, Col 1 (398 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



File Edit Selection View Go Run Terminal Help products_grid.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart products_grid.dart lib\widgets\products_grid.dart ProductsGrid

OPEN EDITORS lib > widgets > products_grid.dart > ProductsGrid

1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3
4 import '../providers/products.dart';
5 import './product_item.dart';
6
7 class ProductsGrid extends StatelessWidget {
8 final bool showFavs;
9
10 ProductsGrid(this.showFavs);
11
12 @override
13 Widget build(BuildContext context) {
14 final productsData = Provider.of<Products>(context);
15 // final products = productsData.items;
16 final products = showFavs ? productsData.favoriteItems : productsData.items;
17 return GridView.builder(
18 padding: const EdgeInsets.all(10.0),
19 itemCount: products.length,
20 // itemBuilder: (ctx, i) => ProductItem(
21 // products[i].id,
22 // products[i].title,
23 // products[i].imageUrl,
24);
25 }
26
27 void main() {
28 runApp(MyShop());
29 }
30
31 class MyShop extends StatelessWidget {
32 @override
33 Widget build(BuildContext context) {
34 return MaterialApp(
35 title: 'My Shop',
36 theme: ThemeData(
37 primarySwatch: Colors.purple,
38 scaffoldBackgroundColor: Colors.white,
39 appBarTheme: AppBarTheme(
40 color: Colors.white,
41 elevation: 0.0,
42 titleTextStyle: TextStyle(
43 color: Colors.black,
44 fontSize: 20.0,
45 fontWeight: FontWeight.w600,
46),
47 iconTheme: IconTheme(
48 color: Colors.black,
49),
50),
51 home: ProductOverviewScreen(),
52),
53);
54 }
55 }

Ln 11, Col 1 (58 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help • products_overview_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart 1 ProductsOverviewScreen lib > screens > products_overview_screen.dart > ProductsOverviewScreen

1 import 'package:flutter/material.dart';
2
3 import '../widgets/products_grid.dart';
4
5 class ProductsOverviewScreen extends StatelessWidget {
6 @override
7 Widget build(BuildContext context) {
8 return Scaffold(
9 appBar: AppBar(
10 title: Text('MyShop'),
11), // AppBar
12 body: ProductsGrid(),
13); // Scaffold
14 }
15 }
16

Convert to StatefulWidget

screens\products_overview_screen.dart

stable Debug my code Ln 5, Col 48 Spaces: 2 UTF-8 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help products_overview_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart X product.dart ...

lib > screens > products_overview_screen.dart > _ProductsOverviewScreenState

```
1 import 'package:flutter/material.dart';
2
3 import '../widgets/products_grid.dart';
4
5 enum FilterOptions {
6   Favorites,
7   All,
8 }
9
10 class ProductsOverviewScreen extends StatefulWidget {
11   @override
12   _ProductsOverviewScreenState createState() => _ProductsOverviewScreenState();
13 }
14
15 class _ProductsOverviewScreenState extends State<ProductsOverviewScreen> {
16   var _showOnlyFavorites = false;
17
18   @override
19   Widget build(BuildContext context) {
20     return Scaffold(
21       appBar: AppBar(
22         title: Text('MyShop'),
```

screens\products_overview_screen.dart

Ln 17, Col 1 (314 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help products_overview_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart X product.dart ...

lib > screens > products_overview_screen.dart > _ProductsOverviewScreenState > build

```
21 appBar: AppBar(
22   title: Text('MyShop'),
23   actions: <Widget>[
24     PopupMenuButton(
25       onSelected: (FilterOptions selectedValue) {
26         setState(() {
27           if (selectedValue == FilterOptions.Favorites) {
28             _showOnlyFavorites = true;
29           } else {
30             _showOnlyFavorites = false;
31           }
32         });
33       },
34       icon: Icon(
35         Icons.more_vert,
36       ), // Icon
37       itemBuilder: (_) => [
38         PopupMenuItem(
39           child: Text('Only Favorites'),
40           value: FilterOptions.Favorites,
41         ), // PopupMenuItem
42         PopupMenuItem(
```

screens\products_overview_screen.dart

Ln 25, Col 46 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help products_overview_screen.dart - myshop_08 - Visual Studio Code

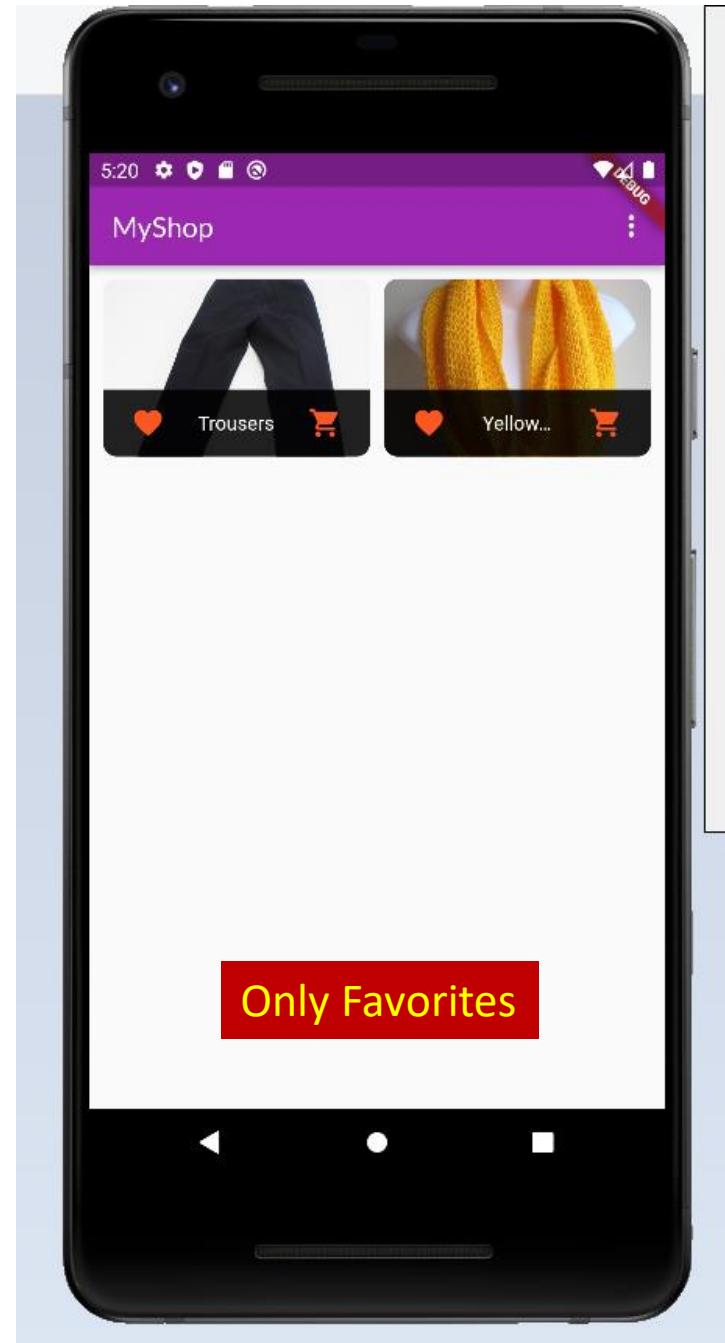
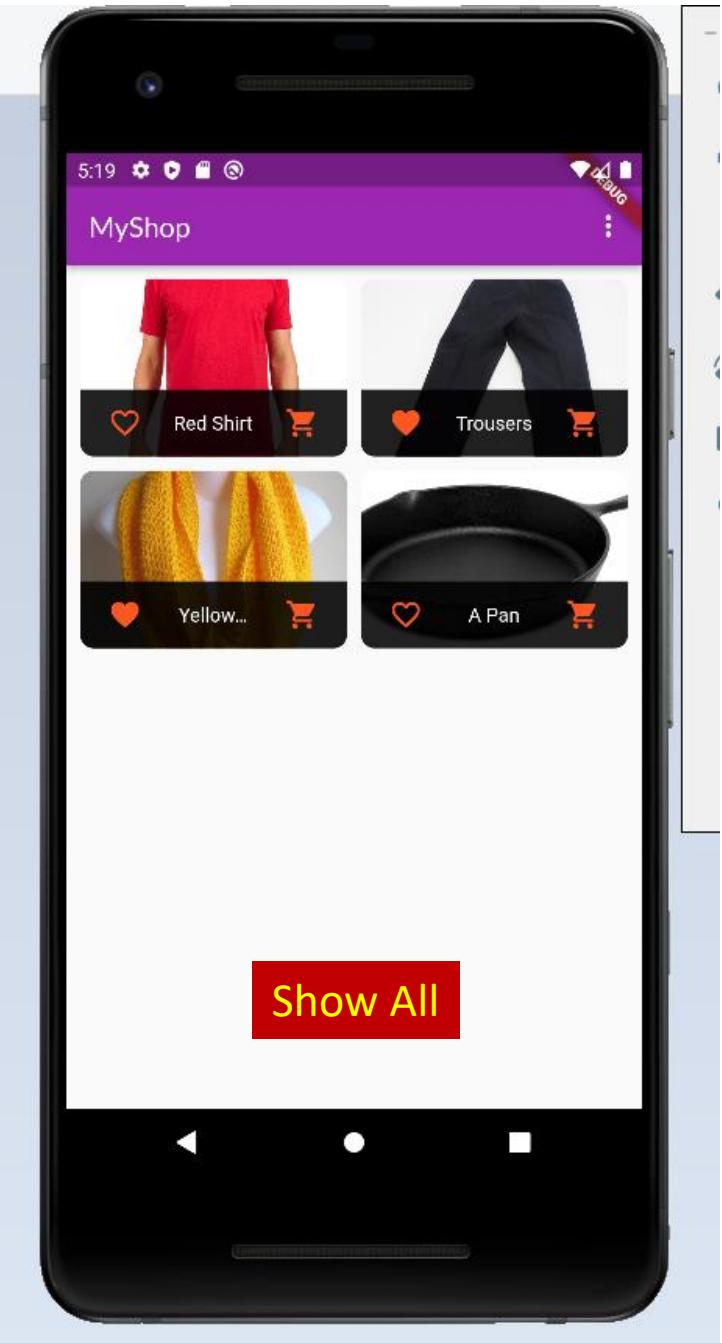
EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart X product.dart ...

lib > screens > products_overview_screen.dart > _ProductsOverviewScreenState > build

```
33 },
34     icon: Icon(
35         Icons.more_vert,
36     ), // Icon
37     itemBuilder: (_) => [
38         PopupMenuItem(
39             child: Text('Only Favorites'),
40             value: FilterOptions.Favorites,
41         ), // PopupMenuItem
42         PopupMenuItem(
43             child: Text('Show All'),
44             value: FilterOptions.All,
45         ), // PopupMenuItem
46     ],
47     ), // PopupMenuButton
48 ], // <Widget>[]
49 ), // AppBar
50 body: ProductsGrid(_showOnlyFavorites),
51 ); // Scaffold
52 }
53 }
54 }
```

screens\products_overview_screen.dart

stable Debug my code Ln 25, Col 46 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



ADDING SHOPPING CART DATA

File Edit Selection View Go Run Terminal Help cart.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart cart.dart main.dart

lib > providers > cart.dart > ...

```
1 import 'package:flutter/foundation.dart';
2
3 class CartItem {
4     final String id;
5     final String title;
6     final int quantity;
7     final double price;
8
9     CartItem({
10         @required this.id,
11         @required this.title,
12         @required this.quantity,
13         @required this.price,
14     });
15 }
16
17 class Cart with ChangeNotifier {
18     Map<String, CartItem> _items = {};
19
20     Map<String, CartItem> get items {
21         return {..._items};
22     }
}
```

providers\cart.dart

File Edit Selection View Go Run Terminal Help cart.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart cart.dart main.dart

OPEN EDITORS lib > providers > cart.dart > ...

products.dart lib\providers
product_detail_screen.dart lib\sc...
product_item.dart lib\widgets
products_overview_screen.dart...
cart.dart lib\providers
products_grid.dart lib\widgets
main.dart lib
product.dart lib\providers

MYSHOP_08 .idea android assets build ios lib models providers cart.dart product.dart products.dart screens product_detail_screen.dart products_overview_screen.dart widgets product_item.dart products_grid.dart main.dart test web

OUTLINE
TIMELINE
DEPENDENCIES

22 }

23

24 int getItemCount {

25 | return _items.length;

26 }

27

28 void addItem(

29 | String productId,

30 | double price,

31 | String title,

32) {

33 if (_items.containsKey(productId)) {

34 // change quantity...

35 _items.update(

36 | productId,

37 | (existingCartItem) => CartItem(

38 | | id: existingCartItem.id,

39 | | title: existingCartItem.title,

40 | | price: existingCartItem.price,

41 | | quantity: existingCartItem.quantity + 1,

42 |),

43);

providers\cart.dart

File Edit Selection View Go Run Terminal Help cart.dart - myshop_08 - Visual Studio Code

EXPLORER ... products.dart product_detail_screen.dart product_item.dart products_overview_screen.dart cart.dart main.dart

OPEN EDITORS lib > providers > cart.dart > ...

products.dart lib\providers product_detail_screen.dart lib\sc... product_item.dart lib\widgets products_overview_screen.dart... cart.dart lib\providers products_grid.dart lib\widgets main.dart lib product.dart lib\providers

MYSHOP_08 .idea android assets build ios lib models providers cart.dart product.dart products.dart screens product_detail_screen.dart products_overview_screen.dart widgets product_item.dart products_grid.dart main.dart test web

