Flutter resumen documentación

# layout widgets

# single child layout widgets

## align

A widget that aligns its child within itself and optionally sizes itself based on the child's size.

For example, to align a box at the bottom right, you would pass this box a tight constraint that is bigger than the child's natural size, with an alignment of [Alignment.bottomRight](https://api.flutter.dev/flutter/painting/Alignment/bottomRight-constant.html).

This widget will be as big as possible if its dimensions are constrained and [widthFactor](https://api.flutter.dev/flutter/widgets/Align/widthFactor.html) and [heightFactor](https://api.flutter.dev/flutter/widgets/Align/heightFactor.html) are null. If a dimension is unconstrained and the corresponding size factor is null then the widget will match its child's size in that dimension. If a size factor is non-null then the corresponding dimension of this widget will be the product of the child's dimension and the size factor. For example if widthFactor is 2.0 then the width of this widget will always be twice its child's width.

The [alignment](https://api.flutter.dev/flutter/widgets/Align/alignment.html) property describes a point in the child's coordinate system and a different point in the coordinate system of this widget. The [Align](https://api.flutter.dev/flutter/widgets/Align-class.html) widget positions the child such that both points are lined up on top of each other.

### Constructors

[Align](https://api.flutter.dev/flutter/widgets/Align/Align.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html) alignment = Alignment.center, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? widthFactor, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? heightFactor, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates an alignment widget.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/Align/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the child.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[heightFactor](https://api.flutter.dev/flutter/widgets/Align/heightFactor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, sets its height to the child's height multiplied by this factor.

final

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[widthFactor](https://api.flutter.dev/flutter/widgets/Align/widthFactor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, sets its width to the child's width multiplied by this factor.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Align/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderPositionedBox](https://api.flutter.dev/flutter/rendering/RenderPositionedBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Align/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Align/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Align/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderPositionedBox](https://api.flutter.dev/flutter/rendering/RenderPositionedBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Align/createRenderObject.html).

override

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## aspect ratio

A widget that attempts to size the child to a specific aspect ratio.

The aspect ratio is expressed as a ratio of width to height. For example, a 16:9 width:height aspect ratio would have a value of 16.0/9.0.

The [AspectRatio](https://api.flutter.dev/flutter/widgets/AspectRatio-class.html) widget uses a finite iterative process to compute the appropriate constraints for the child, and then lays the child out a single time with those constraints. This iterative process is efficient and does not require multiple layout passes.

The widget first tries the largest width permitted by the layout constraints, and determines the height of the widget by applying the given aspect ratio to the width, expressed as a ratio of width to height.

If the maximum width is infinite, the initial width is determined by applying the aspect ratio to the maximum height instead.

The widget then examines if the computed dimensions are compatible with the parent's constraints; if not, the dimensions are recomputed a second time, taking those constraints into account.

If the widget does not find a feasible size after consulting each constraint, the widget will eventually select a size for the child that meets the layout constraints but fails to meet the aspect ratio constraints.

### Setting the aspect ratio in unconstrained situations

When using a widget such as [FittedBox](https://api.flutter.dev/flutter/widgets/FittedBox-class.html), the constraints are unbounded. This results in [AspectRatio](https://api.flutter.dev/flutter/widgets/AspectRatio-class.html) being unable to find a suitable set of constraints to apply. In that situation, consider explicitly setting a size using [SizedBox](https://api.flutter.dev/flutter/widgets/SizedBox-class.html) instead of setting the aspect ratio using [AspectRatio](https://api.flutter.dev/flutter/widgets/AspectRatio-class.html). The size is then scaled appropriately by the [FittedBox](https://api.flutter.dev/flutter/widgets/FittedBox-class.html).

### Constructors

[AspectRatio](https://api.flutter.dev/flutter/widgets/AspectRatio/AspectRatio.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [double](https://api.flutter.dev/flutter/dart-core/double-class.html) aspectRatio, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget with a specific aspect ratio.

const

### Properties

[aspectRatio](https://api.flutter.dev/flutter/widgets/AspectRatio/aspectRatio.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

The aspect ratio to attempt to use.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/AspectRatio/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderAspectRatio](https://api.flutter.dev/flutter/rendering/RenderAspectRatio-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/AspectRatio/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/AspectRatio/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/AspectRatio/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderAspectRatio](https://api.flutter.dev/flutter/rendering/RenderAspectRatio-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/AspectRatio/createRenderObject.html).

override

## baseline

A widget that positions its child according to the child's baseline.

This widget shifts the child down such that the child's baseline (or the bottom of the child, if the child has no baseline) is [baseline](https://api.flutter.dev/flutter/widgets/Baseline/baseline.html) logical pixels below the top of this box, then sizes this box to contain the child. If [baseline](https://api.flutter.dev/flutter/widgets/Baseline/baseline.html) is less than the distance from the top of the child to the baseline of the child, then the child is top-aligned instead.

### Constructors

[Baseline](https://api.flutter.dev/flutter/widgets/Baseline/Baseline.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [double](https://api.flutter.dev/flutter/dart-core/double-class.html) baseline, required [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html) baselineType, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that positions its child according to the child's baseline.

const

### Properties

[baseline](https://api.flutter.dev/flutter/widgets/Baseline/baseline.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

The number of logical pixels from the top of this box at which to position the child's baseline.

final

[baselineType](https://api.flutter.dev/flutter/widgets/Baseline/baselineType.html) → [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html)

The type of baseline to use for positioning the child.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Baseline/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderBaseline](https://api.flutter.dev/flutter/rendering/RenderBaseline-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Baseline/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Baseline/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderBaseline](https://api.flutter.dev/flutter/rendering/RenderBaseline-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Baseline/createRenderObject.html).

override

## center

A widget that centers its child within itself.

This widget will be as big as possible if its dimensions are constrained and [widthFactor](https://api.flutter.dev/flutter/widgets/Align/widthFactor.html) and [heightFactor](https://api.flutter.dev/flutter/widgets/Align/heightFactor.html) are null. If a dimension is unconstrained and the corresponding size factor is null then the widget will match its child's size in that dimension. If a size factor is non-null then the corresponding dimension of this widget will be the product of the child's dimension and the size factor. For example if widthFactor is 2.0 then the width of this widget will always be twice its child's width.

### Constructors

[Center](https://api.flutter.dev/flutter/widgets/Center/Center.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? widthFactor, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? heightFactor, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that centers its child.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/Align/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the child.

finalinherited

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[heightFactor](https://api.flutter.dev/flutter/widgets/Align/heightFactor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, sets its height to the child's height multiplied by this factor.

finalinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[widthFactor](https://api.flutter.dev/flutter/widgets/Align/widthFactor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, sets its width to the child's width multiplied by this factor.

finalinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Align/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderPositionedBox](https://api.flutter.dev/flutter/rendering/RenderPositionedBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Align/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Align/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Align/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderPositionedBox](https://api.flutter.dev/flutter/rendering/RenderPositionedBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Align/createRenderObject.html).

inherited

## constrained box

A widget that imposes additional constraints on its child.

For example, if you wanted [child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) to have a minimum height of 50.0 logical pixels, you could use const BoxConstraints(minHeight: 50.0) as the [constraints](https://api.flutter.dev/flutter/widgets/ConstrainedBox/constraints.html).

### Constructors

[ConstrainedBox](https://api.flutter.dev/flutter/widgets/ConstrainedBox/ConstrainedBox.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [BoxConstraints](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html) constraints, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that imposes additional constraints on its child.

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[constraints](https://api.flutter.dev/flutter/widgets/ConstrainedBox/constraints.html) → [BoxConstraints](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html)

The additional constraints to impose on the child.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/ConstrainedBox/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderConstrainedBox](https://api.flutter.dev/flutter/rendering/RenderConstrainedBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/ConstrainedBox/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/ConstrainedBox/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/ConstrainedBox/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderConstrainedBox](https://api.flutter.dev/flutter/rendering/RenderConstrainedBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/ConstrainedBox/createRenderObject.html).

override

## container

A convenience widget that combines common painting, positioning, and sizing widgets.

A container first surrounds the child with [padding](https://api.flutter.dev/flutter/widgets/Container/padding.html) (inflated by any borders present in the [decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html)) and then applies additional [constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html) to the padded extent (incorporating the width and height as constraints, if either is non-null). The container is then surrounded by additional empty space described from the [margin](https://api.flutter.dev/flutter/widgets/Container/margin.html).

During painting, the container first applies the given [transform](https://api.flutter.dev/flutter/widgets/Container/transform.html), then paints the [decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html) to fill the padded extent, then it paints the child, and finally paints the [foregroundDecoration](https://api.flutter.dev/flutter/widgets/Container/foregroundDecoration.html), also filling the padded extent.

Containers with no children try to be as big as possible unless the incoming constraints are unbounded, in which case they try to be as small as possible. Containers with children size themselves to their children. The width, height, and [constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html) arguments to the constructor override this.

By default, containers return false for all hit tests. If the [color](https://api.flutter.dev/flutter/widgets/Container/color.html) property is specified, the hit testing is handled by [ColoredBox](https://api.flutter.dev/flutter/widgets/ColoredBox-class.html), which always returns true. If the [decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html) or [foregroundDecoration](https://api.flutter.dev/flutter/widgets/Container/foregroundDecoration.html) properties are specified, hit testing is handled by [Decoration.hitTest](https://api.flutter.dev/flutter/painting/Decoration/hitTest.html).

### Layout behavior

See [*BoxConstraints*](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html) for an introduction to box layout models.

Since [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) combines a number of other widgets each with their own layout behavior, [Container](https://api.flutter.dev/flutter/widgets/Container-class.html)'s layout behavior is somewhat complicated.

Summary: [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) tries, in order: to honor [alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html), to size itself to the [child](https://api.flutter.dev/flutter/widgets/Container/child.html), to honor the width, height, and [constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html), to expand to fit the parent, to be as small as possible.

More specifically:

If the widget has no child, no height, no width, no [constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html), and the parent provides unbounded constraints, then [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) tries to size as small as possible.

If the widget has no child and no [alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html), but a height, width, or [constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html) are provided, then the [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) tries to be as small as possible given the combination of those constraints and the parent's constraints.

If the widget has no child, no height, no width, no [constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html), and no [alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html), but the parent provides bounded constraints, then [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) expands to fit the constraints provided by the parent.

If the widget has an [alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html), and the parent provides unbounded constraints, then the [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) tries to size itself around the child.

If the widget has an [alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html), and the parent provides bounded constraints, then the [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) tries to expand to fit the parent, and then positions the child within itself as per the [alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html).

Otherwise, the widget has a [child](https://api.flutter.dev/flutter/widgets/Container/child.html) but no height, no width, no [constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html), and no [alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html), and the [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) passes the constraints from the parent to the child and sizes itself to match the child.

The [margin](https://api.flutter.dev/flutter/widgets/Container/margin.html) and [padding](https://api.flutter.dev/flutter/widgets/Container/padding.html) properties also affect the layout, as described in the documentation for those properties. (Their effects merely augment the rules described above.) The [decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html) can implicitly increase the [padding](https://api.flutter.dev/flutter/widgets/Container/padding.html) (e.g. borders in a [BoxDecoration](https://api.flutter.dev/flutter/painting/BoxDecoration-class.html) contribute to the [padding](https://api.flutter.dev/flutter/widgets/Container/padding.html)); see [Decoration.padding](https://api.flutter.dev/flutter/painting/Decoration/padding.html).

### Constructors

[Container](https://api.flutter.dev/flutter/widgets/Container/Container.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)? alignment, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, [Color](https://api.flutter.dev/flutter/dart-ui/Color-class.html)? color, [Decoration](https://api.flutter.dev/flutter/painting/Decoration-class.html)? decoration, [Decoration](https://api.flutter.dev/flutter/painting/Decoration-class.html)? foregroundDecoration, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? width, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? height, [BoxConstraints](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html)? constraints, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? margin, [Matrix4](https://api.flutter.dev/flutter/vector_math_64/Matrix4-class.html)? transform, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)? transformAlignment, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.none})

Creates a widget that combines common painting, positioning, and sizing widgets.

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/Container/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)?

Align the [child](https://api.flutter.dev/flutter/widgets/Container/child.html) within the container.

final

[child](https://api.flutter.dev/flutter/widgets/Container/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The [child](https://api.flutter.dev/flutter/widgets/Container/child.html) contained by the container.

final

[clipBehavior](https://api.flutter.dev/flutter/widgets/Container/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The clip behavior when [Container.decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html) is not null.

final

[color](https://api.flutter.dev/flutter/widgets/Container/color.html) → [Color](https://api.flutter.dev/flutter/dart-ui/Color-class.html)?

The color to paint behind the [child](https://api.flutter.dev/flutter/widgets/Container/child.html).

final

[constraints](https://api.flutter.dev/flutter/widgets/Container/constraints.html) → [BoxConstraints](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html)?

Additional constraints to apply to the child.

final

[decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html) → [Decoration](https://api.flutter.dev/flutter/painting/Decoration-class.html)?

The decoration to paint behind the [child](https://api.flutter.dev/flutter/widgets/Container/child.html).

final

[foregroundDecoration](https://api.flutter.dev/flutter/widgets/Container/foregroundDecoration.html) → [Decoration](https://api.flutter.dev/flutter/painting/Decoration-class.html)?

The decoration to paint in front of the [child](https://api.flutter.dev/flutter/widgets/Container/child.html).

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[margin](https://api.flutter.dev/flutter/widgets/Container/margin.html) → [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)?

Empty space to surround the [decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html) and [child](https://api.flutter.dev/flutter/widgets/Container/child.html).

final

[padding](https://api.flutter.dev/flutter/widgets/Container/padding.html) → [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)?

Empty space to inscribe inside the [decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html). The [child](https://api.flutter.dev/flutter/widgets/Container/child.html), if any, is placed inside this padding.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[transform](https://api.flutter.dev/flutter/widgets/Container/transform.html) → [Matrix4](https://api.flutter.dev/flutter/vector_math_64/Matrix4-class.html)?

The transformation matrix to apply before painting the container.

final

[transformAlignment](https://api.flutter.dev/flutter/widgets/Container/transformAlignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)?

The alignment of the origin, relative to the size of the container, if [transform](https://api.flutter.dev/flutter/widgets/Container/transform.html) is specified.

final

### Methods

[build](https://api.flutter.dev/flutter/widgets/Container/build.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Describes the part of the user interface represented by this widget.

override

[createElement](https://api.flutter.dev/flutter/widgets/StatelessWidget/createElement.html)() → [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html)

Creates a [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html) to manage this widget's location in the tree.

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Container/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## custom single child layout

A widget that defers the layout of its single child to a delegate.

The delegate can determine the layout constraints for the child and can decide where to position the child. The delegate can also determine the size of the parent, but the size of the parent cannot depend on the size of the child.

