

Flutter Fundamentals Scrollable ListView



Peter Kassenaar –
info@kassenaar.com



Using ListView

Using ListView as a scrollable widget. Build its children via a builder function

Showing all Countries in a `ListView()`



- We can now `query an API` and build a widget tree
- It is often convenient to use a `ListView builder` inside an `Expanded()`
- We're only fetching `name`, `capital` and `flag` from the API by using a `fields` string
 - RTFM!
 - Of course it would be better to create a `CountryModel` class

Listview

Flutter > widgets > ListView class

Search API Docs

CLASSES

AbsorbPointer
Accumulator
Action
ActionDispatcher
ActionListener
Actions
ActivateAction
ActivateIntent
Align
Alignment
AlignmentDirectional
AlignmentGeometry
AlignmentGeometryTween
AlignmentTween
AlignTransition
AlwaysScrollableScrollPh...
AlwaysStoppedAnimation
AndroidView
AndroidViewSurface
Animatable
AnimatedAlign

ListView class

A scrollable list of widgets arranged linearly.

ListView (Flutter Widget of the Week)

Later bekij... Delen

Widget of the Week
ListView

padding
physics
primary
restorationId
reverse
runtimeType
scrollDirection
semanticChildCount
shrinkWrap

METHODS
build
buildChildLayout
buildSlivers
buildViewport
createElement
debugDescribeChildr...
debugFillProperties
getDirection
noSuchMethod
toDiagnosticsNode
toString
toStringDeep

Flutter 1.22.5 • 2020-12-10 22:48 • 7891006299 • stable

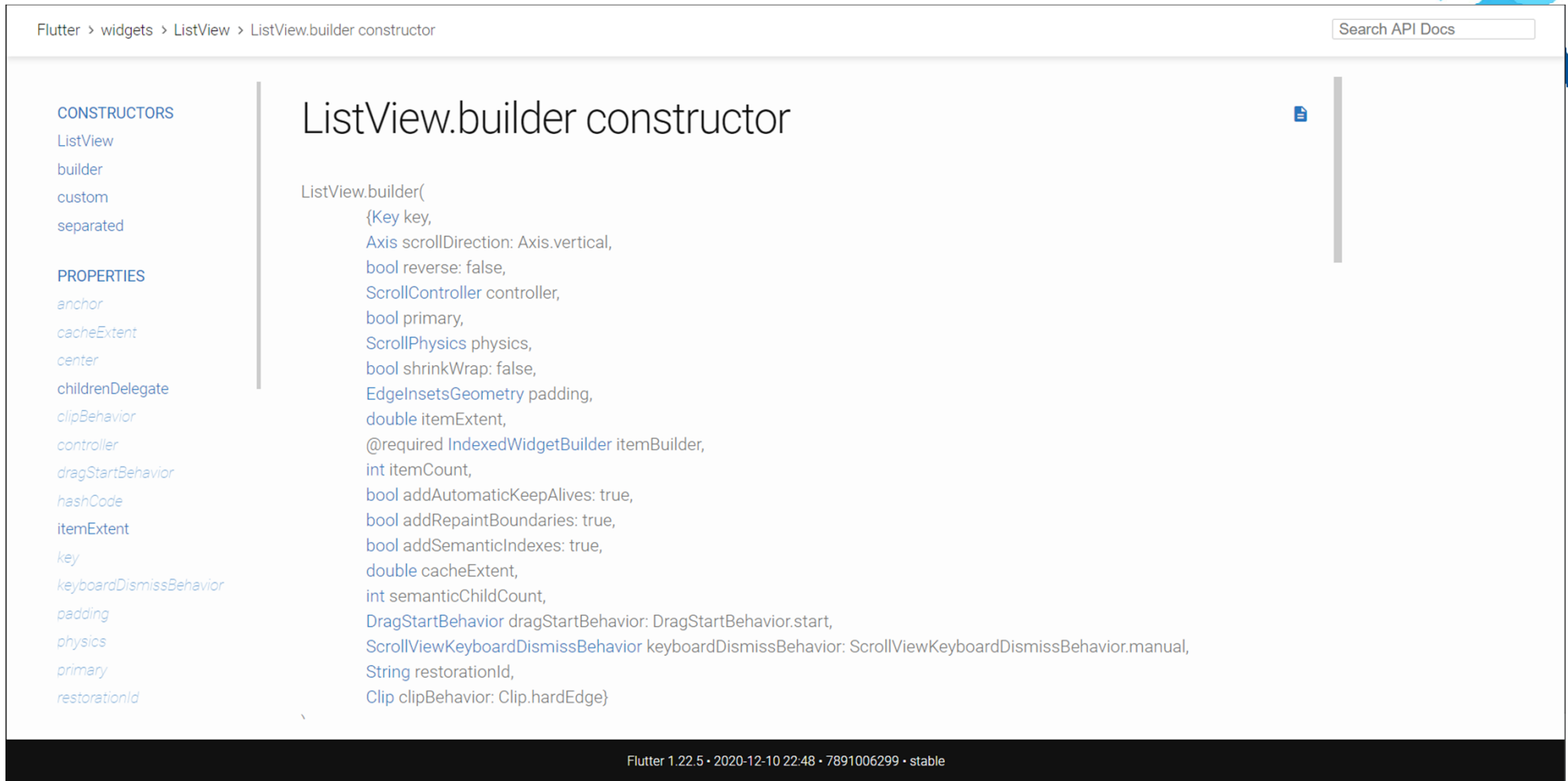
<https://api.flutter.dev/flutter/widgets/ListView-class.html>