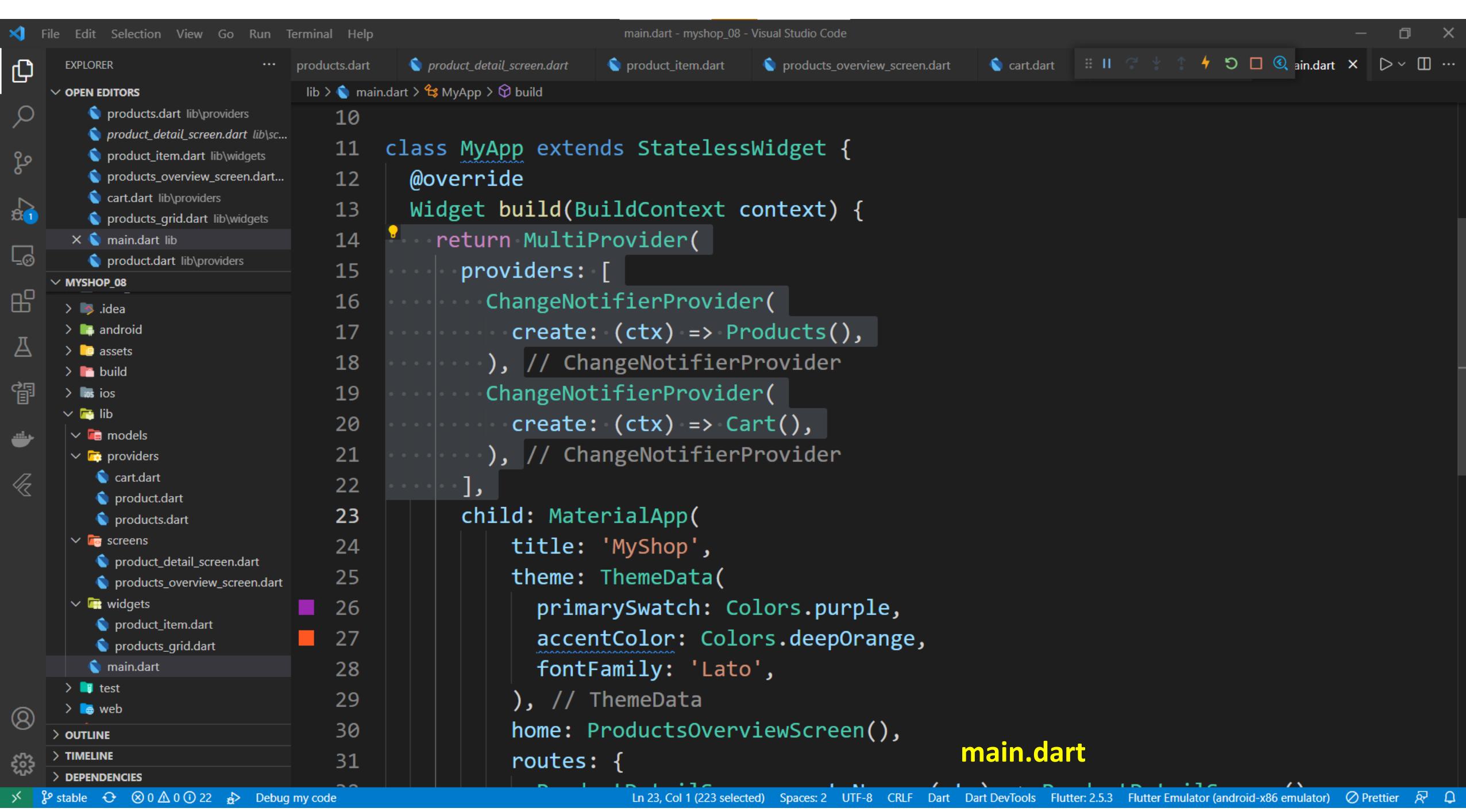
OUTLINE TIMELINE DEPENDENCIES

stable Debug my code Ln 58, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

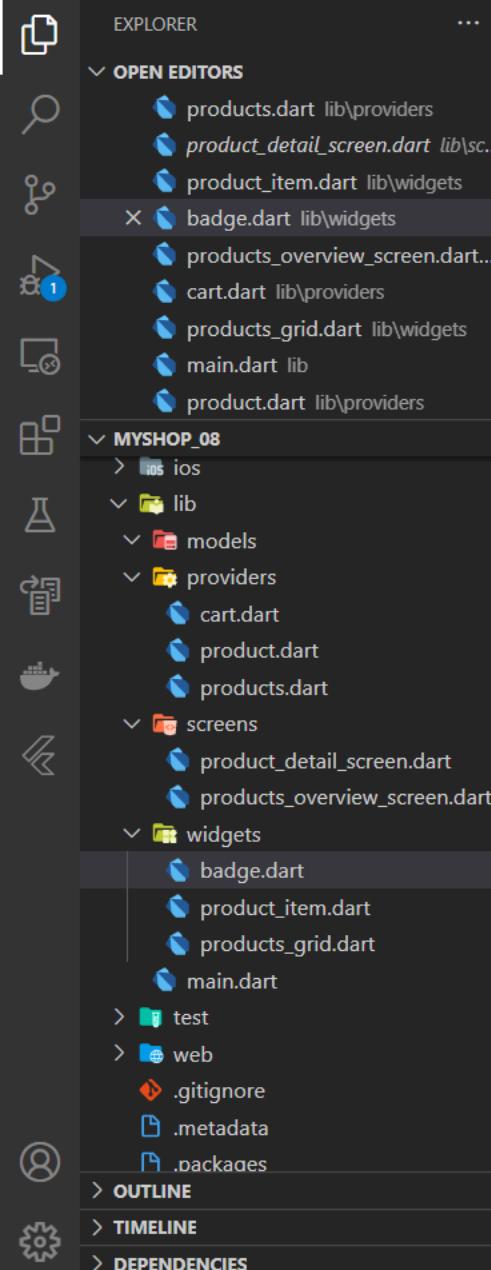
```
37     (existingCartItem) => CartItem(38         id: existingCartItem.id,39         title: existingCartItem.title,40         price: existingCartItem.price,41         quantity: existingCartItem.quantity + 1,42     ),43 );44 } else {45     _items.putIfAbsent(46         productId,47         () => CartItem(48             id: DateTime.now().toString(),49             title: title,50             price: price,51             quantity: 1,52         ), // CartItem53     );54 }55 notifyListeners();56 }57 }58 }
```

providers\cart.dart

WORKING WITH MULTIPLE PROVIDERS



CONNECTING THE CART PROVIDER



```
1 import 'package:flutter/material.dart';
2
3 class Badge extends StatelessWidget {
4     const Badge({
5         Key key,
6         @required this.child,
7         @required this.value,
8         this.color,
9     }) : super(key: key);
10
11     final Widget child;
12     final String value;
13     final Color color;
14
15     @override
16     Widget build(BuildContext context) {
17         return Stack(
18             alignment: Alignment.center,
19             children: [
20                 child,
21                 Positioned(
22                     right: 8,
```

widgets\badge.dart

File Edit Selection View Go Run Terminal Help badge.dart - myshop_08 - Visual Studio Code

EXPLORER ... product_detail_screen.dart product_item.dart badge.dart X products_overview_screen.dart cart.dart main.dart

OPEN EDITORS lib > widgets > badge.dart > Badge

products.dart lib\providers product_detail_screen.dart lib\sc... product_item.dart lib\widgets badge.dart lib\widgets products_overview_screen.dart... cart.dart lib\providers products_grid.dart lib\widgets main.dart lib product.dart lib\providers

MYSHOP_08 > ios lib models providers screens widgets badge.dart product_item.dart products_grid.dart main.dart test web .gitignore .metadata .packages

Widget build(BuildContext context) {
 return Stack(
 alignment: Alignment.center,
 children: [
 child,
 Positioned(
 right: 8,
 top: 8,
 child: Container(
 padding: EdgeInsets.all(2.0),
 // color: Theme.of(context).accentColor,
 decoration: BoxDecoration(
 borderRadius: BorderRadius.circular(10.0),
 color: color != null ? color : Theme.of(context).accentColor,
), // BoxDecoration
 constraints: BoxConstraints(
 minWidth: 16,
 minHeight: 16,
), // BoxConstraints
 child: Text(
 value,
 textAlign: TextAlign.center,

wIDGETS\BADGE.DART

stable 0 △ 0 ① 28 Debug my code Ln 14, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help badge.dart - myshop_08 - Visual Studio Code

EXPLORER ... product_detail_screen.dart product_item.dart badge.dart X products_overview_screen.dart cart.dart main.dart

OPEN EDITORS lib > widgets > badge.dart > Badge

products.dart lib\providers
product_detail_screen.dart lib\sc...
product_item.dart lib\widgets
badge.dart lib\widgets
products_overview_screen.dart...
cart.dart lib\providers
products_grid.dart lib\widgets
main.dart lib
product.dart lib\providers

MYSHOP_08
> ios
lib
models
providers
cart.dart
product.dart
products.dart
screens
product_detail_screen.dart
products_overview_screen.dart
widgets
badge.dart
product_item.dart
products_grid.dart
main.dart
test
web
.gitignore
.metadata
.packages

OUTLINE
TIMELINE
DEPENDENCIES

// COLOR . Theme.of(context).accentColor,
decoration: BoxDecoration(
borderRadius: BorderRadius.circular(10.0),
color: color != null ? color : Theme.of(context).accentColor,
, // BoxDecoration
constraints: BoxConstraints(
minWidth: 16,
minHeight: 16,
, // BoxConstraints
child: Text(
value,
textAlign: TextAlign.center,
style: TextStyle(
fontSize: 10,
, // TextStyle
, // Text
, // Container
) // Positioned
],
); // Stack

widgets\badge.dart

Ln 14, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

stable 0 △ 0 ① 28 Debug my code

File Edit Selection View Go Run Terminal Help products_overview_screen.dart - myshop_08 - Visual Studio Code

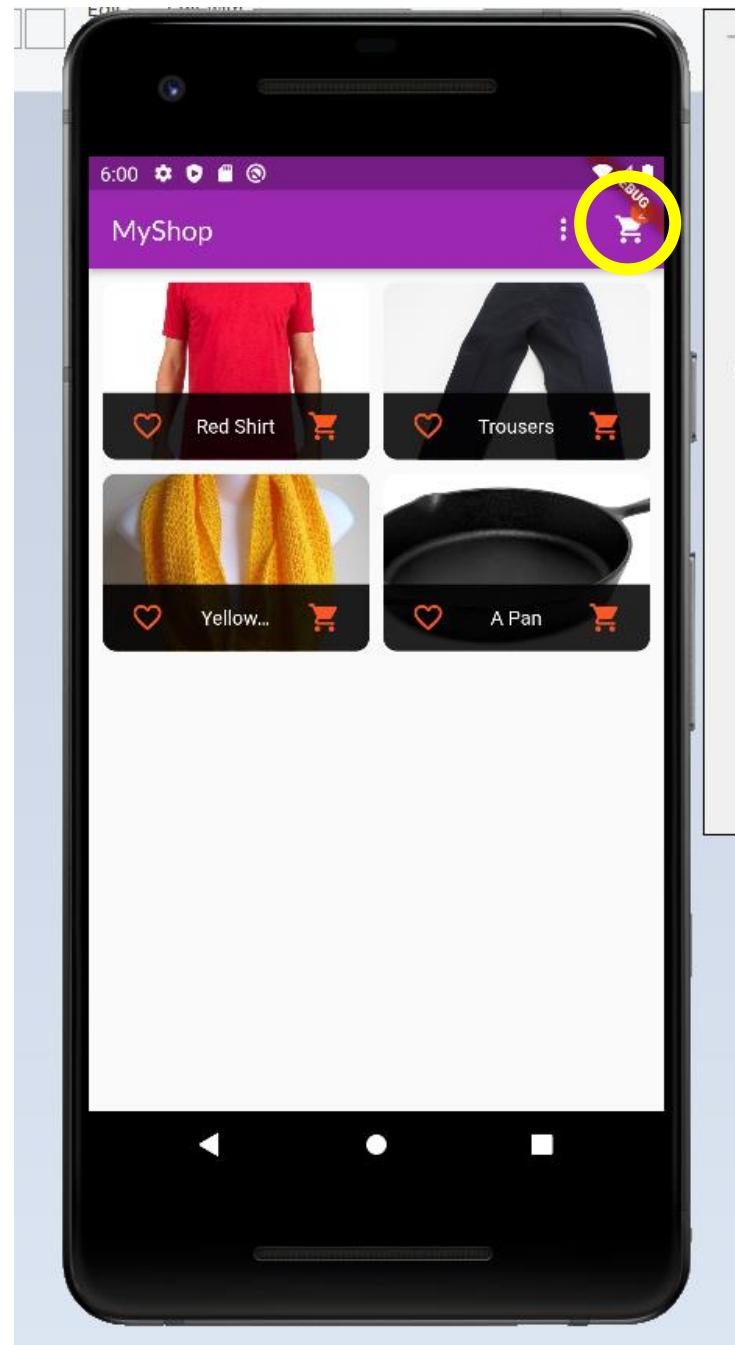
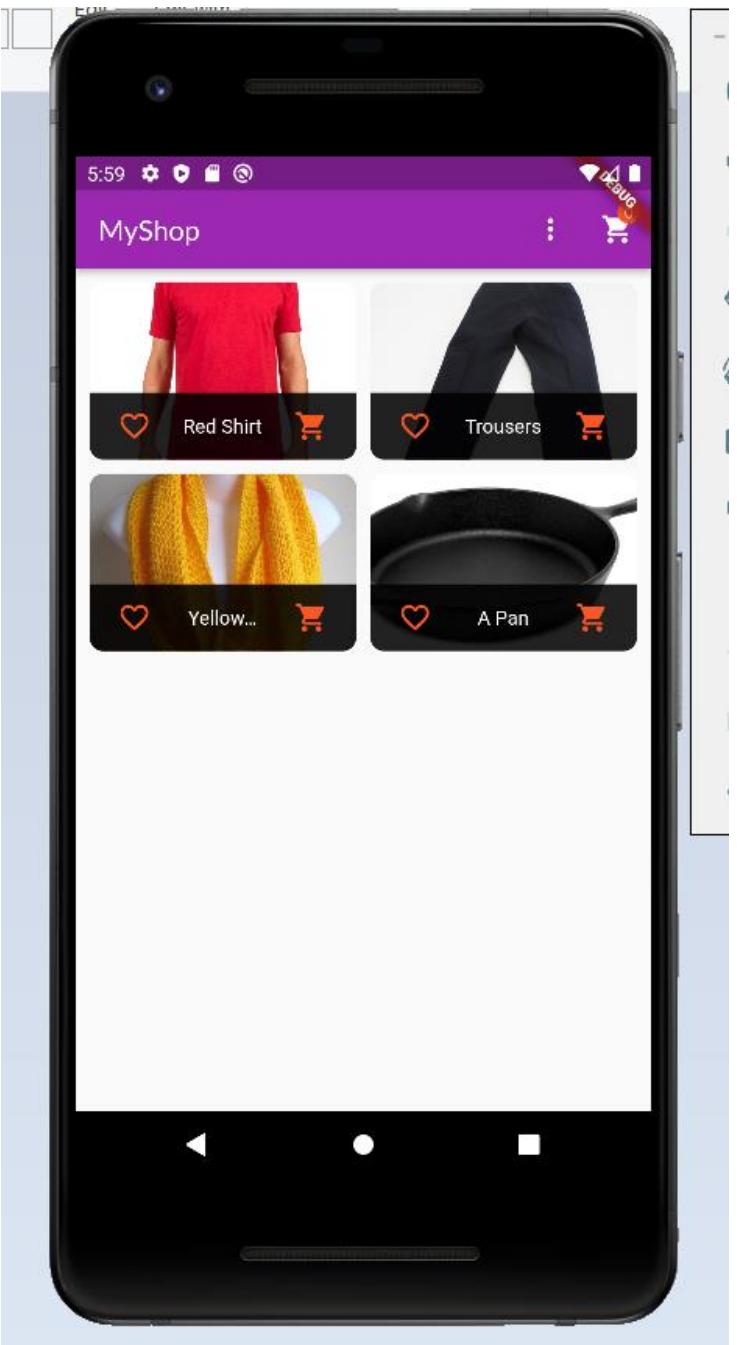
EXPLORER ... product_detail_screen.dart product_item.dart badge.dart products_overview_screen.dart X cart.dart main.dart

lib > screens > products_overview_screen.dart > _ProductsOverviewScreenState > build

```
45 PopupMenuItem(  
46   child: Text('Show All'),  
47   value: FilterOptions.All,  
48 ), // PopupMenuItem  
49 ],  
50 ), // PopupMenuButton  
51 Consumer<Cart>(  
52   builder: (_, cart, ch) => Badge(  
53     child: ch,  
54     value: cart.itemCount.toString(),  
55   ), // Badge  
56     child: IconButton(  
57       icon: Icon(  
58         Icons.shopping_cart,  
59       ), // Icon  
60       onPressed: () {},  
61     ), // IconButton  
62   ), // Consumer  
63 ], // <Widget>[]  
64 ), // AppBar  
65 body: ProductsGrid(_showOnlyFavorites),  
66 ); // Scaffold
```

screens\products_overview_screen.dart

stable Debug my code Ln 63, Col 1 (342 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



**WORKING ON THE SHOPPING CART,
DISPLAYING A LIST OF CART ITEMS, AND
DISPLAYING THE TOTAL**



EXPLORER

- OPEN EDITORS
 - products.dart lib\providers
 - product_detail_screen.dart lib\sc...
 - product_item.dart lib\widgets
 - badge.dart lib\widgets
 - products_overview_screen.dart...
 - cart_screen.dart lib\screens
 - cart_item.dart lib\widgets
 - cart.dart lib\providers**
 - products_grid.dart lib\widgets
- MYSHOP_08
 - models
 - providers
 - cart.dart**
 - product.dart
 - products.dart
 - screens
 - cart_screen.dart
 - product_detail_screen.dart
 - products_overview_screen.dart
 - widgets
 - badge.dart
 - cart_item.dart
 - product_item.dart
 - products_grid.dart
 - main.dart
- test
- web
- .gitignore
- .metadata

> OUTLINE

> TIMELINE

> DEPENDENCIES

product_detail_screen.dart

product_item.dart

badge.dart

products_overview_screen.dart

cart_screen.d...

