NSTextBlock Class Reference

Cocoa > Text & Fonts

2006-05-23

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NSTextBlock Class Reference

Inherits from	NSObject
Conforms to	NSCoding NSCopying NSObject (NSObject)
Framework	/System/Library/Frameworks/AppKit.framework
Availability	Available in Mac OS X v10.4 and later.
Declared in	NSTextTable.h
Companion guides	Text System Overview Text Layout Programming Guide for Cocoa

Overview

`NSTextBlock` objects represent a block of text laid out in a subregion of the text container. Text blocks appear as attributes on paragraphs, as part of the paragraph style.

The most important subclass is `NSTextTableBlock`, which represents a block of text that appears as a cell in a table. The table itself is represented by a separate class, `NSTextTable`, which is referenced by all of its `NSTextTableBlock` objects and which controls their sizing and positioning.

Tasks

Creating Text Blocks

`- init` (page 10)
Initializes and returns an empty text block object.

Working with Dimensions of Content

`- setValue:type:forDimension:` (page 12)
Sets a dimension of the text block.

`- valueForDimension:` (page 14)
Returns the value of the specified text block dimension.

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- `valueTypeForDimension:` (page 15)
  Returns the value type of the specified text block dimension.
- `setContentWidth:type:` (page 12)
  Sets the width of the text block.
- `contentWidth` (page 8)
  Returns the width of the text block.
- `contentWidthValueType` (page 9)
  Returns the type of value stored for the text block width.

Getting and Setting Margins, Borders, and Padding

- `setWidth:type:forLayer:edge:` (page 14)
  Sets the width of a specified edge of a specified layer of the text block.
- `setWidth:type:forLayer:` (page 13)
  Sets the width of all edges of a specified layer of the text block.
- `widthForLayer:edge:` (page 16)
  Returns the width of an edge of a specified layer of the text block.
- `widthValueTypeForLayer:edge:` (page 16)
  Returns the value type of an edge of a specified layer of the text block.

Getting and Setting Alignment

- `setVerticalAlignment:` (page 13)
  Sets the vertical alignment of the text block.
- `verticalAlignment` (page 15)
  Returns the vertical alignment of the text block.

Working with Color

- `setBackgroundColor:` (page 11)
  Sets the background color of the text block.
- `backgroundColor` (page 7)
  Returns the background color of the text block.
- `setBorderColor:forEdge:` (page 11)
  Sets the border color of the specified edge of the text block.
- `setBorderColor:` (page 11)
  Sets the color of all borders of the text block.
- `borderColorForEdge:` (page 7)
  Returns the border color of the specified text block edge.

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Determining Size and Position of a Text Block

- `rectForLayoutAtPoint:inRect:textContainer:characterRange:` (page 10)
  Returns the rectangle within which glyphs should be laid out for the specified arguments.
- `boundsRectForContentRect:inRect:textContainer:characterRange:` (page 8)
  Returns the rectangle the text in the block actually occupies, including padding, borders, and margins.

Drawing Colors and Decorations

- `drawBackgroundWithFrame:inView:characterRange:layoutManager:` (page 9)
  Called by the layout manager to draw any colors and other decorations before the text is drawn.

Instance Methods

backgroundColor

Returns the background color of the text block.

```
- (NSColor *)backgroundColor
```

Return Value
The background color of the text block.

Availability
Available in Mac OS X v10.4 and later.

See Also
- `setBackgroundColor:` (page 11)

Declared In
`NSTextTable.h`

borderColorForEdge:

Returns the border color of the specified text block edge.

```
- (NSColor *)borderColorForEdge:(NSRectEdge)edge
```

Parameters
edge
  The edge of the text block in question.

Return Value
The border color of the text block edge *edge*.

Availability
Available in Mac OS X v10.4 and later.