### Constructors

[CustomSingleChildLayout](https://api.flutter.dev/flutter/widgets/CustomSingleChildLayout/CustomSingleChildLayout.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [SingleChildLayoutDelegate](https://api.flutter.dev/flutter/rendering/SingleChildLayoutDelegate-class.html) delegate, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a custom single child layout.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[delegate](https://api.flutter.dev/flutter/widgets/CustomSingleChildLayout/delegate.html) → [SingleChildLayoutDelegate](https://api.flutter.dev/flutter/rendering/SingleChildLayoutDelegate-class.html)

The delegate that controls the layout of the child.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/CustomSingleChildLayout/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderCustomSingleChildLayoutBox](https://api.flutter.dev/flutter/rendering/RenderCustomSingleChildLayoutBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/CustomSingleChildLayout/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/CustomSingleChildLayout/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderCustomSingleChildLayoutBox](https://api.flutter.dev/flutter/rendering/RenderCustomSingleChildLayoutBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/CustomSingleChildLayout/createRenderObject.html).

override

## expanded

A widget that expands a child of a [Row](https://api.flutter.dev/flutter/widgets/Row-class.html), [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), or [Flex](https://api.flutter.dev/flutter/widgets/Flex-class.html) so that the child fills the available space.

Using an [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) widget makes a child of a [Row](https://api.flutter.dev/flutter/widgets/Row-class.html), [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), or [Flex](https://api.flutter.dev/flutter/widgets/Flex-class.html) expand to fill the available space along the main axis (e.g., horizontally for a [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) or vertically for a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html)). If multiple children are expanded, the available space is divided among them according to the [flex](https://api.flutter.dev/flutter/widgets/Flexible/flex.html) factor.

An [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) widget must be a descendant of a [Row](https://api.flutter.dev/flutter/widgets/Row-class.html), [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), or [Flex](https://api.flutter.dev/flutter/widgets/Flex-class.html), and the path from the [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) widget to its enclosing [Row](https://api.flutter.dev/flutter/widgets/Row-class.html), [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), or [Flex](https://api.flutter.dev/flutter/widgets/Flex-class.html) must contain only [StatelessWidget](https://api.flutter.dev/flutter/widgets/StatelessWidget-class.html)s or [StatefulWidget](https://api.flutter.dev/flutter/widgets/StatefulWidget-class.html)s (not other kinds of widgets, like [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html)s).

### Constructors

[Expanded](https://api.flutter.dev/flutter/widgets/Expanded/Expanded.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [int](https://api.flutter.dev/flutter/dart-core/int-class.html) flex = 1, required [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html) child})

Creates a widget that expands a child of a [Row](https://api.flutter.dev/flutter/widgets/Row-class.html), [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), or [Flex](https://api.flutter.dev/flutter/widgets/Flex-class.html) so that the child fills the available space along the flex widget's main axis.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/ProxyWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

The widget below this widget in the tree.

finalinherited

[debugTypicalAncestorWidgetClass](https://api.flutter.dev/flutter/widgets/Flexible/debugTypicalAncestorWidgetClass.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

Describes the [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) that is typically used to set up the [ParentData](https://api.flutter.dev/flutter/rendering/ParentData-class.html) that [applyParentData](https://api.flutter.dev/flutter/widgets/Flexible/applyParentData.html) will write to.

read-onlyinherited

[debugTypicalAncestorWidgetDescription](https://api.flutter.dev/flutter/widgets/ParentDataWidget/debugTypicalAncestorWidgetDescription.html) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Describes the [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) that is typically used to set up the [ParentData](https://api.flutter.dev/flutter/rendering/ParentData-class.html) that [applyParentData](https://api.flutter.dev/flutter/widgets/Flexible/applyParentData.html) will write to.

read-onlyinherited

[fit](https://api.flutter.dev/flutter/widgets/Flexible/fit.html) → [FlexFit](https://api.flutter.dev/flutter/rendering/FlexFit.html)

How a flexible child is inscribed into the available space.

finalinherited

[flex](https://api.flutter.dev/flutter/widgets/Flexible/flex.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The flex factor to use for this child.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[applyParentData](https://api.flutter.dev/flutter/widgets/Flexible/applyParentData.html)([RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

Write the data from this widget into the given render object's parent data.

inherited

[createElement](https://api.flutter.dev/flutter/widgets/ParentDataWidget/createElement.html)() → [ParentDataElement](https://api.flutter.dev/flutter/widgets/ParentDataElement-class.html)<[FlexParentData](https://api.flutter.dev/flutter/rendering/FlexParentData-class.html)>

Inflates this configuration to a concrete instance.

inherited

[debugCanApplyOutOfTurn](https://api.flutter.dev/flutter/widgets/ParentDataWidget/debugCanApplyOutOfTurn.html)() → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether the [ParentDataElement.applyWidgetOutOfTurn](https://api.flutter.dev/flutter/widgets/ParentDataElement/applyWidgetOutOfTurn.html) method is allowed with this widget.

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Flexible/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[debugIsValidRenderObject](https://api.flutter.dev/flutter/widgets/ParentDataWidget/debugIsValidRenderObject.html)([RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Checks if this widget can apply its parent data to the provided renderObject.

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

## fitted box

Scales and positions its child within itself according to [fit](https://api.flutter.dev/flutter/widgets/FittedBox/fit.html).

### Constructors

[FittedBox](https://api.flutter.dev/flutter/widgets/FittedBox/FittedBox.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [BoxFit](https://api.flutter.dev/flutter/painting/BoxFit.html) fit = BoxFit.contain, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html) alignment = Alignment.center, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.none, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that scales and positions its child within itself according to [fit](https://api.flutter.dev/flutter/widgets/FittedBox/fit.html).

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/FittedBox/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the child within its parent's bounds.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[clipBehavior](https://api.flutter.dev/flutter/widgets/FittedBox/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

final

[fit](https://api.flutter.dev/flutter/widgets/FittedBox/fit.html) → [BoxFit](https://api.flutter.dev/flutter/painting/BoxFit.html)

How to inscribe the child into the space allocated during layout.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/FittedBox/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderFittedBox](https://api.flutter.dev/flutter/rendering/RenderFittedBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/FittedBox/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/FittedBox/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/FittedBox/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderFittedBox](https://api.flutter.dev/flutter/rendering/RenderFittedBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/FittedBox/createRenderObject.html).

override

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## fractionally sized box

A widget that sizes its child to a fraction of the total available space. For more details about the layout algorithm, see [RenderFractionallySizedOverflowBox](https://api.flutter.dev/flutter/rendering/RenderFractionallySizedOverflowBox-class.html).

### Constructors

[FractionallySizedBox](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/FractionallySizedBox.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html) alignment = Alignment.center, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? widthFactor, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? heightFactor, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that sizes its child to a fraction of the total available space.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the child.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[heightFactor](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/heightFactor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, the fraction of the incoming height given to the child.

final

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[widthFactor](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/widthFactor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, the fraction of the incoming width given to the child.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderFractionallySizedOverflowBox](https://api.flutter.dev/flutter/rendering/RenderFractionallySizedOverflowBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderFractionallySizedOverflowBox](https://api.flutter.dev/flutter/rendering/RenderFractionallySizedOverflowBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/FractionallySizedBox/createRenderObject.html).

override

## intrinsic height

A widget that sizes its child to the child's intrinsic height.

This class is useful, for example, when unlimited height is available and you would like a child that would otherwise attempt to expand infinitely to instead size itself to a more reasonable height.

The constraints that this widget passes to its child will adhere to the parent's constraints, so if the constraints are not large enough to satisfy the child's maximum intrinsic height, then the child will get less height than it otherwise would. Likewise, if the minimum height constraint is larger than the child's maximum intrinsic height, the child will be given more height than it otherwise would.

This class is relatively expensive, because it adds a speculative layout pass before the final layout phase. Avoid using it where possible. In the worst case, this widget can result in a layout that is O(N²) in the depth of the tree.

### Constructors

[IntrinsicHeight](https://api.flutter.dev/flutter/widgets/IntrinsicHeight/IntrinsicHeight.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that sizes its child to the child's intrinsic height.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/IntrinsicHeight/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderIntrinsicHeight](https://api.flutter.dev/flutter/rendering/RenderIntrinsicHeight-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/IntrinsicHeight/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/IntrinsicHeight/createRenderObject.html).

inherited

## intrinsic width

A widget that sizes its child to the child's maximum intrinsic width.

This class is useful, for example, when unlimited width is available and you would like a child that would otherwise attempt to expand infinitely to instead size itself to a more reasonable width.

The constraints that this widget passes to its child will adhere to the parent's constraints, so if the constraints are not large enough to satisfy the child's maximum intrinsic width, then the child will get less width than it otherwise would. Likewise, if the minimum width constraint is larger than the child's maximum intrinsic width, the child will be given more width than it otherwise would.

If [stepWidth](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/stepWidth.html) is non-null, the child's width will be snapped to a multiple of the [stepWidth](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/stepWidth.html). Similarly, if [stepHeight](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/stepHeight.html) is non-null, the child's height will be snapped to a multiple of the [stepHeight](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/stepHeight.html).

This class is relatively expensive, because it adds a speculative layout pass before the final layout phase. Avoid using it where possible. In the worst case, this widget can result in a layout that is O(N²) in the depth of the tree.

### Constructors

[IntrinsicWidth](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/IntrinsicWidth.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? stepWidth, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? stepHeight, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that sizes its child to the child's intrinsic width.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[stepHeight](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/stepHeight.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, force the child's height to be a multiple of this value.

final

[stepWidth](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/stepWidth.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, force the child's width to be a multiple of this value.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderIntrinsicWidth](https://api.flutter.dev/flutter/rendering/RenderIntrinsicWidth-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderIntrinsicWidth](https://api.flutter.dev/flutter/rendering/RenderIntrinsicWidth-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/IntrinsicWidth/createRenderObject.html).

override

## limited box

A box that limits its size only when it's unconstrained.

If this widget's maximum width is unconstrained then its child's width is limited to [maxWidth](https://api.flutter.dev/flutter/widgets/LimitedBox/maxWidth.html). Similarly, if this widget's maximum height is unconstrained then its child's height is limited to [maxHeight](https://api.flutter.dev/flutter/widgets/LimitedBox/maxHeight.html).

This has the effect of giving the child a natural dimension in unbounded environments. For example, by providing a [maxHeight](https://api.flutter.dev/flutter/widgets/LimitedBox/maxHeight.html) to a widget that normally tries to be as big as possible, the widget will normally size itself to fit its parent, but when placed in a vertical list, it will take on the given height.

This is useful when composing widgets that normally try to match their parents' size, so that they behave reasonably in lists (which are unbounded).

### Constructors

[LimitedBox](https://api.flutter.dev/flutter/widgets/LimitedBox/LimitedBox.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) maxWidth = double.infinity, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) maxHeight = double.infinity, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a box that limits its size only when it's unconstrained.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[maxHeight](https://api.flutter.dev/flutter/widgets/LimitedBox/maxHeight.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

The maximum height limit to apply in the absence of a [BoxConstraints.maxHeight](https://api.flutter.dev/flutter/rendering/BoxConstraints/maxHeight.html) constraint.

final

[maxWidth](https://api.flutter.dev/flutter/widgets/LimitedBox/maxWidth.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

The maximum width limit to apply in the absence of a [BoxConstraints.maxWidth](https://api.flutter.dev/flutter/rendering/BoxConstraints/maxWidth.html) constraint.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/LimitedBox/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderLimitedBox](https://api.flutter.dev/flutter/rendering/RenderLimitedBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/LimitedBox/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/LimitedBox/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/LimitedBox/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderLimitedBox](https://api.flutter.dev/flutter/rendering/RenderLimitedBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/LimitedBox/createRenderObject.html).

## offstage

A widget that lays the child out as if it was in the tree, but without painting anything, without making the child available for hit testing, and without taking any room in the parent.

Offstage children are still active: they can receive focus and have keyboard input directed to them.

Animations continue to run in offstage children, and therefore use battery and CPU time, regardless of whether the animations end up being visible.

[Offstage](https://api.flutter.dev/flutter/widgets/Offstage-class.html) can be used to measure the dimensions of a widget without bringing it on screen (yet). To hide a widget from view while it is not needed, prefer removing the widget from the tree entirely rather than keeping it alive in an [Offstage](https://api.flutter.dev/flutter/widgets/Offstage-class.html) subtree.

### Constructors

[Offstage](https://api.flutter.dev/flutter/widgets/Offstage/Offstage.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) offstage = true, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that visually hides its child.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[offstage](https://api.flutter.dev/flutter/widgets/Offstage/offstage.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether the child is hidden from the rest of the tree.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/Offstage/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

override

[createRenderObject](https://api.flutter.dev/flutter/widgets/Offstage/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderOffstage](https://api.flutter.dev/flutter/rendering/RenderOffstage-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Offstage/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Offstage/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Offstage/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderOffstage](https://api.flutter.dev/flutter/rendering/RenderOffstage-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Offstage/createRenderObject.html).

override

## overflow box

A widget that imposes different constraints on its child than it gets from its parent, possibly allowing the child to overflow the parent.

### Constructors

[OverflowBox](https://api.flutter.dev/flutter/widgets/OverflowBox/OverflowBox.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html) alignment = Alignment.center, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? minWidth, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? maxWidth, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? minHeight, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? maxHeight, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that lets its child overflow itself.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/OverflowBox/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the child.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[maxHeight](https://api.flutter.dev/flutter/widgets/OverflowBox/maxHeight.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

The maximum height constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

final

[maxWidth](https://api.flutter.dev/flutter/widgets/OverflowBox/maxWidth.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

The maximum width constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

final

[minHeight](https://api.flutter.dev/flutter/widgets/OverflowBox/minHeight.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

The minimum height constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

final

[minWidth](https://api.flutter.dev/flutter/widgets/OverflowBox/minWidth.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

The minimum width constraint to give the child. Set this to null (the default) to use the constraint from the parent instead.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/OverflowBox/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderConstrainedOverflowBox](https://api.flutter.dev/flutter/rendering/RenderConstrainedOverflowBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/OverflowBox/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/OverflowBox/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/OverflowBox/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderConstrainedOverflowBox](https://api.flutter.dev/flutter/rendering/RenderConstrainedOverflowBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/OverflowBox/createRenderObject.html).

override

## padding

A widget that insets its child by the given padding.

When passing layout constraints to its child, padding shrinks the constraints by the given padding, causing the child to layout at a smaller size. Padding then sizes itself to its child's size, inflated by the padding, effectively creating empty space around the child.

### Why use a [Padding](https://api.flutter.dev/flutter/widgets/Padding-class.html) widget rather than a [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) with a [Container.padding](https://api.flutter.dev/flutter/widgets/Container/padding.html) property?

There isn't really any difference between the two. If you supply a [Container.padding](https://api.flutter.dev/flutter/widgets/Container/padding.html) argument, [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) builds a [Padding](https://api.flutter.dev/flutter/widgets/Padding-class.html) widget for you.

[Container](https://api.flutter.dev/flutter/widgets/Container-class.html) doesn't implement its properties directly. Instead, [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) combines a number of simpler widgets together into a convenient package. For example, the [Container.padding](https://api.flutter.dev/flutter/widgets/Container/padding.html) property causes the container to build a [Padding](https://api.flutter.dev/flutter/widgets/Padding-class.html) widget and the [Container.decoration](https://api.flutter.dev/flutter/widgets/Container/decoration.html) property causes the container to build a [DecoratedBox](https://api.flutter.dev/flutter/widgets/DecoratedBox-class.html) widget. If you find [Container](https://api.flutter.dev/flutter/widgets/Container-class.html) convenient, feel free to use it. If not, feel free to build these simpler widgets in whatever combination meets your needs.