Cart

```
25     return _items.length;
26 }
27
28 double get totalAmount {
29   var total = 0.0;
30   _items.forEach((key, cartItem) {
31     total += cartItem.price * cartItem.quantity;
32   });
33   return total;
34 }
35
36 void removeItem(String productId) {
37   _items.remove(productId);
38   notifyListeners();
39 }
40
41 void addItem(
42   String productId,
43   double price,
44   String title,
45 ) {
46   if (_items.containsKey(productId)) {
```

providers\cart.dart

File Edit Selection View Go Run Terminal Help cart_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... cart_item.dart x lib > widgets > cart_item.dart > CartItem

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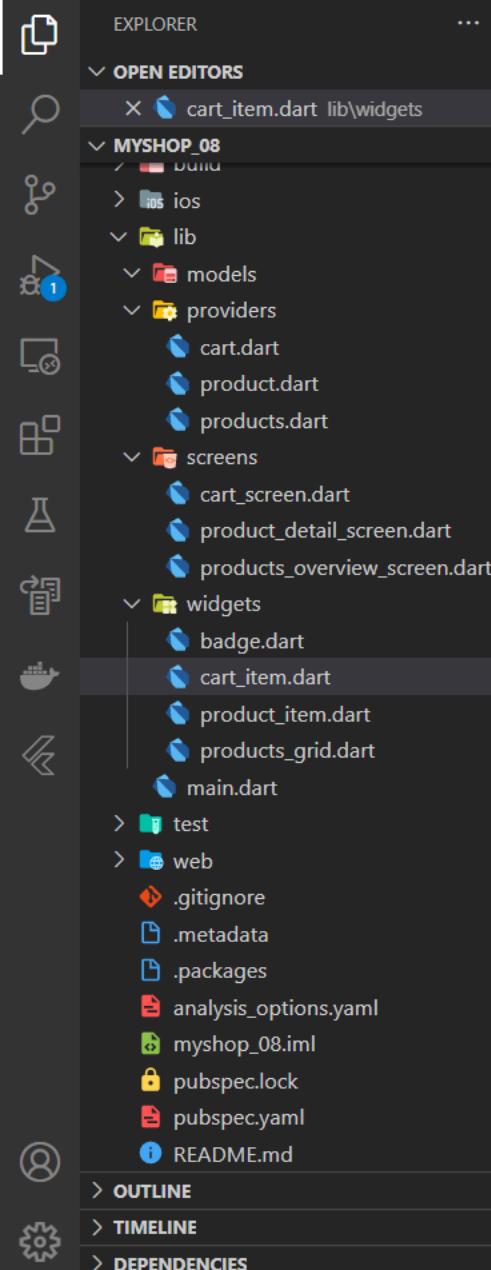
TIMELINE

DEPENDENCIES

stable Debug my code Ln 12, Col 1 Spaces: 2 UTF-8 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

```
5
6 class CartItem extends StatelessWidget {
7   final String id;
8   final String productId;
9   final double price;
10  final int quantity;
11  final String title;
12
13  CartItem(
14    this.id,
15    this.productId,
16    this.price,
17    this.quantity,
18    this.title,
19  );
20
21  @override
22  Widget build(BuildContext context) {
23    return Card(
24      margin: EdgeInsets.symmetric(
25        horizontal: 15,
26        vertical: 4,
```

windows\cart_item.dart



```
25     horizontal: 15,
26     vertical: 4,
27   ), // EdgeInsets.symmetric
28   child: Padding(
29     padding: EdgeInsets.all(8),
30     child: ListTile(
31       leading: CircleAvatar(
32         child: Padding(
33           padding: EdgeInsets.all(5),
34           child: FittedBox(
35             child: Text('\$price'),
36           ), // FittedBox
37         ), // Padding
38       ), // CircleAvatar
39       title: Text(title),
40       subtitle: Text('Total: \${(price * quantity)}'),
41       trailing: Text('$quantity x'),
42     ), // ListTile
43   ), // Padding
44 ); // Card
45 }
46 }
```

widgets\cart_item.dart

File Edit Selection View Go Run Terminal Help cart_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... m.dart badge.dart products_overview_screen.dart cart_screen.dart X cart_item.dart cart.dart ...

lib > screens > cart_screen.dart > ...

```
1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3 
4 import '../providers/cart.dart' show Cart;
5 import '../widgets/cart_item.dart';
6 
7 class CartScreen extends StatelessWidget {
8     static const routeName = '/cart';
9 
10 @override
11 Widget build(BuildContext context) {
12     final cart = Provider.of<Cart>(context);
13     return Scaffold(
14         appBar: AppBar(
15             title: Text('Your Cart'),
16         ), // AppBar
17         body: Column(
18             children: <Widget>[
19                 Card(
20                     margin: EdgeInsets.all(15),
21                     child: Padding(
22                         padding: EdgeInsets.all(8),
```

screens\cart_screen.dart

Ln 4, Col 39 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help cart_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... m.dart badge.dart products_overview_screen.dart cart_screen.dart X cart_item.dart cart.dart ...

OPEN EDITORS lib > screens > cart_screen.dart > ...

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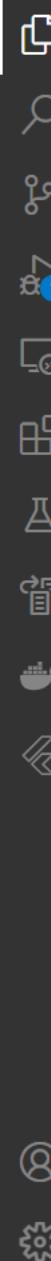
> OUTLINE
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16), // AppBar
17 body: Column(
18 children: <Widget>[
19 Card(
20 margin: EdgeInsets.all(15),
21 child: Padding(
22 padding: EdgeInsets.all(8),
23 child: Row(
24 mainAxisAlignment: MainAxisAlignment.spaceBetween,
25 children: <Widget>[
26 Text(
27 'Total',
28 style: TextStyle(fontSize: 20),
29), // Text
30 Spacer(),
31 Chip(
32 label: Text(
33 '\\$\\${cart.totalAmount}',
34 style: TextStyle(
35 color:
36 | | | Theme.of(context).primaryTextTheme.headline1.color,
37), // TextStyle

Ln 4, Col 39 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

stable Debug my code

screens\cart_screen.dart



EXPLORER ... m.dart badge.dart products_overview_screen.dart cart_screen.dart X cart_item.dart cart.dart ...

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cart_screen.dart

```
29 ), // Text
30 Spacer(),
31 Chip(
32   label: Text(
33     '\$${cart.totalAmount}',
34     style: TextStyle(
35       color:
36         Theme.of(context).primaryTextTheme.headline1.color,
37     ), // TextStyle
38   ), // Text
39   backgroundColor: Theme.of(context).primaryColor,
40 ), // Chip
41 FlatButton(
42   child: Text('ORDER NOW'),
43   onPressed: () {},
44   textColor: Theme.of(context).primaryColor,
45 ), // FlatButton
46 ], // <Widget>[]
47 ), // Row
48 ), // Padding
49 ), // Card
50 SizedBox(height: 10),
```

screens\cart_screen.dart

Ln 4, Col 39 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help cart_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... m.dart badge.dart products_overview_screen.dart cart_screen.dart X cart_item.dart cart.dart ...

OPEN EDITORS lib > screens > cart_screen.dart > ...

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> OUTLINE
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47), // Row
48), // Padding
49), // Card
50 SizedBox(height: 10),
51 Expanded(
52 child: ListView.builder(
53 itemCount: cart.items.length,
54 itemBuilder: (ctx, i) => CartItem(
55 cart.items.values.toList()[i].id,
56 cart.items.keys.toList()[i],
57 cart.items.values.toList()[i].price,
58 cart.items.values.toList()[i].quantity,
59 cart.items.values.toList()[i].title,
60), // CartItem
61), // ListView.builder
62) // Expanded
63], // <Widget>[]
64), // Column
65); // Scaffold
66 }
67 }
68 }

screens\cart_screen.dart

stable Debug my code Ln 4, Col 39 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... m.dart badge.dart products_overview_screen.dart cart_screen.dart cart_item.dart cart.dart sin.dart X D V ...

OPEN EDITORS lib > main.dart > MyApp > build

product_detail_screen.dart lib\sc... product_item.dart lib\widgets badge.dart lib\widgets products_overview_screen.dart... cart_screen.dart lib\screens cart_item.dart lib\widgets cart.dart lib\providers products_grid.dart lib\widgets X main.dart lib

MYSHOP_08

models providers cart.dart product.dart products.dart screens cart_screen.dart product_detail_screen.dart products_overview_screen.dart widgets badge.dart cart_item.dart product_item.dart products_grid.dart main.dart

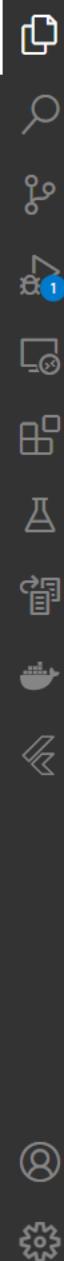
test web .gitignore .metadata

> OUTLINE > TIMELINE > DEPENDENCIES

stable Debug my code Ln 36, Col 1 (170 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

```
18     create: (ctx) => Products(),
19   ), // ChangeNotifierProvider
20   ChangeNotifierProvider(
21     create: (ctx) => Cart(),
22   ), // ChangeNotifierProvider
23 ],
24 child: MaterialApp(
25   title: 'MyShop',
26   theme: ThemeData(
27     primarySwatch: Colors.purple,
28     accentColor: Colors.deepOrange,
29     fontFamily: 'Lato',
30   ), // ThemeData
31   home: ProductsOverviewScreen(),
32   routes: {
33     ProductDetailScreen.routeName: (ctx) => ProductDetailScreen(),
34     CartScreen.routeName: (ctx) => CartScreen(),
35   }, // MaterialApp
36 ); // MultiProvider
37 }
38 }
39 }
```

main.dart



EXPLORER

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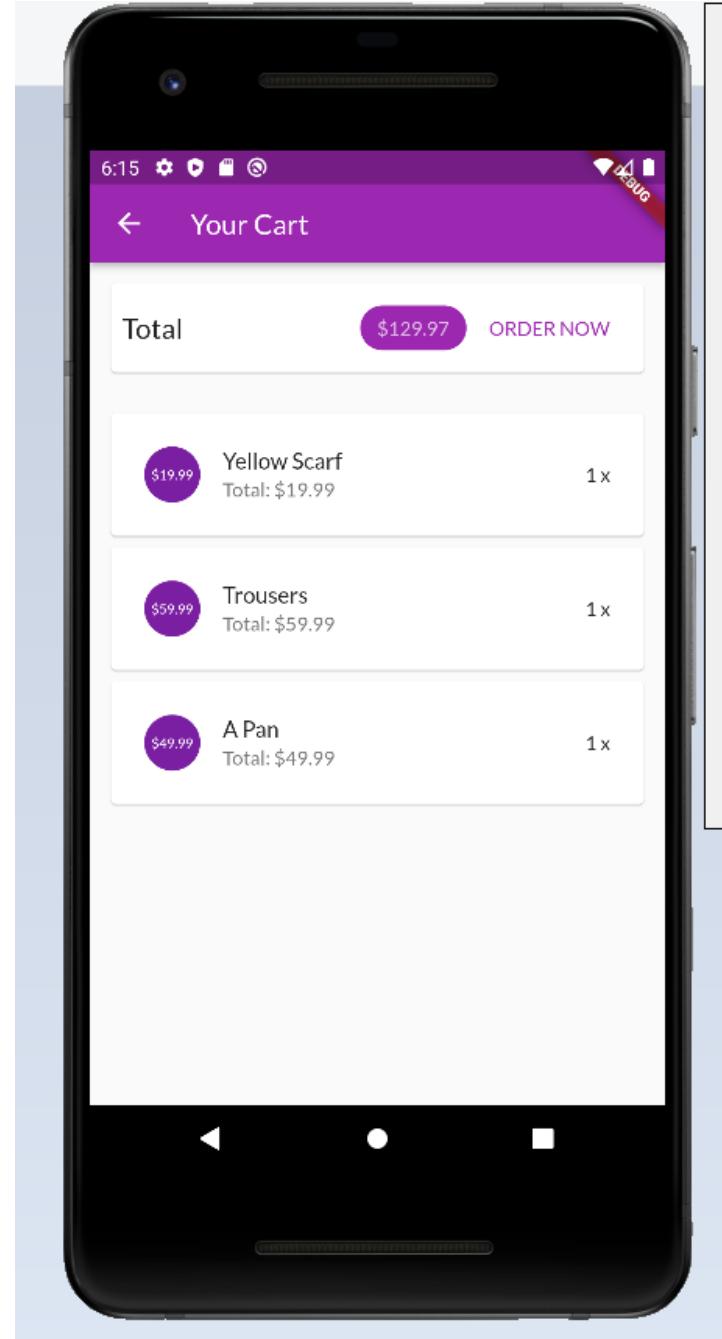
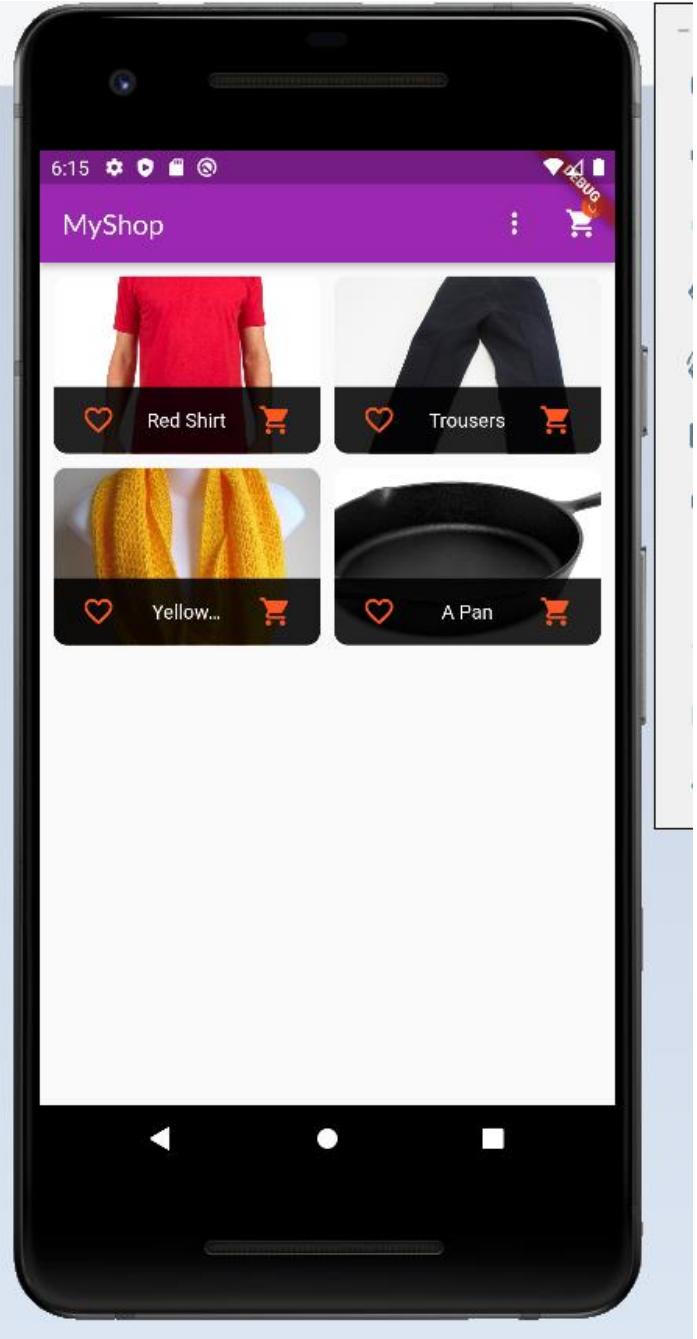
TIMELINE