On ListView



*“**ListView** is the most commonly used scrolling widget. It displays its children one after another in the scroll direction. In the cross axis, the children are required to fill the **ListView**”*

ListView.builder



The screenshot shows the Flutter API documentation for the `ListView.builder` constructor. The breadcrumb navigation at the top reads: Flutter > widgets > ListView > ListView.builder constructor. A search bar labeled "Search API Docs" is in the top right. On the left, a sidebar lists "CONSTRUCTORS" (ListView, builder, custom, separated) and "PROPERTIES" (anchor, cacheExtent, center, childrenDelegate, clipBehavior, controller, dragStartBehavior, hashCode, itemExtent, key, keyboardDismissBehavior, padding, physics, primary, restorationId). The main content area is titled "ListView.builder constructor" and displays the constructor signature: `ListView.builder({Key key, Axis scrollDirection: Axis.vertical, bool reverse: false, ScrollController controller, bool primary, ScrollPhysics physics, bool shrinkWrap: false, EdgeInsetsGeometry padding, double itemExtent, @required IndexedWidgetBuilder itemBuilder, int itemCount, bool addAutomaticKeepAlives: true, bool addRepaintBoundaries: true, bool addSemanticIndexes: true, double cacheExtent, int semanticChildCount, DragStartBehavior dragStartBehavior: DragStartBehavior.start, ScrollViewKeyboardDismissBehavior keyboardDismissBehavior: ScrollViewKeyboardDismissBehavior.manual, String restorationId, Clip clipBehavior: Clip.hardEdge})`. The bottom status bar indicates "Flutter 1.22.5 • 2020-12-10 22:48 • 7891006299 • stable".

Flutter > widgets > ListView > ListView.builder constructor

Search API Docs

ListView.builder constructor

`ListView.builder`(
 {Key key,
 Axis scrollDirection: Axis.vertical,
 bool reverse: false,
 ScrollController controller,
 bool primary,
 ScrollPhysics physics,
 bool shrinkWrap: false,
 EdgeInsetsGeometry padding,
 double itemExtent,
 @required IndexedWidgetBuilder itemBuilder,
 int itemCount,
 bool addAutomaticKeepAlives: true,
 bool addRepaintBoundaries: true,
 bool addSemanticIndexes: true,
 double cacheExtent,
 int semanticChildCount,
 DragStartBehavior dragStartBehavior: DragStartBehavior.start,
 ScrollViewKeyboardDismissBehavior keyboardDismissBehavior: ScrollViewKeyboardDismissBehavior.manual,
 String restorationId,
 Clip clipBehavior: Clip.hardEdge}

Flutter 1.22.5 • 2020-12-10 22:48 • 7891006299 • stable

<https://api.flutter.dev/flutter/widgets/ListView/ListView.builder.html>

On ListView.builder



“The `ListView.builder` constructor takes an `IndexedWidgetBuilder`, which builds the children on demand.

This constructor is appropriate for list views with a large number of children because the builder is called only for those children that are actually visible”

Starting the body

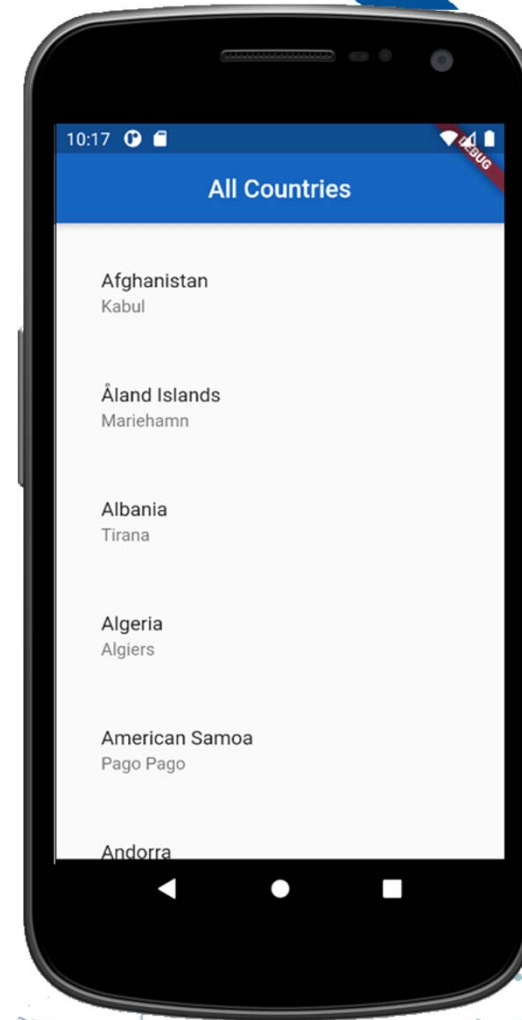


```
body: Column(  
  children: [  
    Expanded(  
      child: ListView.builder(  
        itemCount: countries.length,  
        padding: EdgeInsets.all(10.0),  
        // The function to build the items in the ListView  
        itemBuilder: (BuildContext context, int index) {  
          return ...;  
        })  
    ),  
  ],  
)
```