In fact, the majority of widgets in Flutter are combinations of other simpler widgets. Composition, rather than inheritance, is the primary mechanism for building up widgets.

### Constructors

[Padding](https://api.flutter.dev/flutter/widgets/Padding/Padding.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html) padding, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that insets its child.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[padding](https://api.flutter.dev/flutter/widgets/Padding/padding.html) → [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)

The amount of space by which to inset the child.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Padding/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderPadding](https://api.flutter.dev/flutter/rendering/RenderPadding-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Padding/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Padding/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Padding/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderPadding](https://api.flutter.dev/flutter/rendering/RenderPadding-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Padding/createRenderObject.html).

override

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## sized box

A box with a specified size.

If given a child, this widget forces it to have a specific width and/or height. These values will be ignored if this widget's parent does not permit them. For example, this happens if the parent is the screen (forces the child to be the same size as the parent), or another [SizedBox](https://api.flutter.dev/flutter/widgets/SizedBox-class.html) (forces its child to have a specific width and/or height). This can be remedied by wrapping the child [SizedBox](https://api.flutter.dev/flutter/widgets/SizedBox-class.html) in a widget that does permit it to be any size up to the size of the parent, such as [Center](https://api.flutter.dev/flutter/widgets/Center-class.html) or [Align](https://api.flutter.dev/flutter/widgets/Align-class.html).

If either the width or height is null, this widget will try to size itself to match the child's size in that dimension. If the child's size depends on the size of its parent, the height and width must be provided.

If not given a child, [SizedBox](https://api.flutter.dev/flutter/widgets/SizedBox-class.html) will try to size itself as close to the specified height and width as possible given the parent's constraints. If [height](https://api.flutter.dev/flutter/widgets/SizedBox/height.html) or [width](https://api.flutter.dev/flutter/widgets/SizedBox/width.html) is null or unspecified, it will be treated as zero.

The [SizedBox.expand](https://api.flutter.dev/flutter/widgets/SizedBox/SizedBox.expand.html) constructor can be used to make a [SizedBox](https://api.flutter.dev/flutter/widgets/SizedBox-class.html) that sizes itself to fit the parent. It is equivalent to setting [width](https://api.flutter.dev/flutter/widgets/SizedBox/width.html) and [height](https://api.flutter.dev/flutter/widgets/SizedBox/height.html) to [double.infinity](https://api.flutter.dev/flutter/dart-core/double/infinity-constant.html).

### Constructors

[SizedBox](https://api.flutter.dev/flutter/widgets/SizedBox/SizedBox.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? width, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? height, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a fixed size box. The [width](https://api.flutter.dev/flutter/widgets/SizedBox/width.html) and [height](https://api.flutter.dev/flutter/widgets/SizedBox/height.html) parameters can be null to indicate that the size of the box should not be constrained in the corresponding dimension.

const

[SizedBox.expand](https://api.flutter.dev/flutter/widgets/SizedBox/SizedBox.expand.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a box that will become as large as its parent allows.

const

[SizedBox.fromSize](https://api.flutter.dev/flutter/widgets/SizedBox/SizedBox.fromSize.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child, [Size](https://api.flutter.dev/flutter/dart-ui/Size-class.html)? size})

Creates a box with the specified size.

[SizedBox.shrink](https://api.flutter.dev/flutter/widgets/SizedBox/SizedBox.shrink.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a box that will become as small as its parent allows.

const

[SizedBox.square](https://api.flutter.dev/flutter/widgets/SizedBox/SizedBox.square.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? dimension})

Creates a box whose [width](https://api.flutter.dev/flutter/widgets/SizedBox/width.html) and [height](https://api.flutter.dev/flutter/widgets/SizedBox/height.html) are equal.

const

### Properties

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[height](https://api.flutter.dev/flutter/widgets/SizedBox/height.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, requires the child to have exactly this height.

final

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[width](https://api.flutter.dev/flutter/widgets/SizedBox/width.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, requires the child to have exactly this width.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/SizedBox/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderConstrainedBox](https://api.flutter.dev/flutter/rendering/RenderConstrainedBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/SizedBox/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/SizedBox/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/SizedBox/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

override

[updateRenderObject](https://api.flutter.dev/flutter/widgets/SizedBox/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderConstrainedBox](https://api.flutter.dev/flutter/rendering/RenderConstrainedBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/SizedBox/createRenderObject.html).

override

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## sized overflow box

A widget that is a specific size but passes its original constraints through to its child, which may then overflow.

### Constructors

[SizedOverflowBox](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/SizedOverflowBox.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [Size](https://api.flutter.dev/flutter/dart-ui/Size-class.html) size, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html) alignment = Alignment.center, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget of a given size that lets its child overflow.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the child.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[size](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/size.html) → [Size](https://api.flutter.dev/flutter/dart-ui/Size-class.html)

The size this widget should attempt to be.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderSizedOverflowBox](https://api.flutter.dev/flutter/rendering/RenderSizedOverflowBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderSizedOverflowBox](https://api.flutter.dev/flutter/rendering/RenderSizedOverflowBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/SizedOverflowBox/createRenderObject.html).

override

## transform

A widget that applies a transformation before painting its child.

Unlike [RotatedBox](https://api.flutter.dev/flutter/widgets/RotatedBox-class.html), which applies a rotation prior to layout, this object applies its transformation just prior to painting, which means the transformation is not taken into account when calculating how much space this widget's child (and thus this widget) consumes.

### Constructors

[Transform](https://api.flutter.dev/flutter/widgets/Transform/Transform.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [Matrix4](https://api.flutter.dev/flutter/vector_math_64/Matrix4-class.html) transform, [Offset](https://api.flutter.dev/flutter/dart-ui/Offset-class.html)? origin, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)? alignment, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) transformHitTests = true, [FilterQuality](https://api.flutter.dev/flutter/dart-ui/FilterQuality.html)? filterQuality, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that transforms its child.

const

[Transform.flip](https://api.flutter.dev/flutter/widgets/Transform/Transform.flip.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) flipX = false, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) flipY = false, [Offset](https://api.flutter.dev/flutter/dart-ui/Offset-class.html)? origin, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) transformHitTests = true, [FilterQuality](https://api.flutter.dev/flutter/dart-ui/FilterQuality.html)? filterQuality, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that mirrors its child about the widget's center point.

[Transform.rotate](https://api.flutter.dev/flutter/widgets/Transform/Transform.rotate.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [double](https://api.flutter.dev/flutter/dart-core/double-class.html) angle, [Offset](https://api.flutter.dev/flutter/dart-ui/Offset-class.html)? origin, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)? alignment = Alignment.center, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) transformHitTests = true, [FilterQuality](https://api.flutter.dev/flutter/dart-ui/FilterQuality.html)? filterQuality, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that transforms its child using a rotation around the center.

[Transform.scale](https://api.flutter.dev/flutter/widgets/Transform/Transform.scale.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? scale, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? scaleX, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? scaleY, [Offset](https://api.flutter.dev/flutter/dart-ui/Offset-class.html)? origin, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)? alignment = Alignment.center, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) transformHitTests = true, [FilterQuality](https://api.flutter.dev/flutter/dart-ui/FilterQuality.html)? filterQuality, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that scales its child along the 2D plane.

[Transform.translate](https://api.flutter.dev/flutter/widgets/Transform/Transform.translate.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [Offset](https://api.flutter.dev/flutter/dart-ui/Offset-class.html) offset, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) transformHitTests = true, [FilterQuality](https://api.flutter.dev/flutter/dart-ui/FilterQuality.html)? filterQuality, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? child})

Creates a widget that transforms its child using a translation.

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/Transform/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)?

The alignment of the origin, relative to the size of the box.

final

[child](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/child.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

The widget below this widget in the tree.

finalinherited

[filterQuality](https://api.flutter.dev/flutter/widgets/Transform/filterQuality.html) → [FilterQuality](https://api.flutter.dev/flutter/dart-ui/FilterQuality.html)?

The filter quality with which to apply the transform as a bitmap operation.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[origin](https://api.flutter.dev/flutter/widgets/Transform/origin.html) → [Offset](https://api.flutter.dev/flutter/dart-ui/Offset-class.html)?

The origin of the coordinate system (relative to the upper left corner of this render object) in which to apply the matrix.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[transform](https://api.flutter.dev/flutter/widgets/Transform/transform.html) → [Matrix4](https://api.flutter.dev/flutter/vector_math_64/Matrix4-class.html)

The matrix to transform the child by during painting.

final

[transformHitTests](https://api.flutter.dev/flutter/widgets/Transform/transformHitTests.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether to apply the transformation when performing hit tests.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectWidget/createElement.html)() → [SingleChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/SingleChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Transform/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderTransform](https://api.flutter.dev/flutter/rendering/RenderTransform-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Transform/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Transform/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderTransform](https://api.flutter.dev/flutter/rendering/RenderTransform-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Transform/createRenderObject.html).

override

# multi child layout widgets

## column

A widget that displays its children in a vertical array.

To cause a child to expand to fill the available vertical space, wrap the child in an [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) widget.

The [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) widget does not scroll (and in general it is considered an error to have more children in a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) than will fit in the available room). If you have a line of widgets and want them to be able to scroll if there is insufficient room, consider using a [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html).

For a horizontal variant, see [Row](https://api.flutter.dev/flutter/widgets/Row-class.html).

If you only have one child, then consider using [Align](https://api.flutter.dev/flutter/widgets/Align-class.html) or [Center](https://api.flutter.dev/flutter/widgets/Center-class.html) to position the child.

### When the incoming vertical constraints are unbounded

When a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) has one or more [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) or [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) children, and is placed in another [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), or in a [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html), or in some other context that does not provide a maximum height constraint for the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), you will get an exception at runtime saying that there are children with non-zero flex but the vertical constraints are unbounded.

The problem, as described in the details that accompany that exception, is that using [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) or [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) means that the remaining space after laying out all the other children must be shared equally, but if the incoming vertical constraints are unbounded, there is infinite remaining space.

The key to solving this problem is usually to determine why the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) is receiving unbounded vertical constraints.

One common reason for this to happen is that the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) has been placed in another [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) (without using [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) or [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) around the inner nested [Column](https://api.flutter.dev/flutter/widgets/Column-class.html)). When a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) lays out its non-flex children (those that have neither [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) or [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) around them), it gives them unbounded constraints so that they can determine their own dimensions (passing unbounded constraints usually signals to the child that it should shrink-wrap its contents). The solution in this case is typically to just wrap the inner column in an [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) to indicate that it should take the remaining space of the outer column, rather than being allowed to take any amount of room it desires.

Another reason for this message to be displayed is nesting a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) inside a [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) or other vertical scrollable. In that scenario, there really is infinite vertical space (the whole point of a vertical scrolling list is to allow infinite space vertically). In such scenarios, it is usually worth examining why the inner [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) should have an [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) or [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) child: what size should the inner children really be? The solution in this case is typically to remove the [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) or [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) widgets from around the inner children.

### The yellow and black striped banner

When the contents of a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) exceed the amount of space available, the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) overflows, and the contents are clipped. In debug mode, a yellow and black striped bar is rendered at the overflowing edge to indicate the problem, and a message is printed below the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) saying how much overflow was detected.

The usual solution is to use a [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) rather than a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), to enable the contents to scroll when vertical space is limited.

### Layout algorithm

This section describes how a [*Column*](https://api.flutter.dev/flutter/widgets/Column-class.html) is rendered by the framework. See [*BoxConstraints*](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html) for an introduction to box layout models.

Layout for a [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) proceeds in six steps:

1. Layout each child with a null or zero flex factor (e.g., those that are not [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html)) with unbounded vertical constraints and the incoming horizontal constraints. If the [crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/crossAxisAlignment.html) is [CrossAxisAlignment.stretch](https://api.flutter.dev/flutter/rendering/CrossAxisAlignment.html), instead use tight horizontal constraints that match the incoming max width.
2. Divide the remaining vertical space among the children with non-zero flex factors (e.g., those that are [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html)) according to their flex factor. For example, a child with a flex factor of 2.0 will receive twice the amount of vertical space as a child with a flex factor of 1.0.
3. Layout each of the remaining children with the same horizontal constraints as in step 1, but instead of using unbounded vertical constraints, use vertical constraints based on the amount of space allocated in step 2. Children with [Flexible.fit](https://api.flutter.dev/flutter/widgets/Flexible/fit.html) properties that are [FlexFit.tight](https://api.flutter.dev/flutter/rendering/FlexFit.html) are given tight constraints (i.e., forced to fill the allocated space), and children with [Flexible.fit](https://api.flutter.dev/flutter/widgets/Flexible/fit.html) properties that are [FlexFit.loose](https://api.flutter.dev/flutter/rendering/FlexFit.html) are given loose constraints (i.e., not forced to fill the allocated space).
4. The width of the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) is the maximum width of the children (which will always satisfy the incoming horizontal constraints).
5. The height of the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) is determined by the [mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) property. If the [mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) property is [MainAxisSize.max](https://api.flutter.dev/flutter/rendering/MainAxisSize.html), then the height of the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) is the max height of the incoming constraints. If the [mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) property is [MainAxisSize.min](https://api.flutter.dev/flutter/rendering/MainAxisSize.html), then the height of the [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) is the sum of heights of the children (subject to the incoming constraints).
6. Determine the position for each child according to the [mainAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/mainAxisAlignment.html) and the [crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/crossAxisAlignment.html). For example, if the [mainAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/mainAxisAlignment.html) is [MainAxisAlignment.spaceBetween](https://api.flutter.dev/flutter/rendering/MainAxisAlignment.html), any vertical space that has not been allocated to children is divided evenly and placed between the children.

### Constructors

[Column](https://api.flutter.dev/flutter/widgets/Column/Column.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [MainAxisAlignment](https://api.flutter.dev/flutter/rendering/MainAxisAlignment.html) mainAxisAlignment = MainAxisAlignment.start, [MainAxisSize](https://api.flutter.dev/flutter/rendering/MainAxisSize.html) mainAxisSize = MainAxisSize.max, [CrossAxisAlignment](https://api.flutter.dev/flutter/rendering/CrossAxisAlignment.html) crossAxisAlignment = CrossAxisAlignment.center, [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)? textDirection, [VerticalDirection](https://api.flutter.dev/flutter/painting/VerticalDirection.html) verticalDirection = VerticalDirection.down, [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html)? textBaseline, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[]})

Creates a vertical array of children.

const

### Properties

[children](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The widgets below this widget in the tree.

finalinherited

[clipBehavior](https://api.flutter.dev/flutter/widgets/Flex/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

finalinherited

[crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/crossAxisAlignment.html) → [CrossAxisAlignment](https://api.flutter.dev/flutter/rendering/CrossAxisAlignment.html)

How the children should be placed along the cross axis.

finalinherited

[direction](https://api.flutter.dev/flutter/widgets/Flex/direction.html) → [Axis](https://api.flutter.dev/flutter/painting/Axis.html)

The direction to use as the main axis.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[mainAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/mainAxisAlignment.html) → [MainAxisAlignment](https://api.flutter.dev/flutter/rendering/MainAxisAlignment.html)

How the children should be placed along the main axis.

finalinherited

[mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) → [MainAxisSize](https://api.flutter.dev/flutter/rendering/MainAxisSize.html)

How much space should be occupied in the main axis.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[textBaseline](https://api.flutter.dev/flutter/widgets/Flex/textBaseline.html) → [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html)?