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lib > screens > products_overview_screen.dart > _ProductsOverviewScreenState > build

```
49     ), // PopupMenuItem
50   ],
51   ), // PopupMenuButton
52   Consumer<Cart>(
53     builder: (_, cart, ch) => Badge(
54       child: ch,
55       value: cart.itemCount.toString(),
56     ), // Badge
57     child: IconButton(
58       icon: Icon(
59         Icons.shopping_cart,
60       ), // Icon
61       onPressed: () =>
62         Navigator.of(context).pushNamed(CartScreen.routeName);
63     ),
64     ), // IconButton
65   ), // Consumer
66   ], // <Widget>[]
67   ), // AppBar
68   body: ProductsGrid(_showOnlyFavorites),
69 ); // Scaffold
70 }
```

screens\products_overview_screen.dart



MAKING CART ITEMS DISMISSIBLE

File Edit Selection View Go Run Terminal Help cart_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... cart_item.dart x lib > widgets > cart_item.dart > ...

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```
1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3
4 import '../providers/cart.dart';
5
6 class CartItem extends StatelessWidget {
7   final String id;
8   final String productId;
9   final double price;
10  final int quantity;
11  final String title;
12
13  CartItem(
14    this.id,
15    this.productId,
16    this.price,
17    this.quantity,
18    this.title,
19  );
20
21  @override
22  Widget build(BuildContext context) {
```

windows\cart_item.dart

File Edit Selection View Go Run Terminal Help cart_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... cart_item.dart x lib > widgets > cart_item.dart > ...

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```
21 @override
22 Widget build(BuildContext context) {
23     return Dismissible(
24         key: ValueKey(id),
25         background: Container(
26             color: Theme.of(context).errorColor,
27             child: Icon(
28                 Icons.delete,
29                 color: Colors.white,
30                 size: 40,
31             ), // Icon
32             alignment: Alignment.centerRight,
33             padding: EdgeInsets.only(right: 20),
34             margin: EdgeInsets.symmetric(
35                 horizontal: 15,
36                 vertical: 4,
37             ), // EdgeInsets.symmetric
38         ), // Container
39         direction: DismissDirection.endToStart,
40         onDismissed: (direction) {
41             Provider.of<Cart>(context, listen: false).removeItem(productId);
42         },

```

wIDGETS\cart_item.dart

File Edit Selection View Go Run Terminal Help cart_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... cart_item.dart x lib > widgets > cart_item.dart > ...

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39 direction: DismissDirection.endToEnd,
40 onDismissed: (direction) {
41 Provider.of<Cart>(context, listen: false).removeItem(productId);
42 },
43 child: Card(
44 margin: EdgeInsets.symmetric(
45 horizontal: 15,
46 vertical: 4,
47), // EdgeInsets.symmetric
48 child: Padding(
49 padding: EdgeInsets.all(8),
50 child: ListTile(
51 leading: CircleAvatar(
52 child: Padding(
53 padding: EdgeInsets.all(5),
54 child: FittedBox(
55 child: Text('\\$price'),
56), // FittedBox
57), // Padding
58), // CircleAvatar
59 title: Text(title),
60 subtitle: Text('Total: \\$\\${(price * quantity)}')),

wIDGETS\cart_item.dart

stable Debug my code Ln 68, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

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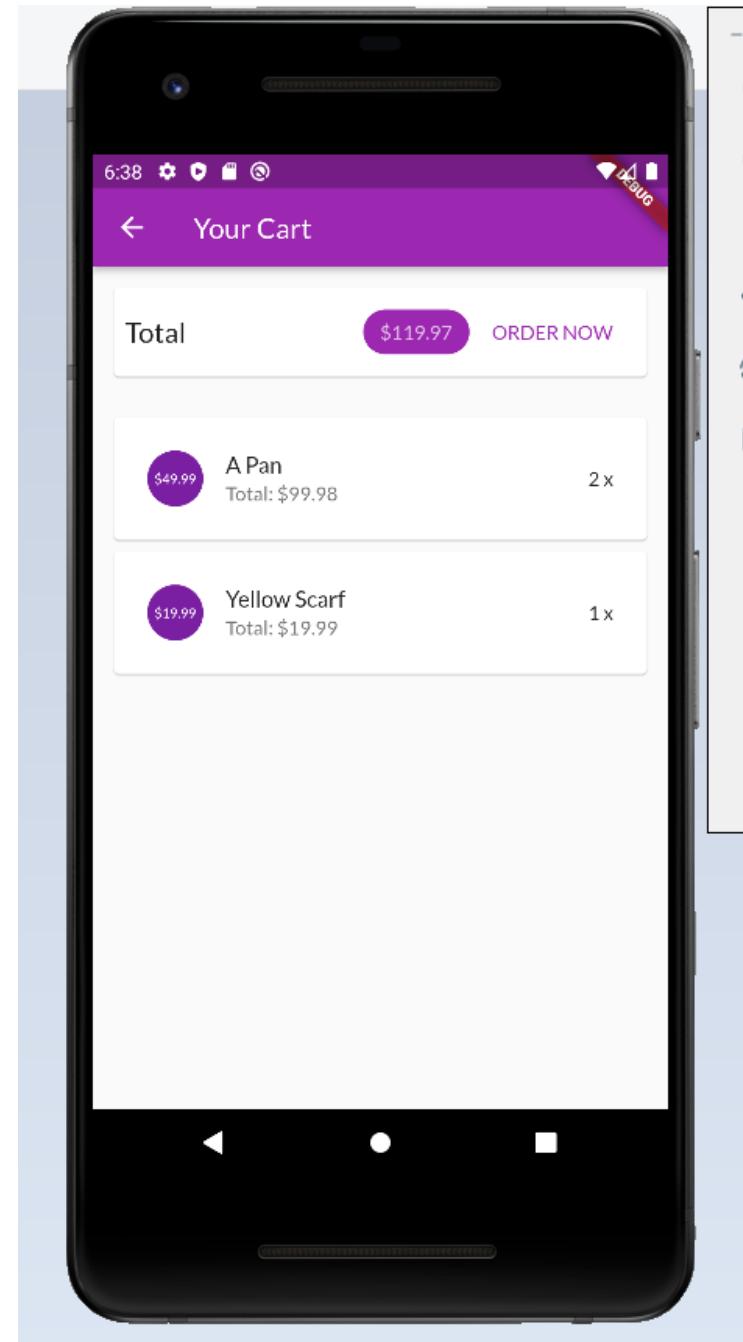
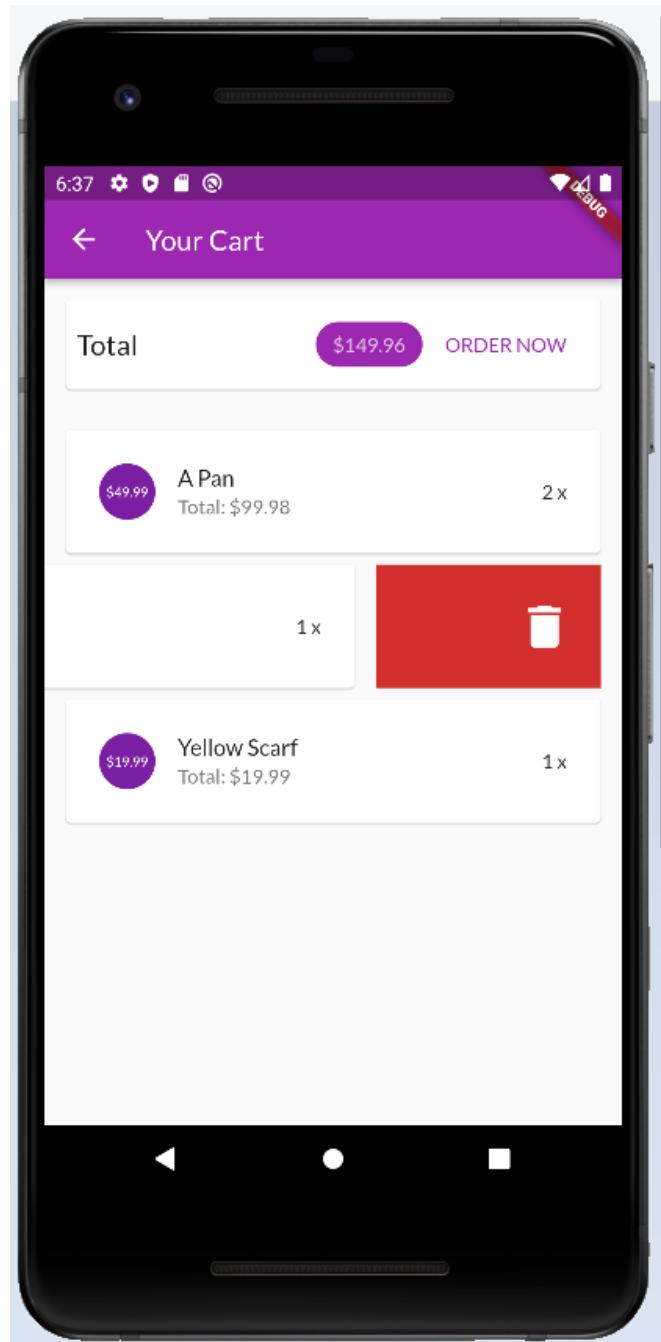
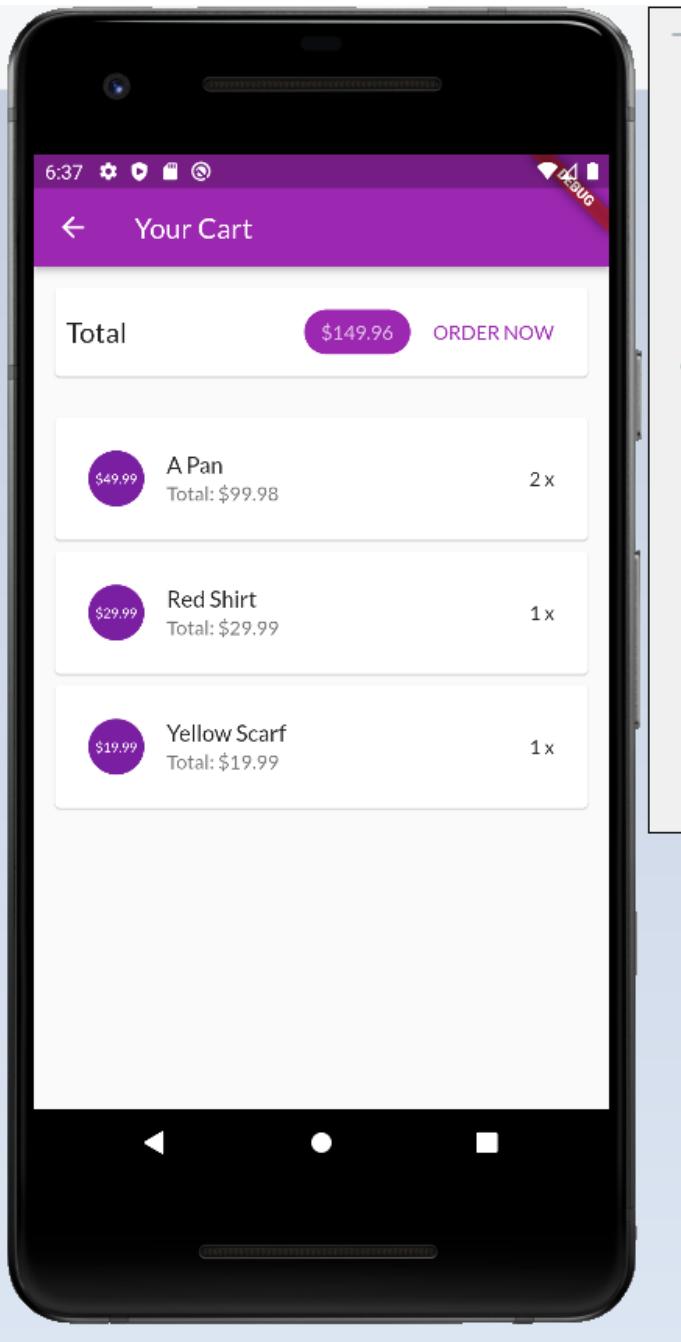
TIMELINE