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See Also
- `setBorderColor:forEdge:` (page 11)

Declared In
`NSTextTable.h`

boundsRectForContentRect:inRect:textContainer:characterRange:

Returns the rectangle the text in the block actually occupies, including padding, borders, and margins.

```
- (NSRect)boundsRectForContentRect:(NSRect)contentRect inRect:(NSRect)rect
    textContainer:(NSTextContainer *)textContainer characterRange:(NSRange)charRange
```

Parameters

contentRect
: The actual rectangle in which the text was laid out, as determined by `rectForLayoutAtPoint:inRect:textContainer:characterRange:` (page 10).

rect
: The initial rectangle in *textContainer* proposed by the typesetter.

textContainer
: The text container being used for the layout.

charRange
: The range of the characters in the `NSTextStorage` object whose glyphs are to be drawn.

Return Value
The rectangle the text in the block actually occupies, including padding, borders, and margins.

Discussion
This methods is called by the typesetter after the text block is laid out to return the rectangle the text in the block actually occupies, including padding, borders, and margins.

Availability
Available in Mac OS X v10.4 and later.

See Also
- `rectForLayoutAtPoint:inRect:textContainer:characterRange:` (page 10)

Declared In
`NSTextTable.h`

contentWidth

Returns the width of the text block.

```
- (CGFloat)contentWidth
```

Return Value
The width of the text block. This value must be interpreted according to the value type returned by `contentWidthValueType` (page 9).

Discussion
This is a convenience method that invokes `valueForDimension:NSTextBlockWidth`.

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Availability
Available in Mac OS X v10.4 and later.

See Also
- `setContentWidth:type:` (page 12)
- `contentWidthValueType` (page 9)

Declared In
`NSTextTable.h`

contentWidthValueType

Returns the type of value stored for the text block width.

```
- (NSTextBlockValueType)contentWidthValueType
```

Return Value
The value type for the text block width. This determines how the width value should be interpreted.

Availability
Available in Mac OS X v10.4 and later.

See Also
- `setContentWidth:type:` (page 12)
- `contentWidth` (page 8)

Declared In
`NSTextTable.h`

drawBackgroundWithFrame:inView:characterRange:layoutManager:

Called by the layout manager to draw any colors and other decorations before the text is drawn.

```
- (void)drawBackgroundWithFrame:(NSRect)frameRect inView:(NSView *)controlView
    characterRange:(NSRange)charRange layoutManager:(NSLayoutManager *)layoutManager
```

Parameters

frameRect
The bounds rectangle in view coordinates.

controlView
The view in which drawing occurs.

charRange
The range of the characters in the `NSTextStorage` object whose glyphs are to be drawn.

layoutManager
The layout manager controlling the typesetting.

Availability
Available in Mac OS X v10.4 and later.

Declared In
`NSTextTable.h`

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init

Initializes and returns an empty text block object.

```
- (id)init
```

Return Value
An initialized text block object.

Discussion
This is the designated initializer for `NSTextBlock`.

Availability
Available in Mac OS X v10.4 and later.

Declared In
`NSTextTable.h`

rectForLayoutAtPoint:inRect:textContainer:characterRange:

Returns the rectangle within which glyphs should be laid out for the specified arguments.

```
- (NSRect)rectForLayoutAtPoint:(NSPoint)startingPoint inRect:(NSRect)rect
    textContainer:(NSTextContainer *)textContainer characterRange:(NSRange)charRange
```

Parameters

startingPoint
The location, in container coordinates, where layout begins.

rect
The rectangle in which the block is constrained to lie. For top-level blocks, this is the container rectangle of *textContainer*; for nested blocks, this is the layout rectangle of the enclosing block.

textContainer
The text container being used for the layout.

charRange
The range of the characters in the `NSTextStorage` object whose glyphs are to be drawn.

Return Value
The rectangle within which glyphs should be laid out.

Discussion
This method is called by the typesetter before the text block is laid out to return the rectangle within which glyphs should be laid out.

Availability
Available in Mac OS X v10.4 and later.

See Also
`- boundsRectForContentRect:inRect:textContainer:characterRange:` (page 8)

Declared In
`NSTextTable.h`

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setBackgroundColor:

Sets the background color of the text block.

```
- (void)setBackgroundColor:(NSColor *)color
```

Parameters

color

The new background color.

Availability
Available in Mac OS X v10.4 and later.