If aligning items according to their baseline, which baseline to use.

finalinherited

[textDirection](https://api.flutter.dev/flutter/widgets/Flex/textDirection.html) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

Determines the order to lay children out horizontally and how to interpret start and end in the horizontal direction.

finalinherited

[verticalDirection](https://api.flutter.dev/flutter/widgets/Flex/verticalDirection.html) → [VerticalDirection](https://api.flutter.dev/flutter/painting/VerticalDirection.html)

Determines the order to lay children out vertically and how to interpret start and end in the vertical direction.

finalinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/createElement.html)() → [MultiChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Flex/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderFlex](https://api.flutter.dev/flutter/rendering/RenderFlex-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Flex/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Flex/createRenderObject.html).

inherited

[getEffectiveTextDirection](https://api.flutter.dev/flutter/widgets/Flex/getEffectiveTextDirection.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

The value to pass to [RenderFlex.textDirection](https://api.flutter.dev/flutter/rendering/RenderFlex/textDirection.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Flex/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderFlex](https://api.flutter.dev/flutter/rendering/RenderFlex-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Flex/createRenderObject.html).

inherited

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## custom multi child layout

A widget that uses a delegate to size and position multiple children.

The delegate can determine the layout constraints for each child and can decide where to position each child. The delegate can also determine the size of the parent, but the size of the parent cannot depend on the sizes of the children.

[CustomMultiChildLayout](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout-class.html) is appropriate when there are complex relationships between the size and positioning of multiple widgets. To control the layout of a single child, [CustomSingleChildLayout](https://api.flutter.dev/flutter/widgets/CustomSingleChildLayout-class.html) is more appropriate. For simple cases, such as aligning a widget to one or another edge, the [Stack](https://api.flutter.dev/flutter/widgets/Stack-class.html) widget is more appropriate.

Each child must be wrapped in a [LayoutId](https://api.flutter.dev/flutter/widgets/LayoutId-class.html) widget to identify the widget for the delegate.

### Constructors

[CustomMultiChildLayout](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout/CustomMultiChildLayout.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [MultiChildLayoutDelegate](https://api.flutter.dev/flutter/rendering/MultiChildLayoutDelegate-class.html) delegate, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[]})

Creates a custom multi-child layout.

const

### Properties

[children](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The widgets below this widget in the tree.

finalinherited

[delegate](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout/delegate.html) → [MultiChildLayoutDelegate](https://api.flutter.dev/flutter/rendering/MultiChildLayoutDelegate-class.html)

The delegate that controls the layout of the children.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/createElement.html)() → [MultiChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderCustomMultiChildLayoutBox](https://api.flutter.dev/flutter/rendering/RenderCustomMultiChildLayoutBox-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderCustomMultiChildLayoutBox](https://api.flutter.dev/flutter/rendering/RenderCustomMultiChildLayoutBox-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout/createRenderObject.html).

override

## flow

A widget that sizes and positions children efficiently, according to the logic in a [FlowDelegate](https://api.flutter.dev/flutter/rendering/FlowDelegate-class.html).

Flow layouts are optimized for repositioning children using transformation matrices.

The flow container is sized independently from the children by the [FlowDelegate.getSize](https://api.flutter.dev/flutter/rendering/FlowDelegate/getSize.html) function of the delegate. The children are then sized independently given the constraints from the [FlowDelegate.getConstraintsForChild](https://api.flutter.dev/flutter/rendering/FlowDelegate/getConstraintsForChild.html) function.

Rather than positioning the children during layout, the children are positioned using transformation matrices during the paint phase using the matrices from the [FlowDelegate.paintChildren](https://api.flutter.dev/flutter/rendering/FlowDelegate/paintChildren.html) function. The children can be repositioned efficiently by only repainting the flow, which happens without the children being laid out again (contrast this with a [Stack](https://api.flutter.dev/flutter/widgets/Stack-class.html), which does the sizing and positioning together during layout).

The most efficient way to trigger a repaint of the flow is to supply an animation to the constructor of the [FlowDelegate](https://api.flutter.dev/flutter/rendering/FlowDelegate-class.html). The flow will listen to this animation and repaint whenever the animation ticks, avoiding both the build and layout phases of the pipeline.

### Hit testing and hidden [Flow](https://api.flutter.dev/flutter/widgets/Flow-class.html) widgets

The [Flow](https://api.flutter.dev/flutter/widgets/Flow-class.html) widget recomputers its children's positions (as used by hit testing) during the paint phase rather than during the layout phase.

Widgets like [Opacity](https://api.flutter.dev/flutter/widgets/Opacity-class.html) avoid painting their children when those children would be invisible due to their opacity being zero.

Unfortunately, this means that hiding a [Flow](https://api.flutter.dev/flutter/widgets/Flow-class.html) widget using an [Opacity](https://api.flutter.dev/flutter/widgets/Opacity-class.html) widget will cause bugs when the user attempts to interact with the hidden region, for example, by tapping it or clicking it.

Such bugs will manifest either as out-of-date geometry (taps going to different widgets than might be expected by the currently-specified [FlowDelegate](https://api.flutter.dev/flutter/rendering/FlowDelegate-class.html)s), or exceptions (e.g. if the last time the [Flow](https://api.flutter.dev/flutter/widgets/Flow-class.html) was painted, a different set of children was specified).

To avoid this, when hiding a [Flow](https://api.flutter.dev/flutter/widgets/Flow-class.html) widget with an [Opacity](https://api.flutter.dev/flutter/widgets/Opacity-class.html) widget (or [AnimatedOpacity](https://api.flutter.dev/flutter/widgets/AnimatedOpacity-class.html) or similar), it is wise to also disable hit testing on the widget by using [IgnorePointer](https://api.flutter.dev/flutter/widgets/IgnorePointer-class.html). This is generally good advice anyway as hit-testing invisible widgets is often confusing for the user.

### Constructors

[Flow](https://api.flutter.dev/flutter/widgets/Flow/Flow.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [FlowDelegate](https://api.flutter.dev/flutter/rendering/FlowDelegate-class.html) delegate, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[], [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a flow layout.

[Flow.unwrapped](https://api.flutter.dev/flutter/widgets/Flow/Flow.unwrapped.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [FlowDelegate](https://api.flutter.dev/flutter/rendering/FlowDelegate-class.html) delegate, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[], [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a flow layout.

const

### Properties

[children](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The widgets below this widget in the tree.

finalinherited

[clipBehavior](https://api.flutter.dev/flutter/widgets/Flow/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

final

[delegate](https://api.flutter.dev/flutter/widgets/Flow/delegate.html) → [FlowDelegate](https://api.flutter.dev/flutter/rendering/FlowDelegate-class.html)

The delegate that controls the transformation matrices of the children.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/createElement.html)() → [MultiChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Flow/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderFlow](https://api.flutter.dev/flutter/rendering/RenderFlow-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Flow/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Flow/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderFlow](https://api.flutter.dev/flutter/rendering/RenderFlow-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Flow/createRenderObject.html).

override

## grid view

A scrollable, 2D array of widgets.

The main axis direction of a grid is the direction in which it scrolls (the [scrollDirection](https://api.flutter.dev/flutter/widgets/ScrollView/scrollDirection.html)).

The most commonly used grid layouts are [GridView.count](https://api.flutter.dev/flutter/widgets/GridView/GridView.count.html), which creates a layout with a fixed number of tiles in the cross axis, and [GridView.extent](https://api.flutter.dev/flutter/widgets/GridView/GridView.extent.html), which creates a layout with tiles that have a maximum cross-axis extent. A custom [SliverGridDelegate](https://api.flutter.dev/flutter/rendering/SliverGridDelegate-class.html) can produce an arbitrary 2D arrangement of children, including arrangements that are unaligned or overlapping.

To create a grid with a large (or infinite) number of children, use the [GridView.builder](https://api.flutter.dev/flutter/widgets/GridView/GridView.builder.html) constructor with either a [SliverGridDelegateWithFixedCrossAxisCount](https://api.flutter.dev/flutter/rendering/SliverGridDelegateWithFixedCrossAxisCount-class.html) or a [SliverGridDelegateWithMaxCrossAxisExtent](https://api.flutter.dev/flutter/rendering/SliverGridDelegateWithMaxCrossAxisExtent-class.html) for the [gridDelegate](https://api.flutter.dev/flutter/widgets/GridView/gridDelegate.html).

To use a custom [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html), use [GridView.custom](https://api.flutter.dev/flutter/widgets/GridView/GridView.custom.html).

To create a linear array of children, use a [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html).

To control the initial scroll offset of the scroll view, provide a [controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html) with its [ScrollController.initialScrollOffset](https://api.flutter.dev/flutter/widgets/ScrollController/initialScrollOffset.html) property set.

### Transitioning to [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html)

A [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html) is basically a [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html) with a single [SliverGrid](https://api.flutter.dev/flutter/widgets/SliverGrid-class.html) in its [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) property.

If [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html) is no longer sufficient, for example because the scroll view is to have both a grid and a list, or because the grid is to be combined with a [SliverAppBar](https://api.flutter.dev/flutter/material/SliverAppBar-class.html), etc, it is straight-forward to port code from using [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html) to using [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html) directly.

The [key](https://api.flutter.dev/flutter/widgets/Widget/key.html), [scrollDirection](https://api.flutter.dev/flutter/widgets/ScrollView/scrollDirection.html), [reverse](https://api.flutter.dev/flutter/widgets/ScrollView/reverse.html), [controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html), [primary](https://api.flutter.dev/flutter/widgets/ScrollView/primary.html), [physics](https://api.flutter.dev/flutter/widgets/ScrollView/physics.html), and [shrinkWrap](https://api.flutter.dev/flutter/widgets/ScrollView/shrinkWrap.html) properties on [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html) map directly to the identically named properties on [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html).

The [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) property should be a list containing just a [SliverGrid](https://api.flutter.dev/flutter/widgets/SliverGrid-class.html).

The [childrenDelegate](https://api.flutter.dev/flutter/widgets/GridView/childrenDelegate.html) property on [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html) corresponds to the [SliverGrid.delegate](https://api.flutter.dev/flutter/widgets/SliverMultiBoxAdaptorWidget/delegate.html) property, and the [gridDelegate](https://api.flutter.dev/flutter/widgets/GridView/gridDelegate.html) property on the [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html) corresponds to the [SliverGrid.gridDelegate](https://api.flutter.dev/flutter/widgets/SliverGrid/gridDelegate.html) property.

The [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html), [GridView.count](https://api.flutter.dev/flutter/widgets/GridView/GridView.count.html), and [GridView.extent](https://api.flutter.dev/flutter/widgets/GridView/GridView.extent.html) constructors' children arguments correspond to the [childrenDelegate](https://api.flutter.dev/flutter/widgets/GridView/childrenDelegate.html) being a [SliverChildListDelegate](https://api.flutter.dev/flutter/widgets/SliverChildListDelegate-class.html) with that same argument. The [GridView.builder](https://api.flutter.dev/flutter/widgets/GridView/GridView.builder.html) constructor's itemBuilder and childCount arguments correspond to the [childrenDelegate](https://api.flutter.dev/flutter/widgets/GridView/childrenDelegate.html) being a [SliverChildBuilderDelegate](https://api.flutter.dev/flutter/widgets/SliverChildBuilderDelegate-class.html) with the matching arguments.

The [GridView.count](https://api.flutter.dev/flutter/widgets/GridView/GridView.count.html) and [GridView.extent](https://api.flutter.dev/flutter/widgets/GridView/GridView.extent.html) constructors create custom grid delegates, and have equivalently named constructors on [SliverGrid](https://api.flutter.dev/flutter/widgets/SliverGrid-class.html) to ease the transition: [SliverGrid.count](https://api.flutter.dev/flutter/widgets/SliverGrid/SliverGrid.count.html) and [SliverGrid.extent](https://api.flutter.dev/flutter/widgets/SliverGrid/SliverGrid.extent.html) respectively.

The [padding](https://api.flutter.dev/flutter/widgets/BoxScrollView/padding.html) property corresponds to having a [SliverPadding](https://api.flutter.dev/flutter/widgets/SliverPadding-class.html) in the [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) property instead of the grid itself, and having the [SliverGrid](https://api.flutter.dev/flutter/widgets/SliverGrid-class.html) instead be a child of the [SliverPadding](https://api.flutter.dev/flutter/widgets/SliverPadding-class.html).

Once code has been ported to use [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html), other slivers, such as [SliverList](https://api.flutter.dev/flutter/widgets/SliverList-class.html) or [SliverAppBar](https://api.flutter.dev/flutter/material/SliverAppBar-class.html), can be put in the [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) list.

### Persisting the scroll position during a session

Scroll views attempt to persist their scroll position using [PageStorage](https://api.flutter.dev/flutter/widgets/PageStorage-class.html). This can be disabled by setting [ScrollController.keepScrollOffset](https://api.flutter.dev/flutter/widgets/ScrollController/keepScrollOffset.html) to false on the [controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html). If it is enabled, using a [PageStorageKey](https://api.flutter.dev/flutter/widgets/PageStorageKey-class.html) for the [key](https://api.flutter.dev/flutter/widgets/Widget/key.html) of this widget is recommended to help disambiguate different scroll views from each other.

### Padding

By default, [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html) will automatically pad the limits of the grid's scrollable to avoid partial obstructions indicated by [MediaQuery](https://api.flutter.dev/flutter/widgets/MediaQuery-class.html)'s padding. To avoid this behavior, override with a zero [padding](https://api.flutter.dev/flutter/widgets/BoxScrollView/padding.html) property.

### Constructors

[GridView](https://api.flutter.dev/flutter/widgets/GridView/GridView.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, required [SliverGridDelegate](https://api.flutter.dev/flutter/rendering/SliverGridDelegate-class.html) gridDelegate, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addAutomaticKeepAlives = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addRepaintBoundaries = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addSemanticIndexes = true, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[], [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId})

Creates a scrollable, 2D array of widgets with a custom [SliverGridDelegate](https://api.flutter.dev/flutter/rendering/SliverGridDelegate-class.html).

[GridView.builder](https://api.flutter.dev/flutter/widgets/GridView/GridView.builder.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, required [SliverGridDelegate](https://api.flutter.dev/flutter/rendering/SliverGridDelegate-class.html) gridDelegate, required [NullableIndexedWidgetBuilder](https://api.flutter.dev/flutter/widgets/NullableIndexedWidgetBuilder.html) itemBuilder, [ChildIndexGetter](https://api.flutter.dev/flutter/widgets/ChildIndexGetter.html)? findChildIndexCallback, [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? itemCount, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addAutomaticKeepAlives = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addRepaintBoundaries = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addSemanticIndexes = true, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a scrollable, 2D array of widgets that are created on demand.

[GridView.count](https://api.flutter.dev/flutter/widgets/GridView/GridView.count.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, required [int](https://api.flutter.dev/flutter/dart-core/int-class.html) crossAxisCount, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) mainAxisSpacing = 0.0, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) crossAxisSpacing = 0.0, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) childAspectRatio = 1.0, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addAutomaticKeepAlives = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addRepaintBoundaries = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addSemanticIndexes = true, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[], [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a scrollable, 2D array of widgets with a fixed number of tiles in the cross axis.