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47), // EdgeInsets.symmetric
48 child: Padding(
49 padding: EdgeInsets.all(8),
50 child: ListTile(
51 leading: CircleAvatar(
52 child: Padding(
53 padding: EdgeInsets.all(5),
54 child: FittedBox(
55 child: Text('\\$\\$price'),
56), // FittedBox
57), // Padding
58), // CircleAvatar
59 title: Text(title),
60 subtitle: Text('Total: \\$\\${(price * quantity)}'),
61 trailing: Text('\$quantity x'),
62), // ListTile
63), // Padding
64), // Card
65); // Dismissible
66 }
67 }
68 }

widgets\cart_item.dart

Ln 68, Col 1 Spaces: 2 UTF-8 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



ADDING PRODUCT DETAIL DATA

File Edit Selection View Go Run Terminal Help

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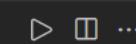
product_detail_screen.dart

lib > screens > product_detail_screen.dart > ProductDetailScreen > build

```
1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3
4 import '../providers/products.dart';
5
6 class ProductDetailScreen extends StatelessWidget {
7     static const routeName = '/product-detail';
8
9     @override
10    Widget build(BuildContext context) {
11        final productId =
12            ModalRoute.of(context).settings.arguments as String; // is the id!
13        final loadedProduct = Provider.of<Products>(
14            context,
15            listen: false,
16        ).findById(productId);
17        return Scaffold(
18            appBar: AppBar(
19                title: Text(loadedProduct.title),
20            ), // AppBar
21            body: SingleChildScrollView(
22                child: Column(
```

Ln 21, Col 32 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

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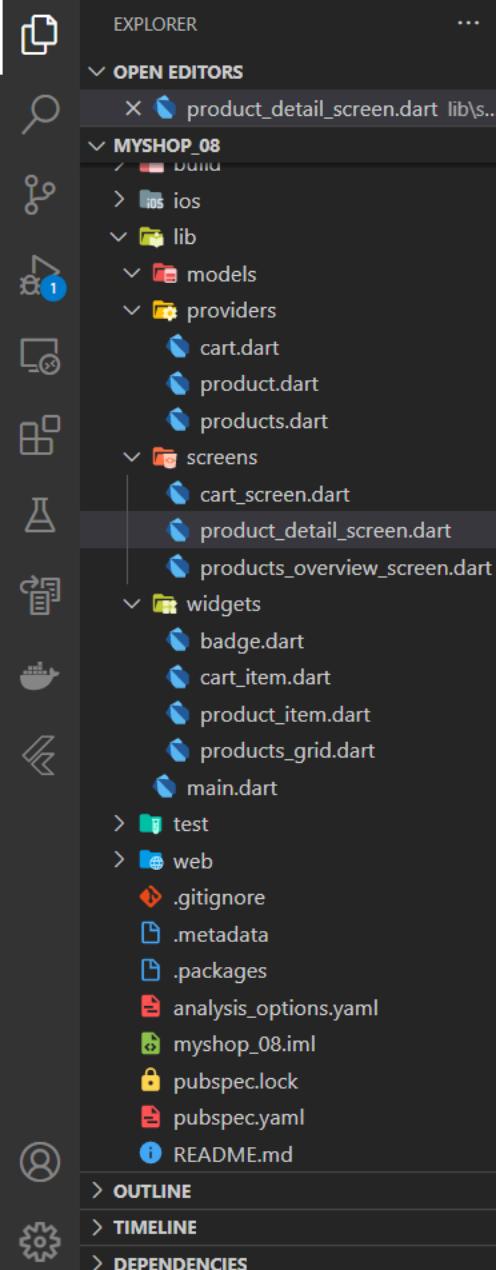
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product_detail_screen.dart

lib > screens > product_detail_screen.dart > ProductDetailScreen > build

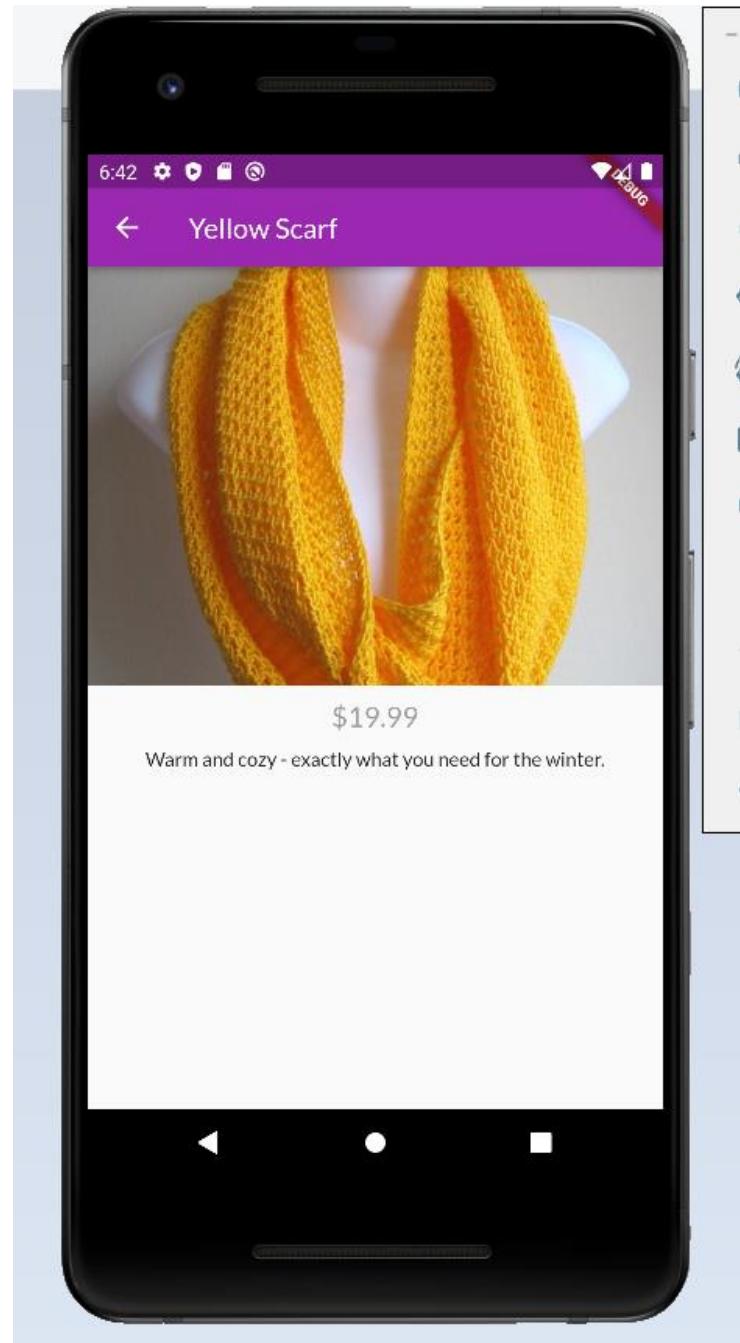
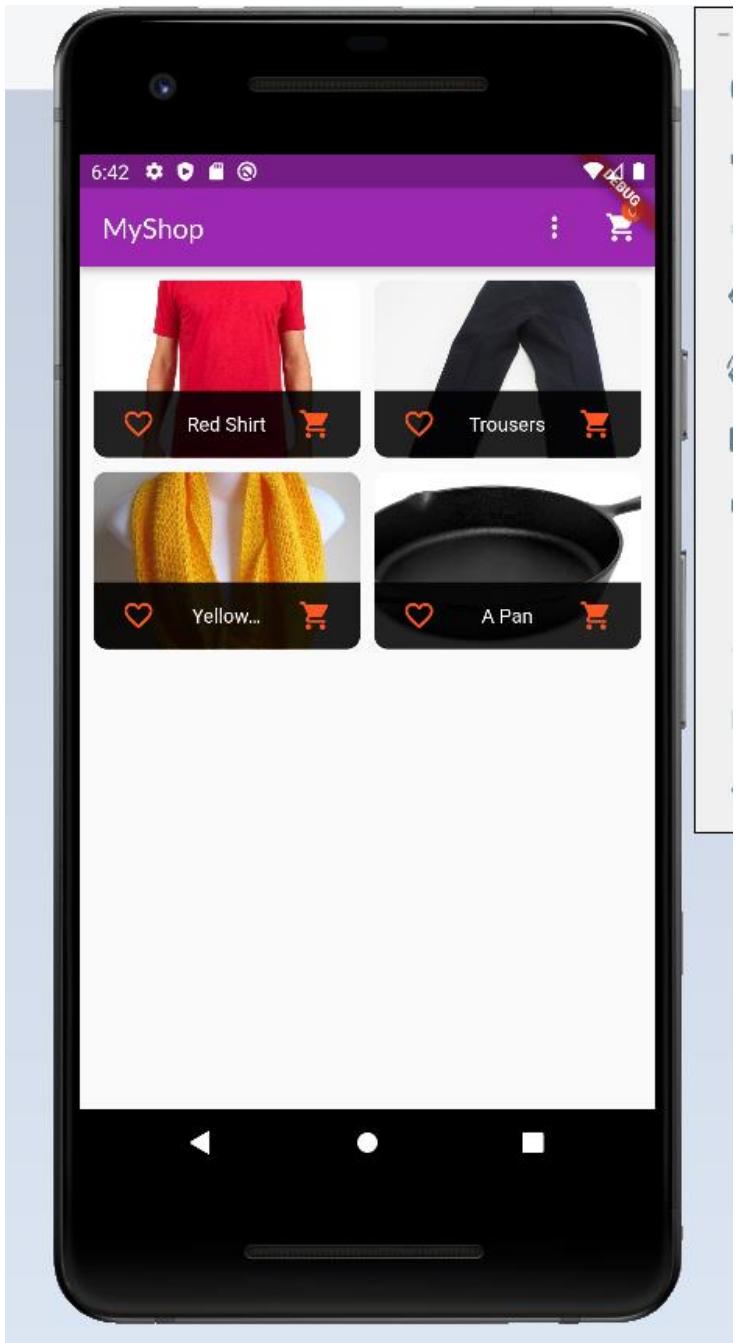
```
18     appBar: AppBar(
19       title: Text(loadedProduct.title),
20     ), // AppBar
21     body: SingleChildScrollView(
22       child: Column(
23         children: <Widget>[
24           Container(
25             height: 300,
26             width: double.infinity,
27             child: Image.network(
28               loadedProduct.imageUrl,
29               fit: BoxFit.cover,
30             ), // Image.network
31           ), // Container
32           SizedBox(height: 10),
33           Text(
34             '\$\${loadedProduct.price}',
35             style: TextStyle(
36               color: Colors.grey,
37               fontSize: 20,
38             ), // TextStyle
39           ), // Text
40         ],
41       ),
42     ),
43   ),
44 }
```

screens\products_detail_screen.dart

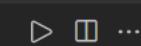


```
lib > screens > product_detail_screen.dart > ProductDetailScreen > build
50
51     color: Colors.grey,
52     fontSize: 20,
53   ), // TextStyle
54   ),
55   // Text
56   SizedBox(
57     height: 10,
58   ), // SizedBox
59   Container(
60     padding: EdgeInsets.symmetric(horizontal: 10),
61     width: double.infinity,
62     child: Text(
63       loadedProduct.description,
64       textAlign: TextAlign.center,
65       softWrap: true,
66     ), // Text
67     ) // Container
68   ],
69   // <Widget>[]
70   ),
71   // Column
72   ),
73   // SingleChildScrollView
74   );
75   // Scaffold
76 }
77 }
78 }
```

screens\products_detail_screen.dart



PROVIDING AN ORDERS OBJECT



EXPLORER

OPEN EDITORS

- order_item.dart lib\widgets
- cart.dart lib\providers

MYSHOP_08

- .idea
- android
- assets
- build
- ios
- lib
 - models
 - providers
 - cart.dart
 - orders.dart
 - product.dart
 - products.dart
 - screens
 - cart_screen.dart
 - orders_screen.dart
 - product_detail_screen.dart
 - products_overview_screen.dart
 - widgets
 - badge.dart
 - cart_item.dart
 - order_item.dart
 - product_item.dart
 - products_grid.dart
 - main.dart
- test
- web
- .aitianore

OUTLINE

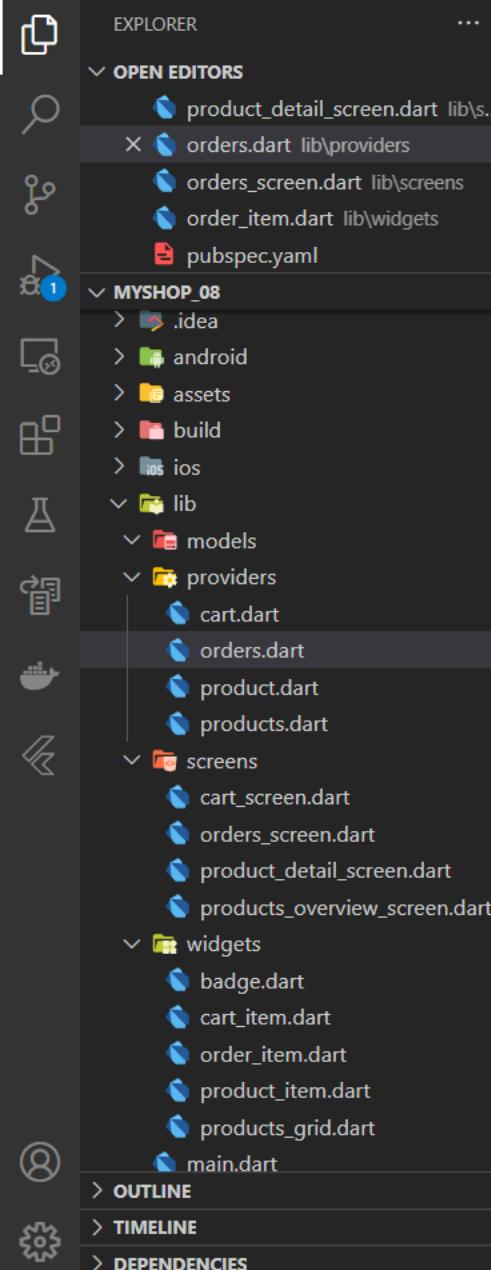
TIMELINE

DEPENDENCIES

```
lib > providers > cart.dart > Cart
    quantity: existingCartItem.quantity + 1,
    ),
);
} else {
    _items.putIfAbsent(
        productId,
        () => CartItem(
            id: DateTime.now().toString(),
            title: title,
            price: price,
            quantity: 1,
        ), // CartItem
    );
}
notifyListeners();
}

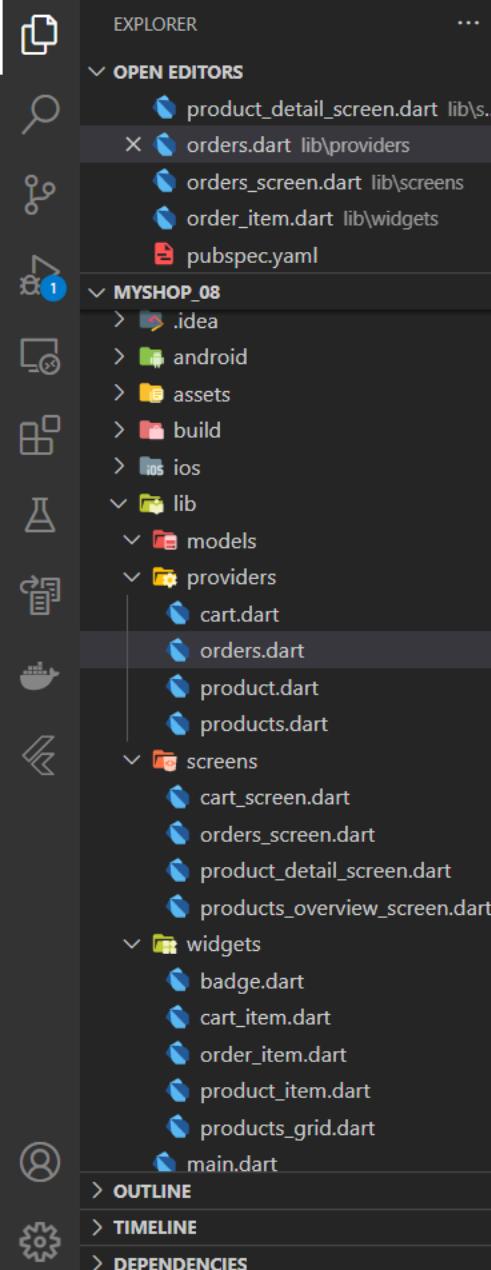
void clear(){
    _items = {};
    notifyListeners();
}
}
```