See Also
- backgroundColor (page 7)

Declared In
NSTextTable.h

setBorderColor:

Sets the color of all borders of the text block.

```
- (void)setBorderColor:(NSColor *)color
```

Parameters

color

The new color.

Discussion
This setting has no visible effect unless the border width is larger than the default, which is 0.

Availability
Available in Mac OS X v10.4 and later.

See Also
- borderColorForEdge: (page 7)
- setBorderColor:forEdge: (page 11)
- setWidth:type:forLayer: (page 13)

Related Sample Code
iSpend

Declared In
NSTextTable.h

setBorderColor:forEdge:

Sets the border color of the specified edge of the text block.

```
- (void)setBorderColor:(NSColor *)color forEdge:(NSRectEdge)edge
```


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Parameters

color

The new color.

edge

The edge whose color is to be set.

Discussion

This setting has no visible effect unless the border width is larger than the default, which is 0.

Availability

Available in Mac OS X v10.4 and later.

See Also

- `borderColorForEdge:` (page 7)
- `setWidth:type:forLayer:` (page 13)

Declared In

`NSTextTable.h`

setContentWidth:type:

Sets the width of the text block.

```
- (void)setContentWidth:(CGFloat)val type:(NSTextBlockValueType)type
```

Parameters

val

The new value for the width.

type

The type of value being provided. This controls how *val* is interpreted.

Availability

Available in Mac OS X v10.4 and later.

See Also

- `contentWidth` (page 8)
- `contentWidthValueType` (page 9)

Declared In

`NSTextTable.h`

setValue:type:forDimension:

Sets a dimension of the text block.

```
- (void)setValue:(CGFloat)val type:(NSTextBlockValueType)type
    forDimension:(NSTextBlockDimension)dimension
```

Parameters

val

The new value for the dimension.

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type

The type of value being provided. This controls how *val* is interpreted.

dimension

The dimension to set.

Availability
Available in Mac OS X v10.4 and later.

See Also
- valueForDimension: (page 14)
- valueTypeForDimension: (page 15)

Declared In
NSTextTable.h

setVerticalAlignment:

Sets the vertical alignment of the text block.

```
- (void)setVerticalAlignment:(NSTextBlockVerticalAlignment)alignment
```

Parameters

alignment

The new vertical alignment for the text block.

Availability
Available in Mac OS X v10.4 and later.

See Also
- verticalAlignment (page 15)

Related Sample Code
iSpend

Declared In
NSTextTable.h

setWidth:type:forLayer:

Sets the width of all edges of a specified layer of the text block.

```
- (void)setWidth:(CGFloat)val type:(NSTextBlockValueType)type
    forLayer:(NSTextBlockLayer)layer
```

Parameters

val

The new value for the specified edge width.

type

The type of value being provided. This controls how *val* is interpreted.

layer

The layer of the text block to modify.

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Availability
Available in Mac OS X v10.4 and later.

See Also
- `widthForLayer:edge:` (page 16)
- `setWidth:type:forLayer:edge:` (page 14)

Related Sample Code
iSpend

Declared In
`NSTextTable.h`

setWidth:type:forLayer:edge:

Sets the width of a specified edge of a specified layer of the text block.

```
- (void)setWidth:(CGFloat)val type:(NSTextBlockValueType)type
    forLayer:(NSTextBlockLayer)layer edge:(NSRectEdge)edge
```

Parameters

val
The new value for the specified edge width.

type
The type of value being provided. This controls how *val* is interpreted.

layer
The layer of the text block to modify.

edge
The edge of the layer to modify.

Availability
Available in Mac OS X v10.4 and later.

See Also
- `setWidth:type:forLayer:` (page 13)
- `widthForLayer:edge:` (page 16)

Related Sample Code
iSpend

Declared In
`NSTextTable.h`

valueForDimension:

Returns the value of the specified text block dimension.

```
- (CGFloat)valueForDimension:(NSTextBlockDimension)dimension
```


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Return Value
The value for the specified dimension. This value should be interpreted according to the value type returned by `valueTypeForDimension:` (page 15).