[GridView.custom](https://api.flutter.dev/flutter/widgets/GridView/GridView.custom.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, required [SliverGridDelegate](https://api.flutter.dev/flutter/rendering/SliverGridDelegate-class.html) gridDelegate, required [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html) childrenDelegate, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a scrollable, 2D array of widgets with both a custom [SliverGridDelegate](https://api.flutter.dev/flutter/rendering/SliverGridDelegate-class.html) and a custom [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html).

const

[GridView.extent](https://api.flutter.dev/flutter/widgets/GridView/GridView.extent.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, required [double](https://api.flutter.dev/flutter/dart-core/double-class.html) maxCrossAxisExtent, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) mainAxisSpacing = 0.0, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) crossAxisSpacing = 0.0, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) childAspectRatio = 1.0, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addAutomaticKeepAlives = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addRepaintBoundaries = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addSemanticIndexes = true, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[], [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a scrollable, 2D array of widgets with tiles that each have a maximum cross-axis extent.

### Properties

[anchor](https://api.flutter.dev/flutter/widgets/ScrollView/anchor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

The relative position of the zero scroll offset.

finalinherited

[cacheExtent](https://api.flutter.dev/flutter/widgets/ScrollView/cacheExtent.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

The viewport has an area before and after the visible area to cache items that are about to become visible when the user scrolls.

finalinherited

[center](https://api.flutter.dev/flutter/widgets/ScrollView/center.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

The first child in the [GrowthDirection.forward](https://api.flutter.dev/flutter/rendering/GrowthDirection.html) growth direction.

finalinherited

[childrenDelegate](https://api.flutter.dev/flutter/widgets/GridView/childrenDelegate.html) → [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html)

A delegate that provides the children for the [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html).

final

[clipBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

finalinherited

[controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html) → [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)?

An object that can be used to control the position to which this scroll view is scrolled.

finalinherited

[dragStartBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/dragStartBehavior.html) → [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html)

Determines the way that drag start behavior is handled.

finalinherited

[gridDelegate](https://api.flutter.dev/flutter/widgets/GridView/gridDelegate.html) → [SliverGridDelegate](https://api.flutter.dev/flutter/rendering/SliverGridDelegate-class.html)

A delegate that controls the layout of the children within the [GridView](https://api.flutter.dev/flutter/widgets/GridView-class.html).

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[keyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/keyboardDismissBehavior.html) → [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html)

[ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) the defines how this [ScrollView](https://api.flutter.dev/flutter/widgets/ScrollView-class.html) will dismiss the keyboard automatically.

finalinherited

[padding](https://api.flutter.dev/flutter/widgets/BoxScrollView/padding.html) → [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)?

The amount of space by which to inset the children.

finalinherited

[physics](https://api.flutter.dev/flutter/widgets/ScrollView/physics.html) → [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)?

How the scroll view should respond to user input.

finalinherited

[primary](https://api.flutter.dev/flutter/widgets/ScrollView/primary.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)?

Whether this is the primary scroll view associated with the parent [PrimaryScrollController](https://api.flutter.dev/flutter/widgets/PrimaryScrollController-class.html).

finalinherited

[restorationId](https://api.flutter.dev/flutter/widgets/ScrollView/restorationId.html) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)?

Restoration ID to save and restore the scroll offset of the scrollable.

finalinherited

[reverse](https://api.flutter.dev/flutter/widgets/ScrollView/reverse.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether the scroll view scrolls in the reading direction.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[scrollBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/scrollBehavior.html) → [ScrollBehavior](https://api.flutter.dev/flutter/widgets/ScrollBehavior-class.html)?

A [ScrollBehavior](https://api.flutter.dev/flutter/widgets/ScrollBehavior-class.html) that will be applied to this widget individually.

finalinherited

[scrollDirection](https://api.flutter.dev/flutter/widgets/ScrollView/scrollDirection.html) → [Axis](https://api.flutter.dev/flutter/painting/Axis.html)

The [Axis](https://api.flutter.dev/flutter/painting/Axis.html) along which the scroll view's offset increases.

finalinherited

[semanticChildCount](https://api.flutter.dev/flutter/widgets/ScrollView/semanticChildCount.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)?

The number of children that will contribute semantic information.

finalinherited

[shrinkWrap](https://api.flutter.dev/flutter/widgets/ScrollView/shrinkWrap.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether the extent of the scroll view in the [scrollDirection](https://api.flutter.dev/flutter/widgets/ScrollView/scrollDirection.html) should be determined by the contents being viewed.

finalinherited

### Methods

[build](https://api.flutter.dev/flutter/widgets/ScrollView/build.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Describes the part of the user interface represented by this widget.

inherited

[buildChildLayout](https://api.flutter.dev/flutter/widgets/GridView/buildChildLayout.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Subclasses should override this method to build the layout model.

override

[buildSlivers](https://api.flutter.dev/flutter/widgets/BoxScrollView/buildSlivers.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

Build the list of widgets to place inside the viewport.

inherited

[buildViewport](https://api.flutter.dev/flutter/widgets/ScrollView/buildViewport.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, [ViewportOffset](https://api.flutter.dev/flutter/rendering/ViewportOffset-class.html) offset, [AxisDirection](https://api.flutter.dev/flutter/painting/AxisDirection.html) axisDirection, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> slivers) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Build the viewport.

inherited

[createElement](https://api.flutter.dev/flutter/widgets/StatelessWidget/createElement.html)() → [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html)

Creates a [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html) to manage this widget's location in the tree.

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/BoxScrollView/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[getDirection](https://api.flutter.dev/flutter/widgets/ScrollView/getDirection.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [AxisDirection](https://api.flutter.dev/flutter/painting/AxisDirection.html)

Returns the [AxisDirection](https://api.flutter.dev/flutter/painting/AxisDirection.html) in which the scroll view scrolls.

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

## indexed stack

A [Stack](https://api.flutter.dev/flutter/widgets/Stack-class.html) that shows a single child from a list of children.

The displayed child is the one with the given [index](https://api.flutter.dev/flutter/widgets/IndexedStack/index.html). The stack is always as big as the largest child.

If value is null, then nothing is displayed.

### Constructors

[IndexedStack](https://api.flutter.dev/flutter/widgets/IndexedStack/IndexedStack.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html) alignment = AlignmentDirectional.topStart, [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)? textDirection, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge, [StackFit](https://api.flutter.dev/flutter/rendering/StackFit.html) sizing = StackFit.loose, [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? index = 0, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[]})

Creates a [Stack](https://api.flutter.dev/flutter/widgets/Stack-class.html) widget that paints a single child.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/IndexedStack/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the non-positioned and partially-positioned children in the stack.

final

[children](https://api.flutter.dev/flutter/widgets/IndexedStack/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The child widgets of the stack.

final

[clipBehavior](https://api.flutter.dev/flutter/widgets/IndexedStack/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[index](https://api.flutter.dev/flutter/widgets/IndexedStack/index.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)?

The index of the child to show.

final

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[sizing](https://api.flutter.dev/flutter/widgets/IndexedStack/sizing.html) → [StackFit](https://api.flutter.dev/flutter/rendering/StackFit.html)

How to size the non-positioned children in the stack.

final

[textDirection](https://api.flutter.dev/flutter/widgets/IndexedStack/textDirection.html) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

The text direction with which to resolve [alignment](https://api.flutter.dev/flutter/widgets/IndexedStack/alignment.html).

final

### Methods

[build](https://api.flutter.dev/flutter/widgets/IndexedStack/build.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Describes the part of the user interface represented by this widget.

override

[createElement](https://api.flutter.dev/flutter/widgets/StatelessWidget/createElement.html)() → [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html)

Creates a [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html) to manage this widget's location in the tree.

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

## layout builder

Builds a widget tree that can depend on the parent widget's size.

Similar to the [Builder](https://api.flutter.dev/flutter/widgets/Builder-class.html) widget except that the framework calls the [builder](https://api.flutter.dev/flutter/widgets/ConstrainedLayoutBuilder/builder.html) function at layout time and provides the parent widget's constraints. This is useful when the parent constrains the child's size and doesn't depend on the child's intrinsic size. The [LayoutBuilder](https://api.flutter.dev/flutter/widgets/LayoutBuilder-class.html)'s final size will match its child's size.

The [builder](https://api.flutter.dev/flutter/widgets/ConstrainedLayoutBuilder/builder.html) function is called in the following situations:

* The first time the widget is laid out.
* When the parent widget passes different layout constraints.
* When the parent widget updates this widget.
* When the dependencies that the [builder](https://api.flutter.dev/flutter/widgets/ConstrainedLayoutBuilder/builder.html) function subscribes to change.

The [builder](https://api.flutter.dev/flutter/widgets/ConstrainedLayoutBuilder/builder.html) function is *not* called during layout if the parent passes the same constraints repeatedly.

If the child should be smaller than the parent, consider wrapping the child in an [Align](https://api.flutter.dev/flutter/widgets/Align-class.html) widget. If the child might want to be bigger, consider wrapping it in a [SingleChildScrollView](https://api.flutter.dev/flutter/widgets/SingleChildScrollView-class.html) or [OverflowBox](https://api.flutter.dev/flutter/widgets/OverflowBox-class.html).

### Constructors

[LayoutBuilder](https://api.flutter.dev/flutter/widgets/LayoutBuilder/LayoutBuilder.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, required [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html) builder([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, [BoxConstraints](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html) constraints)})

Creates a widget that defers its building until layout.

const

### Properties

[builder](https://api.flutter.dev/flutter/widgets/ConstrainedLayoutBuilder/builder.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html) Function([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, [BoxConstraints](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html) constraints)

Called at layout time to construct the widget tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/ConstrainedLayoutBuilder/createElement.html)() → [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/LayoutBuilder/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/LayoutBuilder/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/LayoutBuilder/createRenderObject.html).

inherited

## list body

A widget that arranges its children sequentially along a given axis, forcing them to the dimension of the parent in the other axis.

This widget is rarely used directly. Instead, consider using [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html), which combines a similar layout algorithm with scrolling behavior, or [Column](https://api.flutter.dev/flutter/widgets/Column-class.html), which gives you more flexible control over the layout of a vertical set of boxes.

See also:

* [RenderListBody](https://api.flutter.dev/flutter/rendering/RenderListBody-class.html), which implements this layout algorithm and the documentation for which describes some of its subtleties.
* [SingleChildScrollView](https://api.flutter.dev/flutter/widgets/SingleChildScrollView-class.html), which is sometimes used with [ListBody](https://api.flutter.dev/flutter/widgets/ListBody-class.html) to make the contents scrollable.
* [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) and [Row](https://api.flutter.dev/flutter/widgets/Row-class.html), which implement a more elaborate version of this layout algorithm (at the cost of being slightly less efficient).
* [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html), which implements an efficient scrolling version of this layout algorithm.
* The [catalog of layout widgets](https://flutter.dev/widgets/layout/).

### Constructors

[ListBody](https://api.flutter.dev/flutter/widgets/ListBody/ListBody.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) mainAxis = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[]})

Creates a layout widget that arranges its children sequentially along a given axis.

const

### Properties

[children](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The widgets below this widget in the tree.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[mainAxis](https://api.flutter.dev/flutter/widgets/ListBody/mainAxis.html) → [Axis](https://api.flutter.dev/flutter/painting/Axis.html)

The direction to use as the main axis.

final

[reverse](https://api.flutter.dev/flutter/widgets/ListBody/reverse.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether the list body positions children in the reading direction.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/createElement.html)() → [MultiChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/ListBody/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderListBody](https://api.flutter.dev/flutter/rendering/RenderListBody-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/ListBody/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/ListBody/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderListBody](https://api.flutter.dev/flutter/rendering/RenderListBody-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/ListBody/createRenderObject.html).

override

## list view

A scrollable list of widgets arranged linearly.

[ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) 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](https://api.flutter.dev/flutter/widgets/ListView-class.html).

If non-null, the [itemExtent](https://api.flutter.dev/flutter/widgets/ListView/itemExtent.html) forces the children to have the given extent in the scroll direction.

If non-null, the [prototypeItem](https://api.flutter.dev/flutter/widgets/ListView/prototypeItem.html) forces the children to have the same extent as the given widget in the scroll direction.

Specifying an [itemExtent](https://api.flutter.dev/flutter/widgets/ListView/itemExtent.html) or an [prototypeItem](https://api.flutter.dev/flutter/widgets/ListView/prototypeItem.html) is more efficient than letting the children determine their own extent because the scrolling machinery can make use of the foreknowledge of the children's extent to save work, for example when the scroll position changes drastically.

You can't specify both [itemExtent](https://api.flutter.dev/flutter/widgets/ListView/itemExtent.html) and [prototypeItem](https://api.flutter.dev/flutter/widgets/ListView/prototypeItem.html), only one or none of them.

There are four options for constructing a [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html):

1. The default constructor takes an explicit [List<Widget>](https://api.flutter.dev/flutter/dart-core/List-class.html) of children. This constructor is appropriate for list views with a small number of children because constructing the [List](https://api.flutter.dev/flutter/dart-core/List-class.html) requires doing work for every child that could possibly be displayed in the list view instead of just those children that are actually visible.
2. The [ListView.builder](https://api.flutter.dev/flutter/widgets/ListView/ListView.builder.html) constructor takes an [IndexedWidgetBuilder](https://api.flutter.dev/flutter/widgets/IndexedWidgetBuilder.html), which builds the children on demand. This constructor is appropriate for list views with a large (or infinite) number of children because the builder is called only for those children that are actually visible.
3. The [ListView.separated](https://api.flutter.dev/flutter/widgets/ListView/ListView.separated.html) constructor takes two [IndexedWidgetBuilder](https://api.flutter.dev/flutter/widgets/IndexedWidgetBuilder.html)s: itemBuilder builds child items on demand, and separatorBuilder similarly builds separator children which appear in between the child items. This constructor is appropriate for list views with a fixed number of children.
4. The [ListView.custom](https://api.flutter.dev/flutter/widgets/ListView/ListView.custom.html) constructor takes a [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html), which provides the ability to customize additional aspects of the child model. For example, a [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html) can control the algorithm used to estimate the size of children that are not actually visible.

To control the initial scroll offset of the scroll view, provide a [controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html) with its [ScrollController.initialScrollOffset](https://api.flutter.dev/flutter/widgets/ScrollController/initialScrollOffset.html) property set.

By default, [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) will automatically pad the list's scrollable extremities to avoid partial obstructions indicated by [MediaQuery](https://api.flutter.dev/flutter/widgets/MediaQuery-class.html)'s padding. To avoid this behavior, override with a zero [padding](https://api.flutter.dev/flutter/widgets/BoxScrollView/padding.html) property.

### Creation

While laying out the list, visible children's elements, states and render objects will be created lazily based on existing widgets (such as when using the default constructor) or lazily provided ones (such as when using the [ListView.builder](https://api.flutter.dev/flutter/widgets/ListView/ListView.builder.html) constructor).

### Destruction

When a child is scrolled out of view, the associated element subtree, states and render objects are destroyed. A new child at the same position in the list will be lazily recreated along with new elements, states and render objects when it is scrolled back.