providers\cart.dart



```
1 import 'package:flutter/foundation.dart';
2
3 import './cart.dart';
4
5 class OrderItem {
6     final String id;
7     final double amount;
8     final List<CartItem> products;
9     final DateTime date;
10
11 OrderItem({
12     @required this.id,
13     @required this.amount,
14     @required this.products,
15     @required this.date,
16 });
17 }
18
19 class Orders with ChangeNotifier {
20     List<OrderItem> _orders = [];
21
22     List<OrderItem> get orders {
```

providers\orders.dart



```
18
19 class Orders with ChangeNotifier {
20   List<OrderItem> _orders = [];
21
22   List<OrderItem> get orders {
23     return [..._orders];
24   }
25
26   void addOrder(List<CartItem> cartProducts, double total) {
27     _orders.insert(
28       0,
29       OrderItem(
30         id: DateTime.now().toString(),
31         amount: total,
32         dateTime: DateTime.now(),
33         products: cartProducts,
34       ), // OrderItem
35     );
36     notifyListeners();
37   }
38 }
39
```

providers\orders.dart

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... order_item.dart cart.dart main.dart X lib > main.dart > MyApp > build Run | Debug | Profile

order_item.dart lib\widgets
cart.dart lib\providers
main.dart lib

MYSHOP_08 .idea android assets build ios lib models providers cart.dart orders.dart product.dart products.dart screens cart_screen.dart orders_screen.dart product_detail_screen.dart products_overview_screen.dart widgets badge.dart cart_item.dart order_item.dart product_item.dart products_grid.dart main.dart

test web OUTLINE TIMELINE DEPENDENCIES

stable Debug my code Ln 27, Col 1 (83 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

```
11 void main() => runApp(MyApp());  
12  
13 class MyApp extends StatelessWidget {  
14     @override  
15     Widget build(BuildContext context) {  
16         return MultiProvider(  
17             providers: [  
18                 ChangeNotifierProvider(  
19                     create: (ctx) => Products(),  
20                 ), // ChangeNotifierProvider  
21                 ChangeNotifierProvider(  
22                     create: (ctx) => Cart(),  
23                 ), // ChangeNotifierProvider  
24                 ChangeNotifierProvider(  
25                     create: (ctx) => Orders(),  
26                 ), // ChangeNotifierProvider  
27             ],  
28             child: MaterialApp(  
29                 title: 'MyShop',  
30                 theme: ThemeData(  
31                     primarySwatch: Colors.purple,
```

main.dart

ADDING ORDERS

File Edit Selection View Go Run Terminal Help cart_screen.dart - myshop_08 - Visual Studio Code

EXPLORER ... order_item.dart cart.dart main.dart cart_screen.dart X

OPEN EDITORS lib > screens > cart_screen.dart > CartScreen > build

order_item.dart lib\widgets
cart.dart lib\providers
main.dart lib
x cart_screen.dart lib\screens

MYSHOP_08 .idea
android
assets
build
ios
lib
models
providers
cart.dart
orders.dart
product.dart
products.dart

screens
cart_screen.dart
orders_screen.dart
product_detail_screen.dart
products_overview_screen.dart

widgets
badge.dart
cart_item.dart
order_item.dart
product_item.dart
products_grid.dart
main.dart

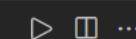
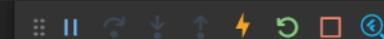
test
OUTLINE
TIMELINE
DEPENDENCIES

stable Debug my code Ln 51, Col 1 (297 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

```
  },
  style: TextStyle(
    color:
      Theme.of(context).primaryTextTheme.headline1.color,
  ), // TextStyle
  ), // Text
  backgroundColor: Theme.of(context).primaryColor,
), // Chip
FlatButton(
  child: Text('ORDER NOW'),
  onPressed: () {
    Provider.of<Orders>(context, listen: false).addOrder(
      cart.items.values.toList(),
      cart.totalAmount,
    );
    cart.clear();
  },
  textColor: Theme.of(context).primaryColor,
) // FlatButton
], // <Widget>[]
), // Row
), // Padding
), // Card
```

screens\cart_screen.dart

ADDING AN ORDERS SCREEN



EXPLORER

OPEN EDITORS

order_item.dart lib\widgets

MYSHOP_08

- .idea
- android
- assets
- build
- ios
- lib
 - models
 - providers
 - cart.dart
 - orders.dart
 - product.dart
 - products.dart
 - screens
 - cart_screen.dart
 - orders_screen.dart
 - product_detail_screen.dart
 - products_overview_screen.dart
 - widgets
 - badge.dart
 - cart_item.dart
 - order_item.dart
 - product_item.dart
 - products_grid.dart
 - main.dart
- test
- web
- .gitignore
- .metadata

OUTLINE

TIMELINE

DEPENDENCIES

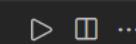
order_item.dart X

lib > widgets > order_item.dart > OrderItem > build

```
1 import 'package:flutter/material.dart';
2 import 'package:intl/intl.dart';
3
4 import '../providers/orders.dart' as ord;
5
6 class OrderItem extends StatelessWidget {
7   final ord.OrderItem order;
8
9   OrderItem(this.order);
10
11  @override
12  Widget build(BuildContext context) {
13    return Card(
14      margin: EdgeInsets.all(10),
15      child: Column(
16        children: <Widget>[
17          ListTile(
18            title: Text('\$${order.amount}'),
19            subtitle: Text(
20              DateFormat('dd MM yyyy hh:mm').format(order.dateTime),
21            ), // Text
22            trailing: IconButton(

```

widgets\order_item.dart



EXPLORER

OPEN EDITORS

order_item.dart lib\widgets

MYSHOP_08

- .idea
- android
- assets
- build
- ios
- lib
 - models
 - providers
 - cart.dart
 - orders.dart
 - product.dart
 - products.dart
 - screens
 - cart_screen.dart
 - orders_screen.dart
 - product_detail_screen.dart
 - products_overview_screen.dart
 - widgets
 - badge.dart
 - cart_item.dart
 - order_item.dart
 - product_item.dart
 - products_grid.dart
 - main.dart
- test
- web
- .gitignore
- .metadata

OUTLINE

TIMELINE

DEPENDENCIES

```
11 @override
12 Widget build(BuildContext context) {
13   return Card(
14     margin: EdgeInsets.all(10),
15     child: Column(
16       children: <Widget>[
17         ListTile(
18           title: Text('\$${order.amount}'),
19           subtitle: Text(
20             DateFormat('dd MM yyyy hh:mm').format(order.dateTime),
21           ), // Text
22           trailing: IconButton(
23             icon: Icon(Icons.expand_more),
24             onPressed: () {},
25           ), // IconButton
26         ), // ListTile
27       ], // <Widget>[]
28     ), // Column
29   ); // Card
30 }
31 }
32 }
```

widgets\order_item.dart

A screenshot of the Visual Studio Code interface showing a Dart file named `orders_screen.dart`. The code defines a `OrdersScreen` StatelessWidget that displays a list of orders. The code uses `Provider` to access the `Orders` data source and `OrderItem` widgets to build the list.

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

import '../providers/orders.dart' show Orders;
import '../widgets/order_item.dart';

class OrdersScreen extends StatelessWidget {
    @override
    Widget build(BuildContext context) {
        final orderData = Provider.of<Orders>(context);
        return Scaffold(
            appBar: AppBar(
                title: Text('Your Orders'),
            ), // AppBar
            body: ListView.builder(
                itemCount: orderData.orders.length,
                itemBuilder: (ctx, i) => OrderItem(orderData.orders[i]),
            ), // ListView.builder
        ); // Scaffold
    }
}
```

The `orders_screen.dart` file is the active editor in the top right. The left sidebar shows the project structure under the `MYSHOP_08` folder, including `models`, `providers`, `screens`, and `widgets` subfolders. The `order_item.dart` file is also listed in the open editors. The bottom status bar shows the file is stable, has 58 changes, and is using Prettier for code styling.

USING A SIDE DRAWER

A screenshot of the Visual Studio Code interface displaying Dart code for a Flutter application. The file being edited is `orders_screen.dart` located in the `lib/screens` directory. The code defines a `OrdersScreen` StatelessWidget that uses a `Provider` to get order data and displays it using a `ListView.builder`.

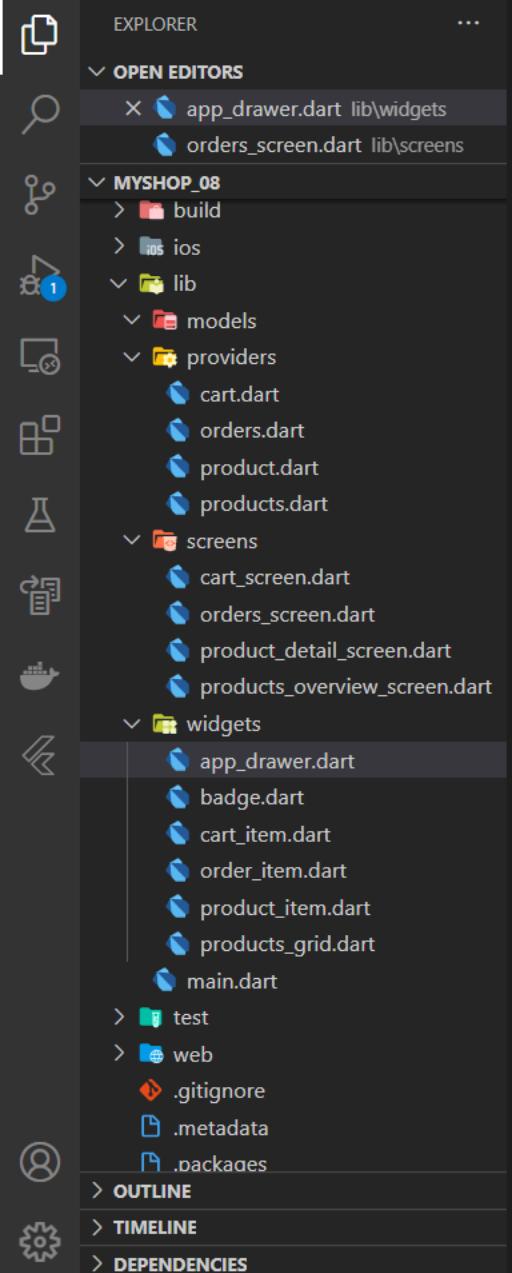
```
import 'package:flutter/material.dart';
import 'package:provider/provider.dart';

import '../providers/orders.dart' show Orders;
import '../widgets/order_item.dart';

class OrdersScreen extends StatelessWidget {
    static const routeName = '/orders';

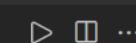
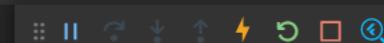
    @override
    Widget build(BuildContext context) {
        final orderData = Provider.of<Orders>(context);
        return Scaffold(
            appBar: AppBar(
                title: Text('Your Orders'),
            ), // AppBar
            body: ListView.builder(
                itemCount: orderData.orders.length,
                itemBuilder: (ctx, i) => OrderItem(orderData.orders[i]),
            ), // ListView.builder
        ); // Scaffold
    }
}
```

The code editor shows syntax highlighting for Dart and Flutter. The file path in the status bar indicates the current file is `orders_screen.dart`. The bottom right corner of the image has a yellow annotation: `screens\order_screen.dart`.



