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# NSMutableAttributedString Additions Reference

[Cocoa > Text & Fonts](#)



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# NSMutableAttributedString Additions Reference

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<b>Inherits from</b>	NSAttributedString : NSObject
<b>Framework</b>	/System/Library/Frameworks/AppKit.framework
<b>Companion guide</b>	Attributed Strings Programming Guide
<b>Declared in</b>	NSAttributedString.h NSTextAttachment.h

## Overview

Additions to the NSMutableAttributedString class primarily involve setting graphical attributes, such as font, super- or subscripting, and alignment, and making these attributes consistent after changes.

## Tasks

### Changing Attributes

- [applyFontTraits:range:](#) (page 6)  
Applies the font attributes specified by *mask* to the characters in *aRange*.
- [setAlignment:range:](#) (page 10)  
Sets the alignment characteristic of the paragraph style attribute for the characters in *aRange* to *alignment*.
- [setBaseWritingDirection:range:](#) (page 10)  
Sets the base writing direction for the characters in *range* to *writingDirection*.
- [subscriptRange:](#) (page 11)  
Decrements the value of the superscript attribute for characters in *aRange* by 1.
- [superscriptRange:](#) (page 11)  
Increments the value of the superscript attribute for characters in *aRange* by 1.
- [unscriptRange:](#) (page 12)  
Removes the superscript attribute from the characters in *aRange*.

### Updating Attachment Contents

- [updateAttachmentsFromPath:](#) (page 12)  
Updates all attachments based on files contained in the RTFD file package at *path*.

## Fixing Attributes After Changes

- [fixAttributesInRange:](#) (page 7)  
Invokes the other `fix...` methods, allowing you to clean up an attributed string with a single message.
- [fixAttachmentAttributeInRange:](#) (page 7)  
Cleans up attachment attributes in `aRange`, removing all attachment attributes assigned to characters other than `NSAttachmentCharacter`.
- [fixFontAttributeInRange:](#) (page 7)  
Fixes the font attribute in `aRange`, assigning default fonts to characters with illegal fonts for their scripts and otherwise correcting font attribute assignments.
- [fixParagraphStyleAttributeInRange:](#) (page 8)  
Fixes the paragraph style attributes in `aRange`, assigning the first paragraph style attribute value in each paragraph to all characters of the paragraph.

## Reading Content

- [readFromData:options:documentAttributes:](#) (page 8)  
Sets the contents of the receiver from the stream at `data`.
- [readFromData:options:documentAttributes:error:](#) (page 9)  
Sets the contents of the receiver from the stream at `data`.
- [readFromURL:options:documentAttributes:](#) (page 9)  
Sets the contents of receiver from the file at `url`.
- [readFromURL:options:documentAttributes:error:](#) (page 10)  
Sets the contents of receiver from the file at `url`.

## Instance Methods

### **applyFontTraits:range:**

Applies the font attributes specified by `mask` to the characters in `aRange`.

```
(void)applyFontTraits:(NSFontTraitMask)mask range:(NSRange)aRange
```

#### **Discussion**

See the `NSFontManager` class specification for a description of the font traits available. Raises an `NSRangeException` if any part of `aRange` lies beyond the end of the receiver's characters.

#### **Availability**

Available in Mac OS X v10.0 and later.

#### **See Also**

- [setAlignment:range:](#) (page 10)

#### **Declared In**

`NSAttributedString.h`

**fixAttachmentAttributeInRange:**

Cleans up attachment attributes in *aRange*, removing all attachment attributes assigned to characters other than `NSAttachmentCharacter`.

- (void)fixAttachmentAttributeInRange:(NSRange)aRange

**Discussion**

Raises an `NSRangeException` if any part of *aRange* lies beyond the end of the receiver's characters.

**Availability**

Available in Mac OS X v10.0 and later.