Availability
Available in Mac OS X v10.4 and later.

See Also
`- setValue:type:forDimension:` (page 12)
`valueTypeForDimension:` (page 15)

Declared In
`NSTextTable.h`

valueTypeForDimension:

Returns the value type of the specified text block dimension.

```
- (NSTextBlockValueType)valueTypeForDimension:(NSTextBlockDimension)dimension
```

Return Value
The value type for the specified text block dimension. This result determines how the value for the dimension should be interpreted.

Availability
Available in Mac OS X v10.4 and later.

See Also
`- setValue:type:forDimension:` (page 12)
`valueForDimension:` (page 14)

Declared In
`NSTextTable.h`

verticalAlignment

Returns the vertical alignment of the text block.

```
- (NSTextBlockVerticalAlignment)verticalAlignment
```

Return Value
The vertical alignment of the text block.

Availability
Available in Mac OS X v10.4 and later.

See Also
`- setVerticalAlignment:` (page 13)

Declared In
`NSTextTable.h`

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widthForLayer:edge:

Returns the width of an edge of a specified layer of the text block.

```
- (CGFloat)widthForLayer:(NSTextBlockLayer)layer edge:(NSRectEdge)edge
```

Parameters

layer

The layer to examine.

edge

The edge of the layer to examine.

Return Value

The width of the *edge* of *layer*. This value must be interpreted according to the value type returned by `widthValueTypeForLayer:edge:` (page 16).

Availability

Available in Mac OS X v10.4 and later.

See Also

`widthValueTypeForLayer:edge:` (page 16)

`- setWidth:type:forLayer:edge:` (page 14)

`- setWidth:type:forLayer:` (page 13)

Declared In

`NSTextTable.h`

widthValueTypeForLayer:edge:

Returns the value type of an edge of a specified layer of the text block.

```
- (NSTextBlockValueType)widthValueTypeForLayer:(NSTextBlockLayer)layer
    edge:(NSRectEdge)edge
```

Parameters

layer

The layer to examine.

edge

The edge of the layer to examine.

Return Value

The value type of the *edge* of *layer*. This determines how the value for this *edge* of *layer* should be interpreted.

Availability

Available in Mac OS X v10.4 and later.

See Also

`widthForLayer:edge:` (page 16)

`- setWidth:type:forLayer:edge:` (page 14)

Declared In

`NSTextTable.h`

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Constants

The following constants specify values used with method parameters of type `NSTextBlockValueType`.

Constant	Description
`NSTextBlockAbsoluteValueType`	Absolute value in points Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockPercentageValueType`	Percentage value (out of 100) Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.

The following constants specify values used with method parameters of type `NSTextBlockDimension`.

Constant	Description
`NSTextBlockWidth`	Width of the text block Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockMinimumWidth`	Minimum width of the text block Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockMaximumWidth`	Maximum width of the text block Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockHeight`	Height of the text block Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockMinimumHeight`	Minimum height of the text block Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockMaximumHeight`	Maximum height of the text block Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.

The following constants specify values used with method parameters of type `NSTextBlockLayer`

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Constant	Description
`NSTextBlockPadding`	Padding of the text block: space surrounding the content area extending to the border Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockBorder`	Border of the text block: space between padding and margin, typically colored to present a visible boundary Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockMargin`	Margin of the text block: space surrounding the border Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.

The following constants specify values used with method parameters of type `NSTextBlockVerticalAlignment`

.

Constant	Description
`NSTextBlockTopAlignment`	Aligns adjacent blocks at their top Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockMiddleAlignment`	Aligns adjacent blocks at their middle Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockBottomAlignment`	Aligns adjacent blocks at their bottom Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.
`NSTextBlockBaselineAlignment`	Aligns adjacent blocks at the baseline of the first line of text in the block Available in Mac OS X v10.4 and later. Declared in `NSTextTable.h`.

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Document Revision History

This table describes the changes to *NSTextBlock Class Reference*.

Date	Notes
2006-05-23	First publication of this content as a separate document.
	Clarified that NSRange parameters apply to the NSTextStorage instance within which typesetting is occurring.

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Document Revision History

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