```
1 import 'package:flutter/material.dart';
2
3 import '../screens/orders_screen.dart';
4
5 class AppDrawer extends StatelessWidget {
6     @override
7     Widget build(BuildContext context) {
8         return Drawer(
9             child: Column(
10                children: <Widget>[
11                    AppBar(
12                        title: Text('Hello Friend!'),
13                        automaticallyImplyLeading: false,
14                    ), // AppBar
15                    Divider(),
16                    ListTile(
17                        leading: Icon(Icons.shop),
18                        title: Text('Shop'),
19                        onTap: () {
20                            Navigator.of(context).pushReplacementNamed('/');
21                        },
22                    ), // ListTile
23                ],
24            ),
25        );
26    }
27}
```

widgets\app_drawer.dart



EXPLORER

OPEN EDITORS

- app_drawer.dart lib\widgets
- orders_screen.dart lib\screens

MYSHOP_08

- build
- ios
- lib
 - models
 - providers
 - cart.dart
 - orders.dart
 - product.dart
 - products.dart
 - screens
 - cart_screen.dart
 - orders_screen.dart
 - product_detail_screen.dart
 - products_overview_screen.dart
 - widgets
 - app_drawer.dart
 - badge.dart
 - cart_item.dart
 - order_item.dart
 - product_item.dart
 - products_grid.dart
 - main.dart
- test
- web
 - .gitignore
 - .metadata
 - .packages

```
16      ListTile(
17        leading: Icon(Icons.shop),
18        title: Text('Shop'),
19        onTap: () {
20          Navigator.of(context).pushReplacementNamed('/');
21        },
22      ), // ListTile
23      Divider(),
24      ListTile(
25        leading: Icon(Icons.payment),
26        title: Text('Orders'),
27        onTap: () {
28          Navigator.of(context)
29            .pushReplacementNamed(OrdersScreen.routeName);
30        },
31      ), // ListTile
32    ], // <Widget>[]
33  ), // Column
34 ); // Drawer
35 }
36 }
37 }
```

widgets\app_drawer.dart

File Edit Selection View Go Run Terminal Help main.dart - myshop_08 - Visual Studio Code

EXPLORER ... app_drawer.dart main.dart orders_screen.dart lib > main.dart > MyApp > build

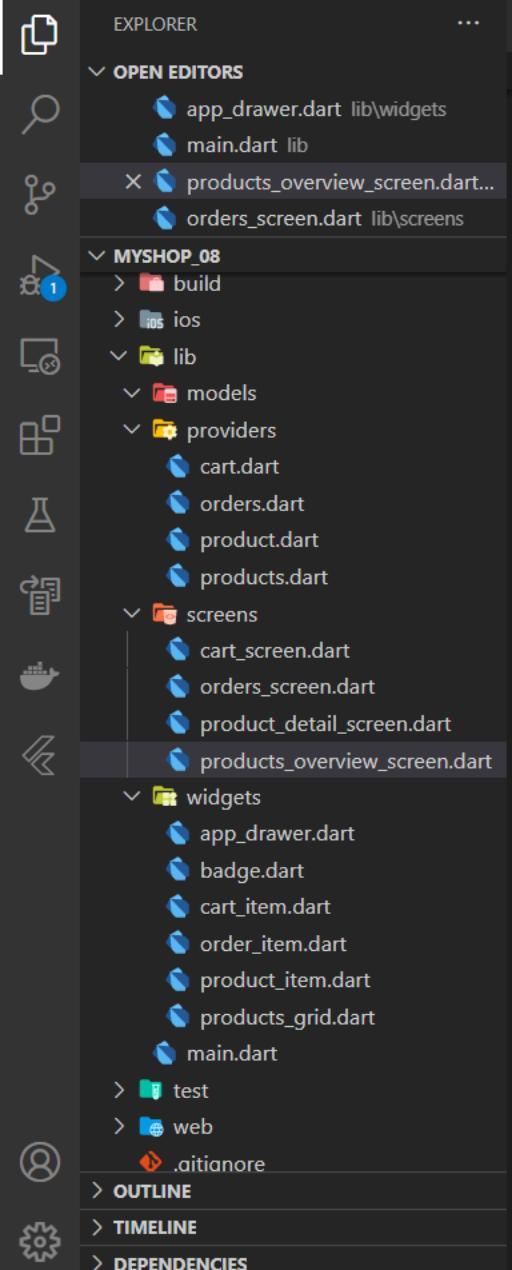
OPEN EDITORS app_drawer.dart lib\widgets main.dart lib orders_screen.dart lib\screens

MYSHOP_08 > build > ios > lib > models providers cart.dart orders.dart product.dart products.dart > screens cart_screen.dart orders_screen.dart product_detail_screen.dart products_overview_screen.dart > widgets app_drawer.dart badge.dart cart_item.dart order_item.dart product_item.dart products_grid.dart main.dart > test > web .gitignore .metadata

CREATE (ctx) --> Orders(), // ChangeNotifierProvider ChangeNotifierProvider(create: (ctx) => Orders(),), // ChangeNotifierProvider], child: MaterialApp(title: 'MyShop', theme: ThemeData(primarySwatch: Colors.purple, accentColor: Colors.deepOrange, fontFamily: 'Lato',), // ThemeData home: ProductsOverviewScreen(), routes: { ProductDetailScreen.routeName: (ctx) => ProductDetailScreen(), CartScreen.routeName: (ctx) => CartScreen(), OrdersScreen.routeName: (ctx) => OrdersScreen(), }, // MaterialApp), // MultiProvider); // main.dart

Ln 41, Col 1 (62 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier

main.dart



```
53     Consumer<Cart>(
54         builder: (_, cart, ch) => Badge(
55             child: ch,
56             value: cart.itemCount.toString(),
57         ), // Badge
58         child: IconButton(
59             icon: Icon(
60                 Icons.shopping_cart,
61             ), // Icon
62             onPressed: () {
63                 Navigator.of(context).pushNamed(CartScreen.routeName);
64             },
65         ), // IconButton
66         ), // Consumer
67     ], // <Widget>[]
68 ), // AppBar
69 drawer: AppDrawer(),
70 body: ProductsGrid(_showOnlyFavorites),
71 ); // Scaffold
72 }
73 }
```

screens\products_overview_screen.dart

orders_screen.dart - myshop_08 - Visual Studio Code

EXPLORER

OPEN EDITORS

- app_drawer.dart lib\widgets
- main.dart lib
- products_overview_screen.dart...
- orders_screen.dart lib\screens

MYSHOP_08

- > build
- > ios
- < lib
- < models
- < providers
 - cart.dart
 - orders.dart
 - product.dart
 - products.dart
- < screens
 - cart_screen.dart
 - orders_screen.dart
 - product_detail_screen.dart
 - products_overview_screen.dart
- < widgets
 - app_drawer.dart
 - badge.dart
 - cart_item.dart
 - order_item.dart
 - product_item.dart
 - products_grid.dart
 - main.dart
- > test
- > web
- .aitianore

OUTLINE

TIMELINE

DEPENDENCIES

orders_screen.dart X

lib > screens > orders_screen.dart > OrdersScreen > build

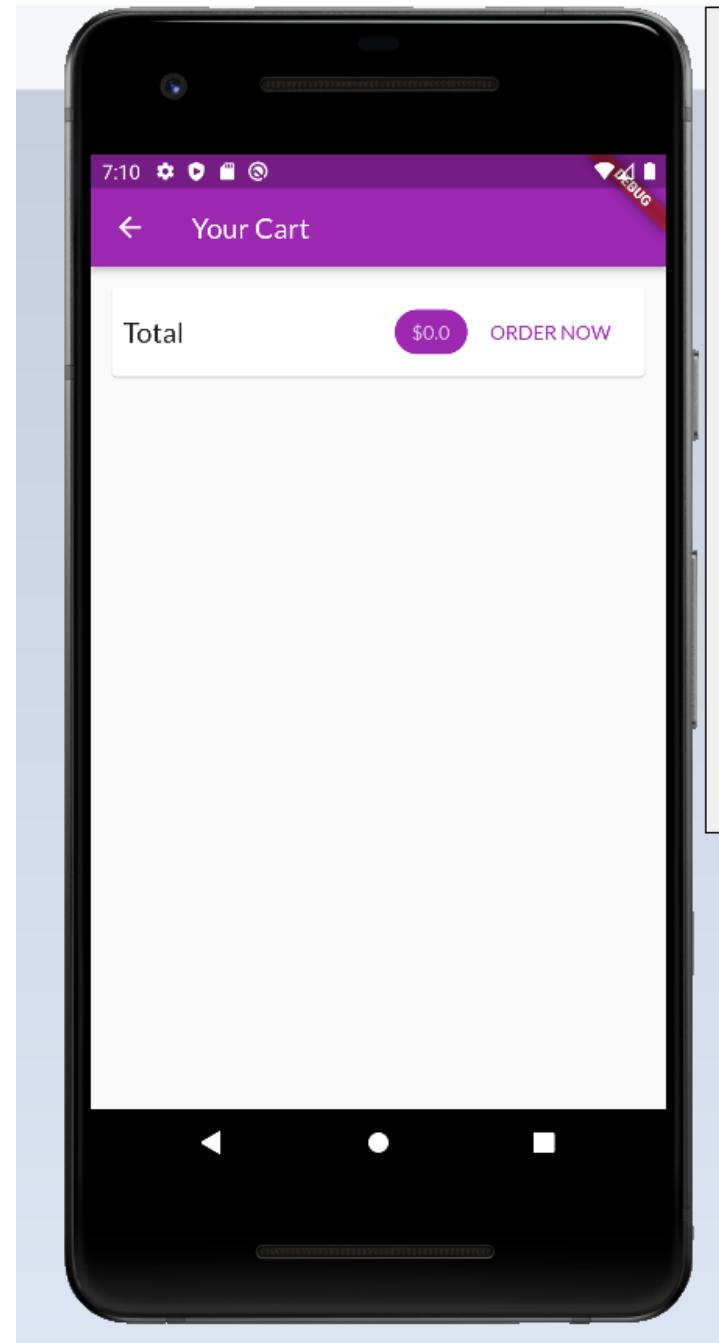
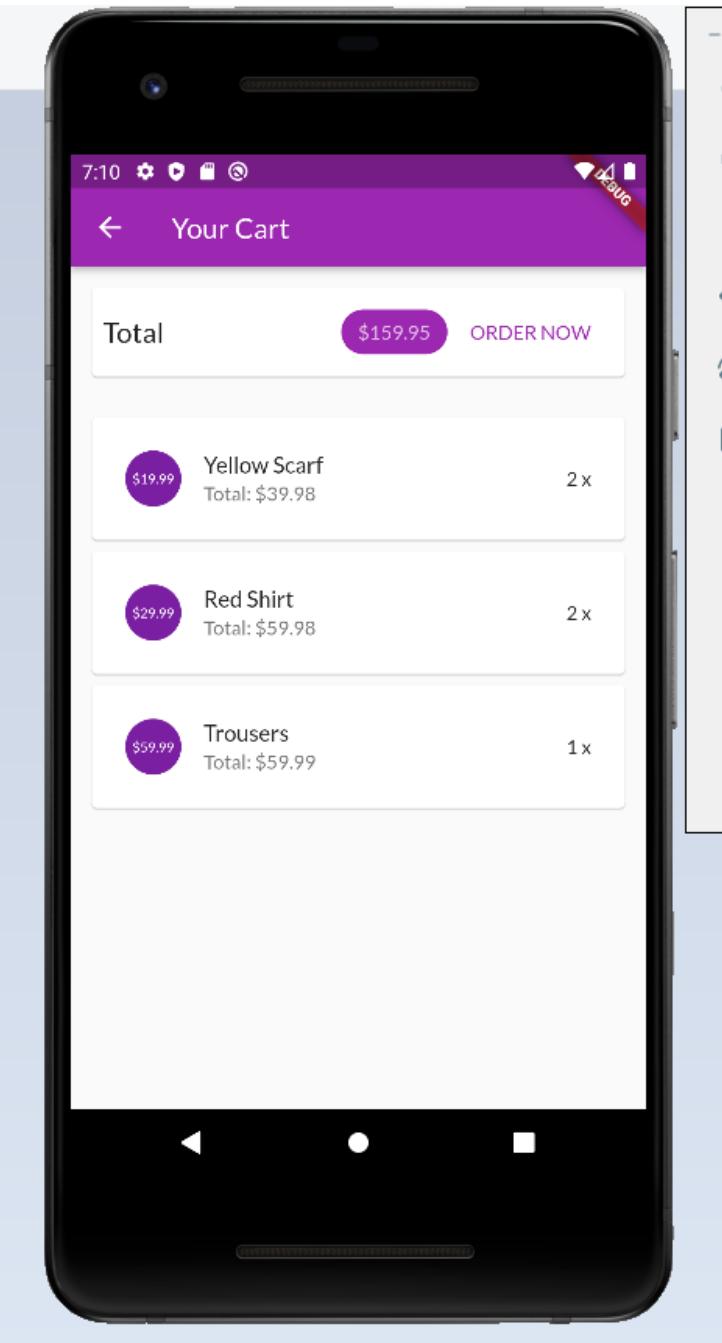
```
1 import 'package:flutter/material.dart';
2 import 'package:provider/provider.dart';
3
4 import '../providers/orders.dart' show Orders;
5 import '../widgets/app_drawer.dart';
6 import '../widgets/order_item.dart';
7
8 class OrdersScreen extends StatelessWidget {
9     static const routeName = '/orders';
10
11     @override
12     Widget build(BuildContext context) {
13         final orderData = Provider.of<Orders>(context);
14         return Scaffold(
15             appBar: AppBar(
16                 title: Text('Your Orders'),
17             ), // AppBar
18             drawer: AppDrawer(),
19             body: ListView.builder(
20                 itemCount: orderData.orders.length,
21                 itemBuilder: (ctx, i) => OrderItem(orderData.orders[i]),
22             ), // ListView.builder