### Destruction mitigation

In order to preserve state as child elements are scrolled in and out of view, the following options are possible:

* Moving the ownership of non-trivial UI-state-driving business logic out of the list child subtree. For instance, if a list contains posts with their number of upvotes coming from a cached network response, store the list of posts and upvote number in a data model outside the list. Let the list child UI subtree be easily recreate-able from the source-of-truth model object. Use [StatefulWidget](https://api.flutter.dev/flutter/widgets/StatefulWidget-class.html)s in the child widget subtree to store instantaneous UI state only.
* Letting [KeepAlive](https://api.flutter.dev/flutter/widgets/KeepAlive-class.html) be the root widget of the list child widget subtree that needs to be preserved. The [KeepAlive](https://api.flutter.dev/flutter/widgets/KeepAlive-class.html) widget marks the child subtree's top render object child for keepalive. When the associated top render object is scrolled out of view, the list keeps the child's render object (and by extension, its associated elements and states) in a cache list instead of destroying them. When scrolled back into view, the render object is repainted as-is (if it wasn't marked dirty in the interim).

This only works if addAutomaticKeepAlives and addRepaintBoundaries are false since those parameters cause the [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) to wrap each child widget subtree with other widgets.

* Using [AutomaticKeepAlive](https://api.flutter.dev/flutter/widgets/AutomaticKeepAlive-class.html) widgets (inserted by default when addAutomaticKeepAlives is true). [AutomaticKeepAlive](https://api.flutter.dev/flutter/widgets/AutomaticKeepAlive-class.html) allows descendant widgets to control whether the subtree is actually kept alive or not. This behavior is in contrast with [KeepAlive](https://api.flutter.dev/flutter/widgets/KeepAlive-class.html), which will unconditionally keep the subtree alive.

As an example, the [EditableText](https://api.flutter.dev/flutter/widgets/EditableText-class.html) widget signals its list child element subtree to stay alive while its text field has input focus. If it doesn't have focus and no other descendants signaled for keepalive via a [KeepAliveNotification](https://api.flutter.dev/flutter/widgets/KeepAliveNotification-class.html), the list child element subtree will be destroyed when scrolled away.

[AutomaticKeepAlive](https://api.flutter.dev/flutter/widgets/AutomaticKeepAlive-class.html) descendants typically signal it to be kept alive by using the [AutomaticKeepAliveClientMixin](https://api.flutter.dev/flutter/widgets/AutomaticKeepAliveClientMixin-mixin.html), then implementing the [AutomaticKeepAliveClientMixin.wantKeepAlive](https://api.flutter.dev/flutter/widgets/AutomaticKeepAliveClientMixin/wantKeepAlive.html) getter and calling [AutomaticKeepAliveClientMixin.updateKeepAlive](https://api.flutter.dev/flutter/widgets/AutomaticKeepAliveClientMixin/updateKeepAlive.html).

### Transitioning to [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html)

A [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) is basically a [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html) with a single [SliverList](https://api.flutter.dev/flutter/widgets/SliverList-class.html) in its [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) property.

If [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) is no longer sufficient, for example because the scroll view is to have both a list and a grid, or because the list is to be combined with a [SliverAppBar](https://api.flutter.dev/flutter/material/SliverAppBar-class.html), etc, it is straight-forward to port code from using [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) to using [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html) directly.

The [key](https://api.flutter.dev/flutter/widgets/Widget/key.html), [scrollDirection](https://api.flutter.dev/flutter/widgets/ScrollView/scrollDirection.html), [reverse](https://api.flutter.dev/flutter/widgets/ScrollView/reverse.html), [controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html), [primary](https://api.flutter.dev/flutter/widgets/ScrollView/primary.html), [physics](https://api.flutter.dev/flutter/widgets/ScrollView/physics.html), and [shrinkWrap](https://api.flutter.dev/flutter/widgets/ScrollView/shrinkWrap.html) properties on [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) map directly to the identically named properties on [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html).

The [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) property should be a list containing either:

* a [SliverList](https://api.flutter.dev/flutter/widgets/SliverList-class.html) if both [itemExtent](https://api.flutter.dev/flutter/widgets/ListView/itemExtent.html) and [prototypeItem](https://api.flutter.dev/flutter/widgets/ListView/prototypeItem.html) were null;
* a [SliverFixedExtentList](https://api.flutter.dev/flutter/widgets/SliverFixedExtentList-class.html) if [itemExtent](https://api.flutter.dev/flutter/widgets/ListView/itemExtent.html) was not null; or
* a [SliverPrototypeExtentList](https://api.flutter.dev/flutter/widgets/SliverPrototypeExtentList-class.html) if [prototypeItem](https://api.flutter.dev/flutter/widgets/ListView/prototypeItem.html) was not null.

The [childrenDelegate](https://api.flutter.dev/flutter/widgets/ListView/childrenDelegate.html) property on [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) corresponds to the [SliverList.delegate](https://api.flutter.dev/flutter/widgets/SliverMultiBoxAdaptorWidget/delegate.html) (or [SliverFixedExtentList.delegate](https://api.flutter.dev/flutter/widgets/SliverMultiBoxAdaptorWidget/delegate.html)) property. The [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) constructor's children argument corresponds to the [childrenDelegate](https://api.flutter.dev/flutter/widgets/ListView/childrenDelegate.html) being a [SliverChildListDelegate](https://api.flutter.dev/flutter/widgets/SliverChildListDelegate-class.html) with that same argument. The [ListView.builder](https://api.flutter.dev/flutter/widgets/ListView/ListView.builder.html) constructor's itemBuilder and itemCount arguments correspond to the [childrenDelegate](https://api.flutter.dev/flutter/widgets/ListView/childrenDelegate.html) being a [SliverChildBuilderDelegate](https://api.flutter.dev/flutter/widgets/SliverChildBuilderDelegate-class.html) with the equivalent arguments.

The [padding](https://api.flutter.dev/flutter/widgets/BoxScrollView/padding.html) property corresponds to having a [SliverPadding](https://api.flutter.dev/flutter/widgets/SliverPadding-class.html) in the [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) property instead of the list itself, and having the [SliverList](https://api.flutter.dev/flutter/widgets/SliverList-class.html) instead be a child of the [SliverPadding](https://api.flutter.dev/flutter/widgets/SliverPadding-class.html).

[CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html)s don't automatically avoid obstructions from [MediaQuery](https://api.flutter.dev/flutter/widgets/MediaQuery-class.html) like [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html)s do. To reproduce the behavior, wrap the slivers in [SliverSafeArea](https://api.flutter.dev/flutter/widgets/SliverSafeArea-class.html)s.

Once code has been ported to use [CustomScrollView](https://api.flutter.dev/flutter/widgets/CustomScrollView-class.html), other slivers, such as [SliverGrid](https://api.flutter.dev/flutter/widgets/SliverGrid-class.html) or [SliverAppBar](https://api.flutter.dev/flutter/material/SliverAppBar-class.html), can be put in the [CustomScrollView.slivers](https://api.flutter.dev/flutter/widgets/CustomScrollView/slivers.html) list.

### Selection of list items

[ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html) has no built-in notion of a selected item or items. For a small example of how a caller might wire up basic item selection, see [ListTile.selected](https://api.flutter.dev/flutter/material/ListTile/selected.html).

[ScrollView](https://api.flutter.dev/flutter/widgets/ScrollView-class.html)s are often decorated with [Scrollbar](https://api.flutter.dev/flutter/material/Scrollbar-class.html)s and overscroll indicators, which are managed by the inherited [ScrollBehavior](https://api.flutter.dev/flutter/widgets/ScrollBehavior-class.html). Placing a [ScrollConfiguration](https://api.flutter.dev/flutter/widgets/ScrollConfiguration-class.html) above a ScrollView can modify these behaviors for that ScrollView, or can be managed app-wide by providing a ScrollBehavior to [MaterialApp.scrollBehavior](https://api.flutter.dev/flutter/material/MaterialApp/scrollBehavior.html) or [CupertinoApp.scrollBehavior](https://api.flutter.dev/flutter/cupertino/CupertinoApp/scrollBehavior.html).

### Persisting the scroll position during a session

Scroll views attempt to persist their scroll position using [PageStorage](https://api.flutter.dev/flutter/widgets/PageStorage-class.html). This can be disabled by setting [ScrollController.keepScrollOffset](https://api.flutter.dev/flutter/widgets/ScrollController/keepScrollOffset.html) to false on the [controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html). If it is enabled, using a [PageStorageKey](https://api.flutter.dev/flutter/widgets/PageStorageKey-class.html) for the [key](https://api.flutter.dev/flutter/widgets/Widget/key.html) of this widget is recommended to help disambiguate different scroll views from each other.

### Constructors

[ListView](https://api.flutter.dev/flutter/widgets/ListView/ListView.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? itemExtent, [ItemExtentBuilder](https://api.flutter.dev/flutter/rendering/ItemExtentBuilder.html)? itemExtentBuilder, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? prototypeItem, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addAutomaticKeepAlives = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addRepaintBoundaries = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addSemanticIndexes = true, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[], [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a scrollable, linear array of widgets from an explicit [List](https://api.flutter.dev/flutter/dart-core/List-class.html).

[ListView.builder](https://api.flutter.dev/flutter/widgets/ListView/ListView.builder.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? itemExtent, [ItemExtentBuilder](https://api.flutter.dev/flutter/rendering/ItemExtentBuilder.html)? itemExtentBuilder, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? prototypeItem, required [NullableIndexedWidgetBuilder](https://api.flutter.dev/flutter/widgets/NullableIndexedWidgetBuilder.html) itemBuilder, [ChildIndexGetter](https://api.flutter.dev/flutter/widgets/ChildIndexGetter.html)? findChildIndexCallback, [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? itemCount, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addAutomaticKeepAlives = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addRepaintBoundaries = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addSemanticIndexes = true, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a scrollable, linear array of widgets that are created on demand.

[ListView.custom](https://api.flutter.dev/flutter/widgets/ListView/ListView.custom.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? itemExtent, [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)? prototypeItem, [ItemExtentBuilder](https://api.flutter.dev/flutter/rendering/ItemExtentBuilder.html)? itemExtentBuilder, required [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html) childrenDelegate, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [int](https://api.flutter.dev/flutter/dart-core/int-class.html)? semanticChildCount, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a scrollable, linear array of widgets with a custom child model.

const

[ListView.separated](https://api.flutter.dev/flutter/widgets/ListView/ListView.separated.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) scrollDirection = Axis.vertical, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) reverse = false, [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)? controller, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)? primary, [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)? physics, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) shrinkWrap = false, [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)? padding, required [NullableIndexedWidgetBuilder](https://api.flutter.dev/flutter/widgets/NullableIndexedWidgetBuilder.html) itemBuilder, [ChildIndexGetter](https://api.flutter.dev/flutter/widgets/ChildIndexGetter.html)? findChildIndexCallback, required [IndexedWidgetBuilder](https://api.flutter.dev/flutter/widgets/IndexedWidgetBuilder.html) separatorBuilder, required [int](https://api.flutter.dev/flutter/dart-core/int-class.html) itemCount, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addAutomaticKeepAlives = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addRepaintBoundaries = true, [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html) addSemanticIndexes = true, [double](https://api.flutter.dev/flutter/dart-core/double-class.html)? cacheExtent, [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html) dragStartBehavior = DragStartBehavior.start, [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) keyboardDismissBehavior = ScrollViewKeyboardDismissBehavior.manual, [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? restorationId, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge})

Creates a fixed-length scrollable linear array of list "items" separated by list item "separators".

### Properties

[anchor](https://api.flutter.dev/flutter/widgets/ScrollView/anchor.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

The relative position of the zero scroll offset.

finalinherited

[cacheExtent](https://api.flutter.dev/flutter/widgets/ScrollView/cacheExtent.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

The viewport has an area before and after the visible area to cache items that are about to become visible when the user scrolls.

finalinherited

[center](https://api.flutter.dev/flutter/widgets/ScrollView/center.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

The first child in the [GrowthDirection.forward](https://api.flutter.dev/flutter/rendering/GrowthDirection.html) growth direction.

finalinherited

[childrenDelegate](https://api.flutter.dev/flutter/widgets/ListView/childrenDelegate.html) → [SliverChildDelegate](https://api.flutter.dev/flutter/widgets/SliverChildDelegate-class.html)

A delegate that provides the children for the [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html).

final

[clipBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

finalinherited

[controller](https://api.flutter.dev/flutter/widgets/ScrollView/controller.html) → [ScrollController](https://api.flutter.dev/flutter/widgets/ScrollController-class.html)?

An object that can be used to control the position to which this scroll view is scrolled.

finalinherited

[dragStartBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/dragStartBehavior.html) → [DragStartBehavior](https://api.flutter.dev/flutter/gestures/DragStartBehavior.html)

Determines the way that drag start behavior is handled.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[itemExtent](https://api.flutter.dev/flutter/widgets/ListView/itemExtent.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)?

If non-null, forces the children to have the given extent in the scroll direction.

final

[itemExtentBuilder](https://api.flutter.dev/flutter/widgets/ListView/itemExtentBuilder.html) → [ItemExtentBuilder](https://api.flutter.dev/flutter/rendering/ItemExtentBuilder.html)?

If non-null, forces the children to have the corresponding extent returned by the builder.

final

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[keyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/keyboardDismissBehavior.html) → [ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html)

[ScrollViewKeyboardDismissBehavior](https://api.flutter.dev/flutter/widgets/ScrollViewKeyboardDismissBehavior.html) the defines how this [ScrollView](https://api.flutter.dev/flutter/widgets/ScrollView-class.html) will dismiss the keyboard automatically.

finalinherited

[padding](https://api.flutter.dev/flutter/widgets/BoxScrollView/padding.html) → [EdgeInsetsGeometry](https://api.flutter.dev/flutter/painting/EdgeInsetsGeometry-class.html)?

The amount of space by which to inset the children.

finalinherited

[physics](https://api.flutter.dev/flutter/widgets/ScrollView/physics.html) → [ScrollPhysics](https://api.flutter.dev/flutter/widgets/ScrollPhysics-class.html)?

How the scroll view should respond to user input.

finalinherited

[primary](https://api.flutter.dev/flutter/widgets/ScrollView/primary.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)?

Whether this is the primary scroll view associated with the parent [PrimaryScrollController](https://api.flutter.dev/flutter/widgets/PrimaryScrollController-class.html).

finalinherited

[prototypeItem](https://api.flutter.dev/flutter/widgets/ListView/prototypeItem.html) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)?

If non-null, forces the children to have the same extent as the given widget in the scroll direction.

final

[restorationId](https://api.flutter.dev/flutter/widgets/ScrollView/restorationId.html) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)?

Restoration ID to save and restore the scroll offset of the scrollable.

finalinherited

[reverse](https://api.flutter.dev/flutter/widgets/ScrollView/reverse.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether the scroll view scrolls in the reading direction.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[scrollBehavior](https://api.flutter.dev/flutter/widgets/ScrollView/scrollBehavior.html) → [ScrollBehavior](https://api.flutter.dev/flutter/widgets/ScrollBehavior-class.html)?

A [ScrollBehavior](https://api.flutter.dev/flutter/widgets/ScrollBehavior-class.html) that will be applied to this widget individually.

finalinherited

[scrollDirection](https://api.flutter.dev/flutter/widgets/ScrollView/scrollDirection.html) → [Axis](https://api.flutter.dev/flutter/painting/Axis.html)

The [Axis](https://api.flutter.dev/flutter/painting/Axis.html) along which the scroll view's offset increases.

finalinherited

[semanticChildCount](https://api.flutter.dev/flutter/widgets/ScrollView/semanticChildCount.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)?