Now build the `itemBuilder` function, which should return a [widget tree](#) showing the country details as retrieved.

Result

```
body: Column(  
  children: [  
    Expanded(  
      child: ListView.builder(  
        itemCount: countries.length,  
        padding: EdgeInsets.all(10),  
        // The function to build the items in the ListView  
        itemBuilder: (BuildContext context, int index) {  
          return Padding(  
            padding: EdgeInsets.all(10.0),  
            child: Column(  
              children: <Widget>[  
                ListTile(  
                  title: Text(countries[index]['name']),  
                  subtitle: Text(countries[index]['capital']),  
                ),  
              ],  
            ),  
          ),  
        ],  
      ),  
    ),  
  ],  
),
```



When using svg-images from the result:



- Flutter can't handle svg-images (flags) by default
- *"there's a package for that" !*
- Add `flutter_svg: ^0.19.1` to `pubspec.yaml`
- `Pub get` / `Get dependencies`

```
dependencies:  
  flutter:  
    sdk: flutter  
  http: ^0.12.2  
  flutter_svg: ^0.19.1
```

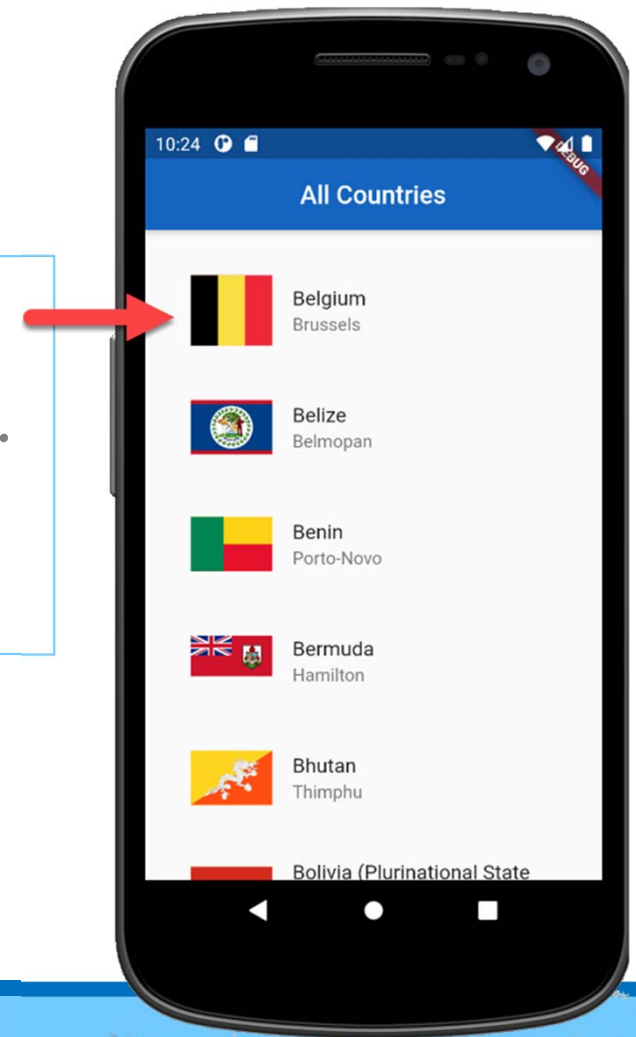
https://pub.dev/packages/flutter_svg

Import and use the svg package



- Extend the `ListTile()` widget with a `leading` property
 - (Invalid svg's might throw an error)

```
leading: SvgPicture.network(  
  // using a 3rd party package here,  
  // as Flutter can't handle .svg-images (yet?).  
  countries[index]['flag'],  
  width: 64,  
),
```



Workshop



- Get (fake) user data from <https://jsonplaceholder.typicode.com/users>
- Display it in a ListView in your applications
 - Name
 - Email
 - Address
- Use:
 - `http` package
 - `convert` package
 - Async functions
 - `ListView.builder()`