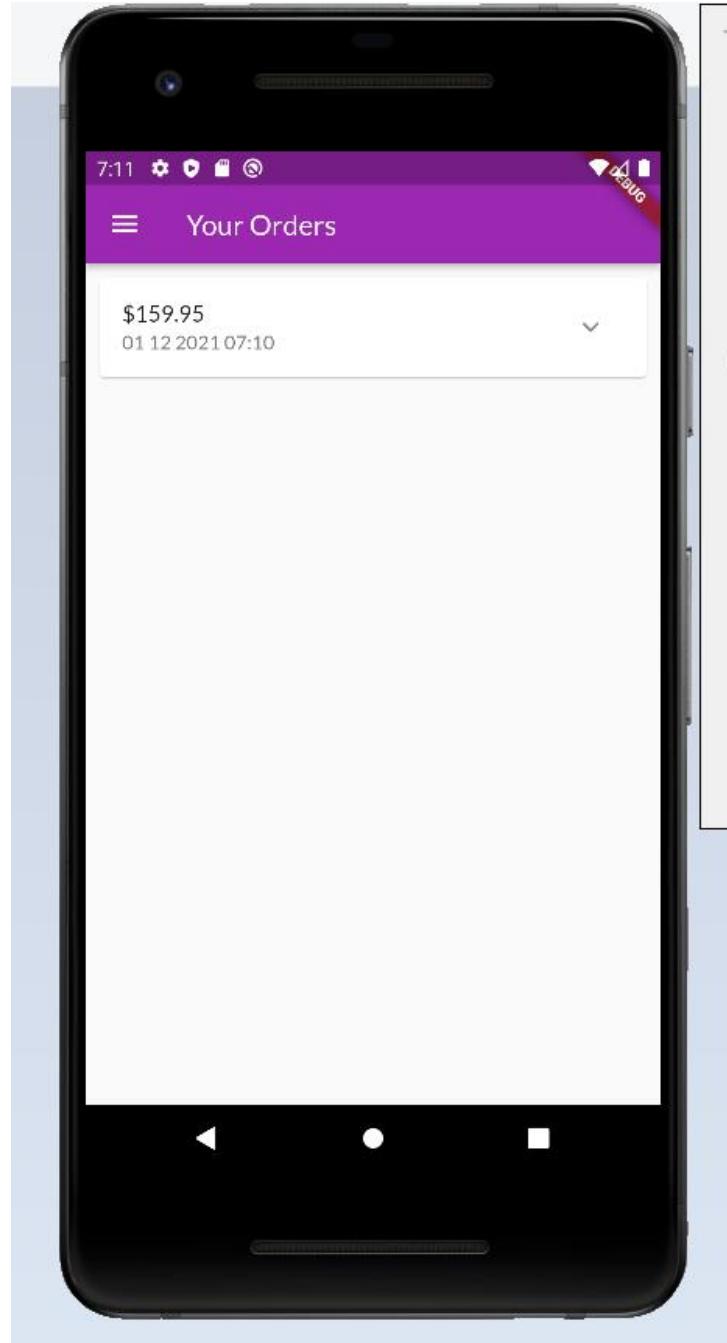
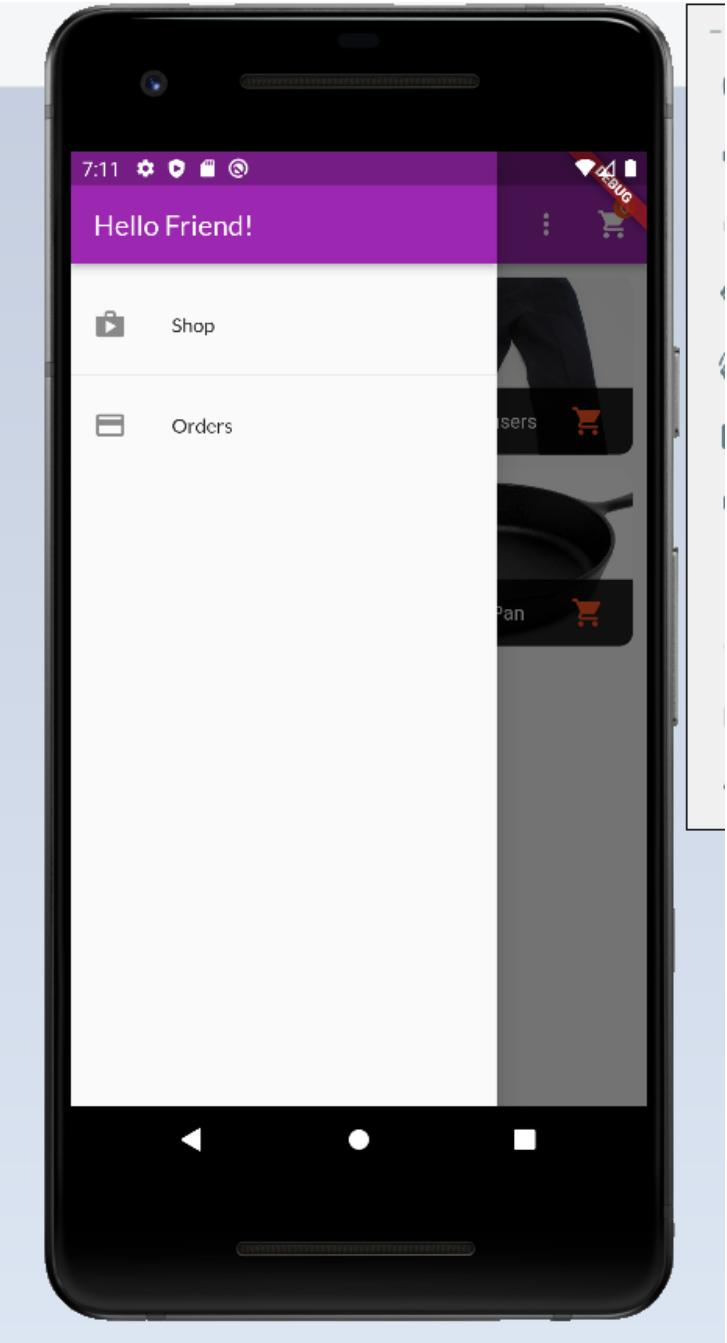
```

screens\orders_screen.dart

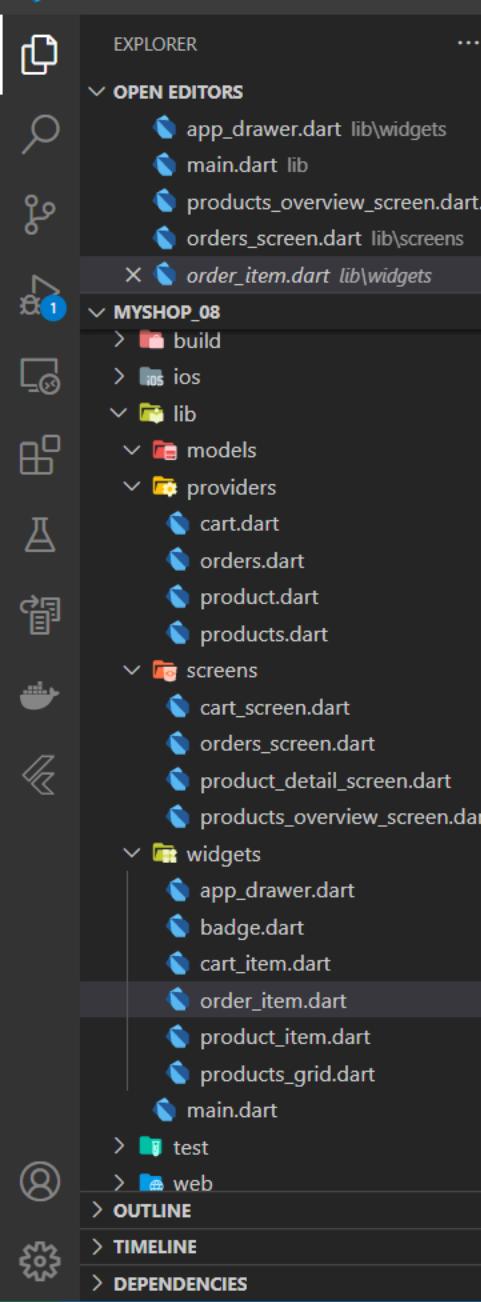
stable Debug my code

Ln 19, Col 1 (28 selected) Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier





MAKING ORDERS EXPANDABLE AND STATEFUL WIDGETS VERSUS PROVIDER



```
1 import 'package:flutter/material.dart';
2 import 'package:intl/intl.dart';
3
4 import '../providers/orders.dart' as ord;
5
6 class OrderItem extends StatelessWidget {
7     final ord.OrderItem order;
8
9     OrderItem(this.order);
10
11    @override
12    Widget build(BuildContext context) {
13        return Card(
14            margin: EdgeInsets.all(10),
15            child: Column(
16                children: <Widget>[
17                    ListTile(
18                        title: Text('\$\${order.amount}'),
19                        subtitle: Text(
20                            DateFormat('dd MM yyyy hh:mm').format(order.dateTime),
21                        ), // Text
22                        trailing: IconButton(
```

widgets\order_item.dart

File Edit Selection View Go Run Terminal Help

order_item.dart - myshop_08 - Visual Studio Code

EXPLORER ... order_item.dart X

OPEN EDITORS lib > widgets > order_item.dart > ...

MYSHOP_08

- > build
- > ios
- > lib
- > models
- > providers
 - cart.dart
 - orders.dart
 - product.dart
 - products.dart
- > screens
 - cart_screen.dart
 - orders_screen.dart
 - product_detail_screen.dart
 - products_overview_screen.dart
- > widgets
 - app_drawer.dart
 - badge.dart
 - cart_item.dart
 - order_item.dart
 - product_item.dart
 - products_grid.dart
 - main.dart
- > test
- > web
- .gitignore
- .metadata
- .packages
- analysis_options.yaml

OUTLINE

TIMELINE

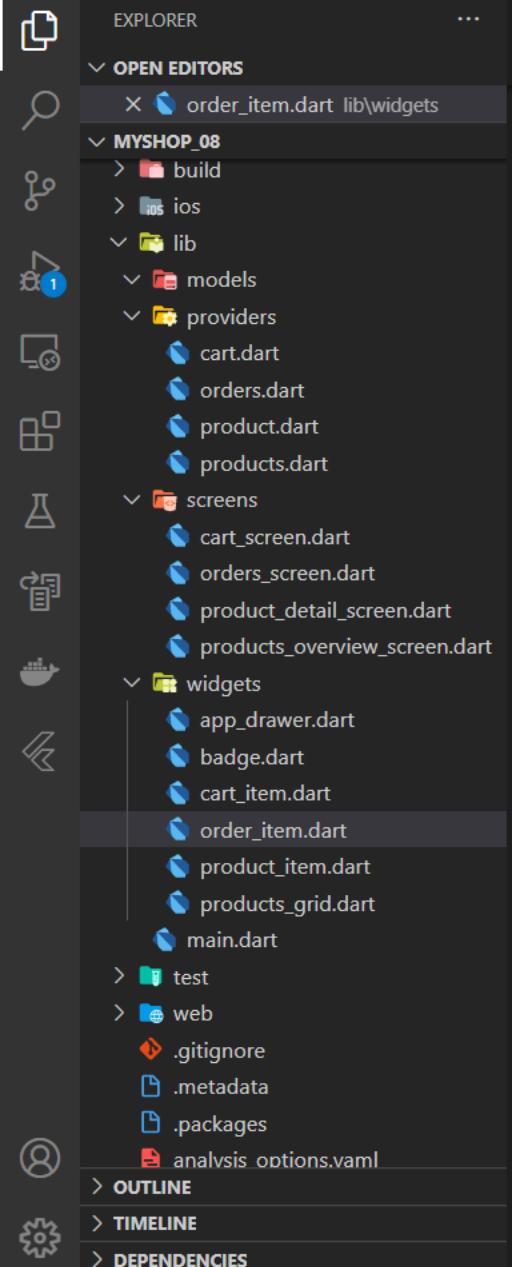
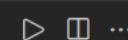
DEPENDENCIES

```
1 import 'dart:math';
2
3 import 'package:flutter/material.dart';
4 import 'package:intl/intl.dart';
5
6 import '../providers/orders.dart' as ord;
7
8 class OrderItem extends StatefulWidget {
9     final ord.OrderItem order;
10
11     OrderItem(this.order);
12
13     @override
14     _OrderItemState createState() => _OrderItemState();
15 }
16
17 class _OrderItemState extends State<OrderItem> {
18     var _expanded = false;
19
20     @override
21     Widget build(BuildContext context) {
22         return Card(
```

windows\order_item.dart

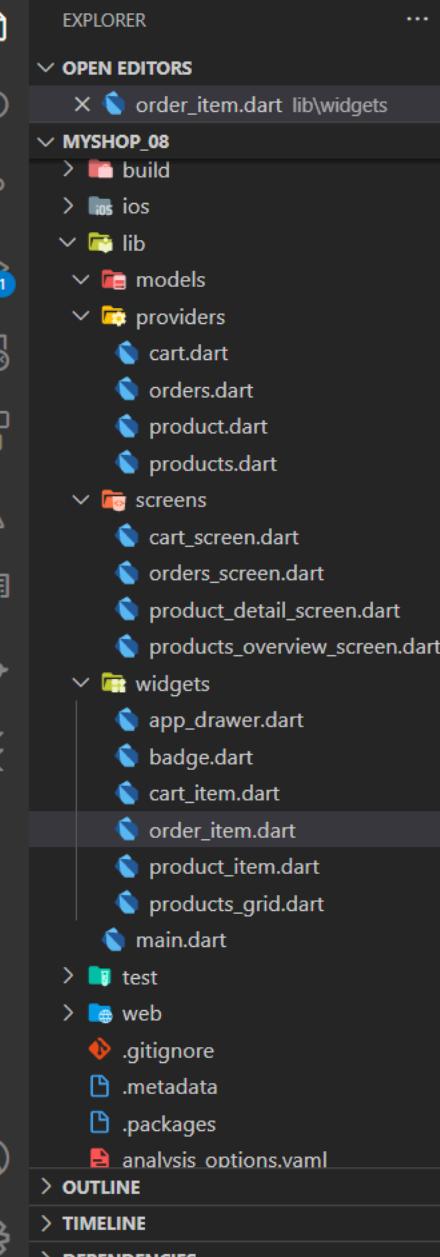
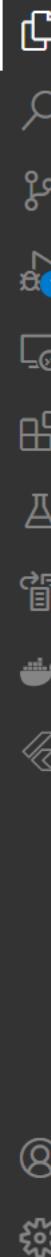
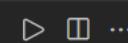
stable Debug my code

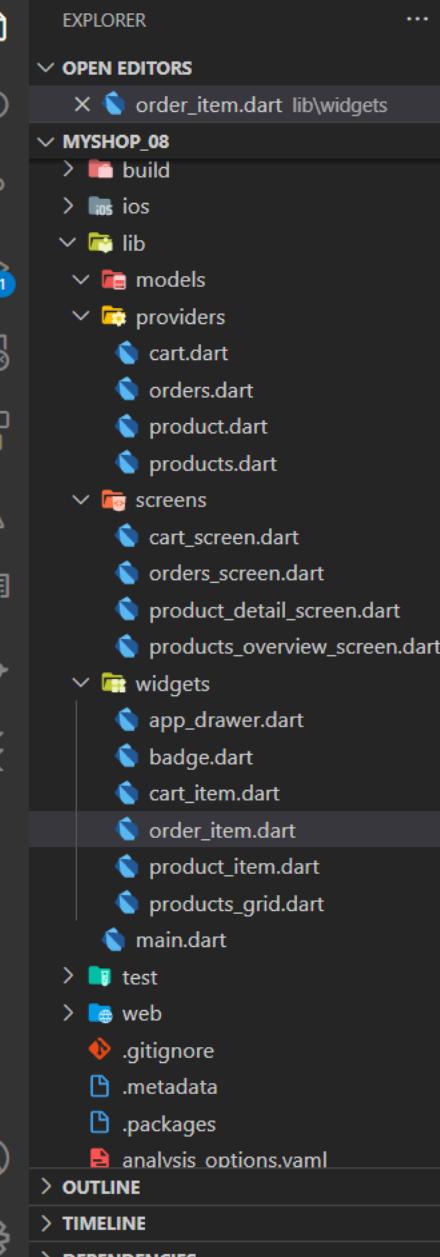
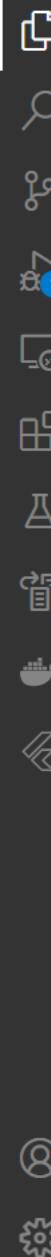
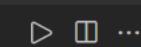
Ln 75, Col 1 Spaces: 2 CRLF Dart Dart DevTools Flutter: 2.5.3 Flutter Emulator (android-x86 emulator) Prettier



```
19  
20 @override  
21 Widget build(BuildContext context) {  
22     return Card(  
23         margin: EdgeInsets.all(10),  
24         child: Column(  
25             children: <Widget>[  
26                 ListTile(  
27                     title: Text('\$\${widget.order.amount}'),  
28                     subtitle: Text(  
29                         DateFormat('dd/MM/yyyy hh:mm').format(widget.order.dateTime),  
30                     ), // Text  
31                     trailing: IconButton(  
32                         icon: Icon(_expanded ? Icons.expand_less : Icons.expand_more),  
33                         onPressed: () {  
34                             setState(() {  
35                                 _expanded = !_expanded;  
36                             });  
37                         },  
38                     ), // IconButton  
39                 ), // ListTile  
40                 if (_expanded)
```

widgets\order_item.dart





```
54         fontWeight: FontWeight.bold,
55     ), // TextStyle
56     ), // Text
57     Text(
58         '${prod.quantity}x \$${prod.price}',
59         style: TextStyle(
60             fontSize: 18,
61             color: Colors.grey,
62         ), // TextStyle
63     ), // Text
64     ], // <Widget>[]
65     ), // Row
66     )
67     .toList(),
68     ), // ListView
69     ) // Container
70     ], // <Widget>[]
71     ), // Column
72     ); // Card
73 }
74 }
75 }
```

widgets\order_item.dart