The number of children that will contribute semantic information.

finalinherited

[shrinkWrap](https://api.flutter.dev/flutter/widgets/ScrollView/shrinkWrap.html) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

Whether the extent of the scroll view in the [scrollDirection](https://api.flutter.dev/flutter/widgets/ScrollView/scrollDirection.html) should be determined by the contents being viewed.

finalinherited

### Methods

[build](https://api.flutter.dev/flutter/widgets/ScrollView/build.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Describes the part of the user interface represented by this widget.

inherited

[buildChildLayout](https://api.flutter.dev/flutter/widgets/ListView/buildChildLayout.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Subclasses should override this method to build the layout model.

override

[buildSlivers](https://api.flutter.dev/flutter/widgets/BoxScrollView/buildSlivers.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

Build the list of widgets to place inside the viewport.

inherited

[buildViewport](https://api.flutter.dev/flutter/widgets/ScrollView/buildViewport.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, [ViewportOffset](https://api.flutter.dev/flutter/rendering/ViewportOffset-class.html) offset, [AxisDirection](https://api.flutter.dev/flutter/painting/AxisDirection.html) axisDirection, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> slivers) → [Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)

Build the viewport.

inherited

[createElement](https://api.flutter.dev/flutter/widgets/StatelessWidget/createElement.html)() → [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html)

Creates a [StatelessElement](https://api.flutter.dev/flutter/widgets/StatelessElement-class.html) to manage this widget's location in the tree.

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/ListView/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[getDirection](https://api.flutter.dev/flutter/widgets/ScrollView/getDirection.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [AxisDirection](https://api.flutter.dev/flutter/painting/AxisDirection.html)

Returns the [AxisDirection](https://api.flutter.dev/flutter/painting/AxisDirection.html) in which the scroll view scrolls.

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## row

A widget that displays its children in a horizontal array.

To cause a child to expand to fill the available horizontal space, wrap the child in an [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) widget.

The [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) widget does not scroll (and in general it is considered an error to have more children in a [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) than will fit in the available room). If you have a line of widgets and want them to be able to scroll if there is insufficient room, consider using a [ListView](https://api.flutter.dev/flutter/widgets/ListView-class.html).

For a vertical variant, see [Column](https://api.flutter.dev/flutter/widgets/Column-class.html).

If you only have one child, then consider using [Align](https://api.flutter.dev/flutter/widgets/Align-class.html) or [Center](https://api.flutter.dev/flutter/widgets/Center-class.html) to position the child.

### Why does my row have a yellow and black warning stripe?

If the non-flexible contents of the row (those that are not wrapped in [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) or [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) widgets) are together wider than the row itself, then the row is said to have overflowed. When a row overflows, the row does not have any remaining space to share between its [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) and [Flexible](https://api.flutter.dev/flutter/widgets/Flexible-class.html) children. The row reports this by drawing a yellow and black striped warning box on the edge that is overflowing. If there is room on the outside of the row, the amount of overflow is printed in red lettering.

Suppose, for instance, that you had this code:

const Row(

children: <Widget>[

FlutterLogo(),

Text("Flutter's hot reload helps you quickly and easily experiment, build UIs, add features, and fix bug faster. Experience sub-second reload times, without losing state, on emulators, simulators, and hardware for iOS and Android."),

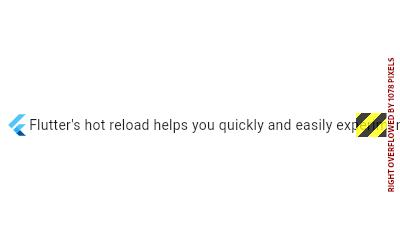
Icon(Icons.sentiment\_very\_satisfied),

],

)

The row first asks its first child, the [FlutterLogo](https://api.flutter.dev/flutter/material/FlutterLogo-class.html), to lay out, at whatever size the logo would like. The logo is friendly and happily decides to be 24 pixels to a side. This leaves lots of room for the next child. The row then asks that next child, the text, to lay out, at whatever size it thinks is best.

At this point, the text, not knowing how wide is too wide, says "Ok, I will be thiiiiiiiiiiiiiiiiiiiis wide.", and goes well beyond the space that the row has available, not wrapping. The row responds, "That's not fair, now I have no more room available for my other children!", and gets angry and sprouts a yellow and black strip.



The fix is to wrap the second child in an [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html) widget, which tells the row that the child should be given the remaining room:

const Row(

children: <Widget>[

FlutterLogo(),

Expanded(

child: Text("Flutter's hot reload helps you quickly and easily experiment, build UIs, add features, and fix bug faster. Experience sub-second reload times, without losing state, on emulators, simulators, and hardware for iOS and Android."),

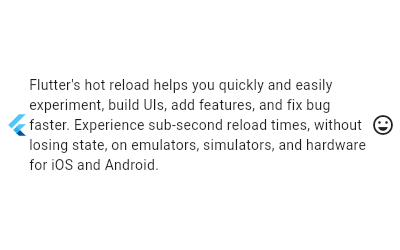
),

Icon(Icons.sentiment\_very\_satisfied),

],

)

Now, the row first asks the logo to lay out, and then asks the icon to lay out. The [Icon](https://api.flutter.dev/flutter/widgets/Icon-class.html), like the logo, is happy to take on a reasonable size (also 24 pixels, not coincidentally, since both [FlutterLogo](https://api.flutter.dev/flutter/material/FlutterLogo-class.html) and [Icon](https://api.flutter.dev/flutter/widgets/Icon-class.html) honor the ambient [IconTheme](https://api.flutter.dev/flutter/widgets/IconTheme-class.html)). This leaves some room left over, and now the row tells the text exactly how wide to be: the exact width of the remaining space. The text, now happy to comply to a reasonable request, wraps the text within that width, and you end up with a paragraph split over several lines.



The [textDirection](https://api.flutter.dev/flutter/widgets/Flex/textDirection.html) property controls the direction that children are rendered in. [TextDirection.ltr](https://api.flutter.dev/flutter/dart-ui/TextDirection.html) is the default [textDirection](https://api.flutter.dev/flutter/widgets/Flex/textDirection.html) of [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) children, so the first child is rendered at the start of the [Row](https://api.flutter.dev/flutter/widgets/Row-class.html), to the left, with subsequent children following to the right. If you want to order children in the opposite direction (right to left), then [textDirection](https://api.flutter.dev/flutter/widgets/Flex/textDirection.html) can be set to [TextDirection.rtl](https://api.flutter.dev/flutter/dart-ui/TextDirection.html). This is shown in the example below

const Row(

textDirection: TextDirection.rtl,

children: <Widget>[

FlutterLogo(),

Expanded(

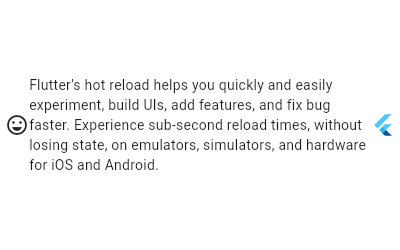
child: Text("Flutter's hot reload helps you quickly and easily experiment, build UIs, add features, and fix bug faster. Experience sub-second reload times, without losing state, on emulators, simulators, and hardware for iOS and Android."),

),

Icon(Icons.sentiment\_very\_satisfied),

],

)



### Layout algorithm

This section describes how a [*Row*](https://api.flutter.dev/flutter/widgets/Row-class.html) is rendered by the framework. See [*BoxConstraints*](https://api.flutter.dev/flutter/rendering/BoxConstraints-class.html) for an introduction to box layout models.

Layout for a [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) proceeds in six steps:

1. Layout each child with a null or zero flex factor (e.g., those that are not [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html)) with unbounded horizontal constraints and the incoming vertical constraints. If the [crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/crossAxisAlignment.html) is [CrossAxisAlignment.stretch](https://api.flutter.dev/flutter/rendering/CrossAxisAlignment.html), instead use tight vertical constraints that match the incoming max height.
2. Divide the remaining horizontal space among the children with non-zero flex factors (e.g., those that are [Expanded](https://api.flutter.dev/flutter/widgets/Expanded-class.html)) according to their flex factor. For example, a child with a flex factor of 2.0 will receive twice the amount of horizontal space as a child with a flex factor of 1.0.
3. Layout each of the remaining children with the same vertical constraints as in step 1, but instead of using unbounded horizontal constraints, use horizontal constraints based on the amount of space allocated in step 2. Children with [Flexible.fit](https://api.flutter.dev/flutter/widgets/Flexible/fit.html) properties that are [FlexFit.tight](https://api.flutter.dev/flutter/rendering/FlexFit.html) are given tight constraints (i.e., forced to fill the allocated space), and children with [Flexible.fit](https://api.flutter.dev/flutter/widgets/Flexible/fit.html) properties that are [FlexFit.loose](https://api.flutter.dev/flutter/rendering/FlexFit.html) are given loose constraints (i.e., not forced to fill the allocated space).
4. The height of the [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) is the maximum height of the children (which will always satisfy the incoming vertical constraints).
5. The width of the [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) is determined by the [mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) property. If the [mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) property is [MainAxisSize.max](https://api.flutter.dev/flutter/rendering/MainAxisSize.html), then the width of the [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) is the max width of the incoming constraints. If the [mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) property is [MainAxisSize.min](https://api.flutter.dev/flutter/rendering/MainAxisSize.html), then the width of the [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) is the sum of widths of the children (subject to the incoming constraints).
6. Determine the position for each child according to the [mainAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/mainAxisAlignment.html) and the [crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/crossAxisAlignment.html). For example, if the [mainAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/mainAxisAlignment.html) is [MainAxisAlignment.spaceBetween](https://api.flutter.dev/flutter/rendering/MainAxisAlignment.html), any horizontal space that has not been allocated to children is divided evenly and placed between the children.

### Constructors

[Row](https://api.flutter.dev/flutter/widgets/Row/Row.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [MainAxisAlignment](https://api.flutter.dev/flutter/rendering/MainAxisAlignment.html) mainAxisAlignment = MainAxisAlignment.start, [MainAxisSize](https://api.flutter.dev/flutter/rendering/MainAxisSize.html) mainAxisSize = MainAxisSize.max, [CrossAxisAlignment](https://api.flutter.dev/flutter/rendering/CrossAxisAlignment.html) crossAxisAlignment = CrossAxisAlignment.center, [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)? textDirection, [VerticalDirection](https://api.flutter.dev/flutter/painting/VerticalDirection.html) verticalDirection = VerticalDirection.down, [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html)? textBaseline, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[]})

Creates a horizontal array of children.

const

### Properties

[children](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The widgets below this widget in the tree.

finalinherited

[clipBehavior](https://api.flutter.dev/flutter/widgets/Flex/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

finalinherited

[crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/crossAxisAlignment.html) → [CrossAxisAlignment](https://api.flutter.dev/flutter/rendering/CrossAxisAlignment.html)

How the children should be placed along the cross axis.

finalinherited

[direction](https://api.flutter.dev/flutter/widgets/Flex/direction.html) → [Axis](https://api.flutter.dev/flutter/painting/Axis.html)

The direction to use as the main axis.

finalinherited

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[mainAxisAlignment](https://api.flutter.dev/flutter/widgets/Flex/mainAxisAlignment.html) → [MainAxisAlignment](https://api.flutter.dev/flutter/rendering/MainAxisAlignment.html)

How the children should be placed along the main axis.

finalinherited

[mainAxisSize](https://api.flutter.dev/flutter/widgets/Flex/mainAxisSize.html) → [MainAxisSize](https://api.flutter.dev/flutter/rendering/MainAxisSize.html)

How much space should be occupied in the main axis.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[textBaseline](https://api.flutter.dev/flutter/widgets/Flex/textBaseline.html) → [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html)?

If aligning items according to their baseline, which baseline to use.

finalinherited

[textDirection](https://api.flutter.dev/flutter/widgets/Flex/textDirection.html) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

Determines the order to lay children out horizontally and how to interpret start and end in the horizontal direction.

finalinherited

[verticalDirection](https://api.flutter.dev/flutter/widgets/Flex/verticalDirection.html) → [VerticalDirection](https://api.flutter.dev/flutter/painting/VerticalDirection.html)

Determines the order to lay children out vertically and how to interpret start and end in the vertical direction.

finalinherited

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/createElement.html)() → [MultiChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Flex/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderFlex](https://api.flutter.dev/flutter/rendering/RenderFlex-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

inherited

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Flex/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Flex/createRenderObject.html).

inherited

[getEffectiveTextDirection](https://api.flutter.dev/flutter/widgets/Flex/getEffectiveTextDirection.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

The value to pass to [RenderFlex.textDirection](https://api.flutter.dev/flutter/rendering/RenderFlex/textDirection.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Flex/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderFlex](https://api.flutter.dev/flutter/rendering/RenderFlex-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Flex/createRenderObject.html).

inherited

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## stack

A widget that positions its children relative to the edges of its box.

This class is useful if you want to overlap several children in a simple way, for example having some text and an image, overlaid with a gradient and a button attached to the bottom.

Each child of a [Stack](https://api.flutter.dev/flutter/widgets/Stack-class.html) widget is either positioned or non-positioned. Positioned children are those wrapped in a [Positioned](https://api.flutter.dev/flutter/widgets/Positioned-class.html) widget that has at least one non-null property. The stack sizes itself to contain all the non-positioned children, which are positioned according to [alignment](https://api.flutter.dev/flutter/widgets/Stack/alignment.html) (which defaults to the top-left corner in left-to-right environments and the top-right corner in right-to-left environments). The positioned children are then placed relative to the stack according to their top, right, bottom, and left properties.

The stack paints its children in order with the first child being at the bottom. If you want to change the order in which the children paint, you can rebuild the stack with the children in the new order. If you reorder the children in this way, consider giving the children non-null keys. These keys will cause the framework to move the underlying objects for the children to their new locations rather than recreate them at their new location.

For more details about the stack layout algorithm, see [RenderStack](https://api.flutter.dev/flutter/rendering/RenderStack-class.html).

If you want to lay a number of children out in a particular pattern, or if you want to make a custom layout manager, you probably want to use [CustomMultiChildLayout](https://api.flutter.dev/flutter/widgets/CustomMultiChildLayout-class.html) instead. In particular, when using a [Stack](https://api.flutter.dev/flutter/widgets/Stack-class.html) you can't position children relative to their size or the stack's own size.

### Constructors

[Stack](https://api.flutter.dev/flutter/widgets/Stack/Stack.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html) alignment = AlignmentDirectional.topStart, [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)? textDirection, [StackFit](https://api.flutter.dev/flutter/rendering/StackFit.html) fit = StackFit.loose, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.hardEdge, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[]})

Creates a stack layout widget.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/Stack/alignment.html) → [AlignmentGeometry](https://api.flutter.dev/flutter/painting/AlignmentGeometry-class.html)

How to align the non-positioned and partially-positioned children in the stack.

final

[children](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The widgets below this widget in the tree.

finalinherited

[clipBehavior](https://api.flutter.dev/flutter/widgets/Stack/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

final

[fit](https://api.flutter.dev/flutter/widgets/Stack/fit.html) → [StackFit](https://api.flutter.dev/flutter/rendering/StackFit.html)

How to size the non-positioned children in the stack.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[textDirection](https://api.flutter.dev/flutter/widgets/Stack/textDirection.html) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

The text direction with which to resolve [alignment](https://api.flutter.dev/flutter/widgets/Stack/alignment.html).

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/createElement.html)() → [MultiChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Stack/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderStack](https://api.flutter.dev/flutter/rendering/RenderStack-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Stack/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Stack/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Stack/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderStack](https://api.flutter.dev/flutter/rendering/RenderStack-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Stack/createRenderObject.html).

override

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## table

A widget that uses the table layout algorithm for its children.

If you only have one row, the [Row](https://api.flutter.dev/flutter/widgets/Row-class.html) widget is more appropriate. If you only have one column, the [SliverList](https://api.flutter.dev/flutter/widgets/SliverList-class.html) or [Column](https://api.flutter.dev/flutter/widgets/Column-class.html) widgets will be more appropriate.

Rows size vertically based on their contents. To control the individual column widths, use the [columnWidths](https://api.flutter.dev/flutter/widgets/Table/columnWidths.html) property to specify a [TableColumnWidth](https://api.flutter.dev/flutter/rendering/TableColumnWidth-class.html) for each column. If [columnWidths](https://api.flutter.dev/flutter/widgets/Table/columnWidths.html) is null, or there is a null entry for a given column in [columnWidths](https://api.flutter.dev/flutter/widgets/Table/columnWidths.html), the table uses the [defaultColumnWidth](https://api.flutter.dev/flutter/widgets/Table/defaultColumnWidth.html) instead.

By default, [defaultColumnWidth](https://api.flutter.dev/flutter/widgets/Table/defaultColumnWidth.html) is a [FlexColumnWidth](https://api.flutter.dev/flutter/rendering/FlexColumnWidth-class.html). This [TableColumnWidth](https://api.flutter.dev/flutter/rendering/TableColumnWidth-class.html) divides up the remaining space in the horizontal axis to determine the column width. If wrapping a [Table](https://api.flutter.dev/flutter/widgets/Table-class.html) in a horizontal [ScrollView](https://api.flutter.dev/flutter/widgets/ScrollView-class.html), choose a different [TableColumnWidth](https://api.flutter.dev/flutter/rendering/TableColumnWidth-class.html), such as [FixedColumnWidth](https://api.flutter.dev/flutter/rendering/FixedColumnWidth-class.html).

For more details about the table layout algorithm, see [RenderTable](https://api.flutter.dev/flutter/rendering/RenderTable-class.html). To control the alignment of children, see [TableCell](https://api.flutter.dev/flutter/widgets/TableCell-class.html).

### Constructors

[Table](https://api.flutter.dev/flutter/widgets/Table/Table.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[TableRow](https://api.flutter.dev/flutter/widgets/TableRow-class.html)> children = const <TableRow>[], [Map](https://api.flutter.dev/flutter/dart-core/Map-class.html)<[int](https://api.flutter.dev/flutter/dart-core/int-class.html), [TableColumnWidth](https://api.flutter.dev/flutter/rendering/TableColumnWidth-class.html)>? columnWidths, [TableColumnWidth](https://api.flutter.dev/flutter/rendering/TableColumnWidth-class.html) defaultColumnWidth = const FlexColumnWidth(), [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)? textDirection, [TableBorder](https://api.flutter.dev/flutter/rendering/TableBorder-class.html)? border, [TableCellVerticalAlignment](https://api.flutter.dev/flutter/rendering/TableCellVerticalAlignment.html) defaultVerticalAlignment = TableCellVerticalAlignment.top, [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html)? textBaseline})

Creates a table.

### Properties

[border](https://api.flutter.dev/flutter/widgets/Table/border.html) → [TableBorder](https://api.flutter.dev/flutter/rendering/TableBorder-class.html)?

The style to use when painting the boundary and interior divisions of the table.

final

[children](https://api.flutter.dev/flutter/widgets/Table/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[TableRow](https://api.flutter.dev/flutter/widgets/TableRow-class.html)>

The rows of the table.

final

[columnWidths](https://api.flutter.dev/flutter/widgets/Table/columnWidths.html) → [Map](https://api.flutter.dev/flutter/dart-core/Map-class.html)<[int](https://api.flutter.dev/flutter/dart-core/int-class.html), [TableColumnWidth](https://api.flutter.dev/flutter/rendering/TableColumnWidth-class.html)>?

How the horizontal extents of the columns of this table should be determined.

final

[defaultColumnWidth](https://api.flutter.dev/flutter/widgets/Table/defaultColumnWidth.html) → [TableColumnWidth](https://api.flutter.dev/flutter/rendering/TableColumnWidth-class.html)

How to determine with widths of columns that don't have an explicit sizing algorithm.

final

[defaultVerticalAlignment](https://api.flutter.dev/flutter/widgets/Table/defaultVerticalAlignment.html) → [TableCellVerticalAlignment](https://api.flutter.dev/flutter/rendering/TableCellVerticalAlignment.html)

How cells that do not explicitly specify a vertical alignment are aligned vertically.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[textBaseline](https://api.flutter.dev/flutter/widgets/Table/textBaseline.html) → [TextBaseline](https://api.flutter.dev/flutter/dart-ui/TextBaseline.html)?

The text baseline to use when aligning rows using [TableCellVerticalAlignment.baseline](https://api.flutter.dev/flutter/rendering/TableCellVerticalAlignment.html).

final

[textDirection](https://api.flutter.dev/flutter/widgets/Table/textDirection.html) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

The direction in which the columns are ordered.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/Table/createElement.html)() → [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

override

[createRenderObject](https://api.flutter.dev/flutter/widgets/Table/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderTable](https://api.flutter.dev/flutter/rendering/RenderTable-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Widget/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

inherited

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Table/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Table/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderTable](https://api.flutter.dev/flutter/rendering/RenderTable-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Table/createRenderObject.html).

override

### Operators

[operator ==](https://api.flutter.dev/flutter/widgets/Widget/operator_equals.html)([Object](https://api.flutter.dev/flutter/dart-core/Object-class.html) other) → [bool](https://api.flutter.dev/flutter/dart-core/bool-class.html)

The equality operator.

inherited

## wrap

A widget that displays its children in multiple horizontal or vertical runs.

A [Wrap](https://api.flutter.dev/flutter/widgets/Wrap-class.html) lays out each child and attempts to place the child adjacent to the previous child in the main axis, given by [direction](https://api.flutter.dev/flutter/widgets/Wrap/direction.html), leaving [spacing](https://api.flutter.dev/flutter/widgets/Wrap/spacing.html) space in between. If there is not enough space to fit the child, [Wrap](https://api.flutter.dev/flutter/widgets/Wrap-class.html) creates a new run adjacent to the existing children in the cross axis.

After all the children have been allocated to runs, the children within the runs are positioned according to the [alignment](https://api.flutter.dev/flutter/widgets/Wrap/alignment.html) in the main axis and according to the [crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Wrap/crossAxisAlignment.html) in the cross axis.

The runs themselves are then positioned in the cross axis according to the [runSpacing](https://api.flutter.dev/flutter/widgets/Wrap/runSpacing.html) and [runAlignment](https://api.flutter.dev/flutter/widgets/Wrap/runAlignment.html).

### Constructors

[Wrap](https://api.flutter.dev/flutter/widgets/Wrap/Wrap.html)({[Key](https://api.flutter.dev/flutter/foundation/Key-class.html)? key, [Axis](https://api.flutter.dev/flutter/painting/Axis.html) direction = Axis.horizontal, [WrapAlignment](https://api.flutter.dev/flutter/rendering/WrapAlignment.html) alignment = WrapAlignment.start, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) spacing = 0.0, [WrapAlignment](https://api.flutter.dev/flutter/rendering/WrapAlignment.html) runAlignment = WrapAlignment.start, [double](https://api.flutter.dev/flutter/dart-core/double-class.html) runSpacing = 0.0, [WrapCrossAlignment](https://api.flutter.dev/flutter/rendering/WrapCrossAlignment.html) crossAxisAlignment = WrapCrossAlignment.start, [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)? textDirection, [VerticalDirection](https://api.flutter.dev/flutter/painting/VerticalDirection.html) verticalDirection = VerticalDirection.down, [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html) clipBehavior = Clip.none, [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)> children = const <Widget>[]})

Creates a wrap layout.

const

### Properties

[alignment](https://api.flutter.dev/flutter/widgets/Wrap/alignment.html) → [WrapAlignment](https://api.flutter.dev/flutter/rendering/WrapAlignment.html)

How the children within a run should be placed in the main axis.

final

[children](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/children.html) → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[Widget](https://api.flutter.dev/flutter/widgets/Widget-class.html)>

The widgets below this widget in the tree.

finalinherited

[clipBehavior](https://api.flutter.dev/flutter/widgets/Wrap/clipBehavior.html) → [Clip](https://api.flutter.dev/flutter/dart-ui/Clip.html)

The content will be clipped (or not) according to this option.

final

[crossAxisAlignment](https://api.flutter.dev/flutter/widgets/Wrap/crossAxisAlignment.html) → [WrapCrossAlignment](https://api.flutter.dev/flutter/rendering/WrapCrossAlignment.html)

How the children within a run should be aligned relative to each other in the cross axis.

final

[direction](https://api.flutter.dev/flutter/widgets/Wrap/direction.html) → [Axis](https://api.flutter.dev/flutter/painting/Axis.html)

The direction to use as the main axis.

final

[hashCode](https://api.flutter.dev/flutter/widgets/Widget/hashCode.html) → [int](https://api.flutter.dev/flutter/dart-core/int-class.html)

The hash code for this object.

read-onlyinherited

[key](https://api.flutter.dev/flutter/widgets/Widget/key.html) → [Key](https://api.flutter.dev/flutter/foundation/Key-class.html)?

Controls how one widget replaces another widget in the tree.

finalinherited

[runAlignment](https://api.flutter.dev/flutter/widgets/Wrap/runAlignment.html) → [WrapAlignment](https://api.flutter.dev/flutter/rendering/WrapAlignment.html)

How the runs themselves should be placed in the cross axis.

final

[runSpacing](https://api.flutter.dev/flutter/widgets/Wrap/runSpacing.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

How much space to place between the runs themselves in the cross axis.

final

[runtimeType](https://api.flutter.dev/flutter/dart-core/Object/runtimeType.html) → [Type](https://api.flutter.dev/flutter/dart-core/Type-class.html)

A representation of the runtime type of the object.

read-onlyinherited

[spacing](https://api.flutter.dev/flutter/widgets/Wrap/spacing.html) → [double](https://api.flutter.dev/flutter/dart-core/double-class.html)

How much space to place between children in a run in the main axis.

final

[textDirection](https://api.flutter.dev/flutter/widgets/Wrap/textDirection.html) → [TextDirection](https://api.flutter.dev/flutter/dart-ui/TextDirection.html)?

Determines the order to lay children out horizontally and how to interpret start and end in the horizontal direction.

final

[verticalDirection](https://api.flutter.dev/flutter/widgets/Wrap/verticalDirection.html) → [VerticalDirection](https://api.flutter.dev/flutter/painting/VerticalDirection.html)

Determines the order to lay children out vertically and how to interpret start and end in the vertical direction.

final

### Methods

[createElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectWidget/createElement.html)() → [MultiChildRenderObjectElement](https://api.flutter.dev/flutter/widgets/MultiChildRenderObjectElement-class.html)

RenderObjectWidgets always inflate to a [RenderObjectElement](https://api.flutter.dev/flutter/widgets/RenderObjectElement-class.html) subclass.

inherited

[createRenderObject](https://api.flutter.dev/flutter/widgets/Wrap/createRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context) → [RenderWrap](https://api.flutter.dev/flutter/rendering/RenderWrap-class.html)

Creates an instance of the [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) class that this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) represents, using the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html).

override

[debugDescribeChildren](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/debugDescribeChildren.html)() → [List](https://api.flutter.dev/flutter/dart-core/List-class.html)<[DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)>

Returns a list of DiagnosticsNode objects describing this node's children.

inherited

[debugFillProperties](https://api.flutter.dev/flutter/widgets/Wrap/debugFillProperties.html)([DiagnosticPropertiesBuilder](https://api.flutter.dev/flutter/foundation/DiagnosticPropertiesBuilder-class.html) properties) → void

Add additional properties associated with the node.

override

[didUnmountRenderObject](https://api.flutter.dev/flutter/widgets/RenderObjectWidget/didUnmountRenderObject.html)(covariant [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) renderObject) → void

A render object previously associated with this widget has been removed from the tree. The given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html) will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Wrap/createRenderObject.html).

inherited

[noSuchMethod](https://api.flutter.dev/flutter/dart-core/Object/noSuchMethod.html)([Invocation](https://api.flutter.dev/flutter/dart-core/Invocation-class.html) invocation) → dynamic

Invoked when a nonexistent method or property is accessed.

inherited

[toDiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toDiagnosticsNode.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html)? name, [DiagnosticsTreeStyle](https://api.flutter.dev/flutter/foundation/DiagnosticsTreeStyle.html)? style}) → [DiagnosticsNode](https://api.flutter.dev/flutter/foundation/DiagnosticsNode-class.html)

Returns a debug representation of the object that is used by debugging tools and by [DiagnosticsNode.toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticsNode/toStringDeep.html).

inherited

[toString](https://api.flutter.dev/flutter/foundation/Diagnosticable/toString.html)({[DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.info}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A string representation of this object.

inherited

[toStringDeep](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringDeep.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) prefixLineOne = '', [String](https://api.flutter.dev/flutter/dart-core/String-class.html)? prefixOtherLines, [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a string representation of this node and its descendants.

inherited

[toStringShallow](https://api.flutter.dev/flutter/foundation/DiagnosticableTree/toStringShallow.html)({[String](https://api.flutter.dev/flutter/dart-core/String-class.html) joiner = ', ', [DiagnosticLevel](https://api.flutter.dev/flutter/foundation/DiagnosticLevel.html) minLevel = DiagnosticLevel.debug}) → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

Returns a one-line detailed description of the object.

inherited

[toStringShort](https://api.flutter.dev/flutter/widgets/Widget/toStringShort.html)() → [String](https://api.flutter.dev/flutter/dart-core/String-class.html)

A short, textual description of this widget.

inherited

[updateRenderObject](https://api.flutter.dev/flutter/widgets/Wrap/updateRenderObject.html)([BuildContext](https://api.flutter.dev/flutter/widgets/BuildContext-class.html) context, covariant [RenderWrap](https://api.flutter.dev/flutter/rendering/RenderWrap-class.html) renderObject) → void

Copies the configuration described by this [RenderObjectWidget](https://api.flutter.dev/flutter/widgets/RenderObjectWidget-class.html) to the given [RenderObject](https://api.flutter.dev/flutter/rendering/RenderObject-class.html), which will be of the same type as returned by this object's [createRenderObject](https://api.flutter.dev/flutter/widgets/Wrap/createRenderObject.html).

override

# sliver widgets

## cupertino sliver navigation bar

## custom scroll view

## sliver app bar

## sliver child builder delegate

## sliver child list delegate

## sliver fixed extent list

## sliver grid

## sliver list

## sliver padding

## sliver persistent header

## sliver to box adapter