**See Also**

- [fixFontAttributeInRange:](#) (page 7)
- [fixParagraphStyleAttributeInRange:](#) (page 8)
- [fixAttributesInRange:](#) (page 7)

**Declared In**

NSAttributedString.h

**fixAttributesInRange:**

Invokes the other `fix...` methods, allowing you to clean up an attributed string with a single message.

- (void)fixAttributesInRange:(NSRange)aRange

**Discussion**

Raises an `NSRangeException` if any part of *aRange* lies beyond the end of the receiver's characters.

**Availability**

Available in Mac OS X v10.0 and later.

**See Also**

- [fixAttachmentAttributeInRange:](#) (page 7)
- [fixFontAttributeInRange:](#) (page 7)
- [fixParagraphStyleAttributeInRange:](#) (page 8)

**Declared In**

NSAttributedString.h

**fixFontAttributeInRange:**

Fixes the font attribute in *aRange*, assigning default fonts to characters with illegal fonts for their scripts and otherwise correcting font attribute assignments.

- (void)fixFontAttributeInRange:(NSRange)aRange

**Discussion**

For example, Kanji characters assigned a Latin font are reassigned an appropriate Kanji font. Raises an `NSRangeException` if any part of *aRange* lies beyond the end of the receiver's characters.

**Availability**

Available in Mac OS X v10.0 and later.

**See Also**

- [fixParagraphStyleAttributeInRange:](#) (page 8)
- [fixAttachmentAttributeInRange:](#) (page 7)
- [fixAttributesInRange:](#) (page 7)

**Declared In**

NSAttributedString.h

**fixParagraphStyleAttributeInRange:**

Fixes the paragraph style attributes in *aRange*, assigning the first paragraph style attribute value in each paragraph to all characters of the paragraph.

```
- (void)fixParagraphStyleAttributeInRange:(NSRange)aRange
```

**Discussion**

This method extends the range as needed to cover the last paragraph partially contained. A paragraph is delimited by any of these characters, the longest possible sequence being preferred to any shorter:

U+000D (\r or CR)

U+000A (\n or LF)

U+2028 (Unicode line separator)

U+2029 (Unicode paragraph separator) \r\n, in that order (also known as CRLF)

Raises an `NSRangeException` if any part of *aRange* lies beyond the end of the receiver's characters.

**Availability**

Available in Mac OS X v10.0 and later.

**See Also**

- [fixFontAttributeInRange:](#) (page 7)
- [fixAttachmentAttributeInRange:](#) (page 7)
- [fixAttributesInRange:](#) (page 7)

**Declared In**

NSAttributedString.h

**readFromData:options:documentAttributes:**

Sets the contents of the receiver from the stream at *data*.

```
- (BOOL)readFromData:(NSData *)data options:(NSDictionary *)options
  documentAttributes:(NSDictionary **)dict
```

**Discussion**

*options* can contain one of the values described in the "Constants" section of NSAttributedString Additions ("Option keys for importing documents").



On return, the *documentAttributes* dictionary (if provided) contains the various keys described in the “Constants” section of NSAttributedString Additions.

#### Availability

Available in Mac OS X v10.3 and later.

#### Declared In

NSAttributedString.h

## readFromData:options:documentAttributes:error:

Sets the contents of the receiver from the stream at *data*.

```
- (BOOL)readFromData:(NSData *)data options:(NSDictionary *)opts
    documentAttributes:(NSDictionary **)dict error:(NSError **)error
```

#### Discussion

*opts* can contain one of the values described in the “Constants” section of NSAttributedString Additions (“Option keys for importing documents”).

On return, the *documentAttributes* dictionary (if provided) contains the various keys described in the “Constants” section of NSAttributedString Additions. If unsuccessful, returns NO, after setting *error* to point to an NSError that encapsulates the reason why the attributed string object could not be created.

#### Availability

Available in Mac OS X v10.4 and later.

#### Declared In

NSAttributedString.h

## readFromURL:options:documentAttributes:

Sets the contents of receiver from the file at *url*.

```
- (BOOL)readFromURL:(NSURL *)url options:(NSDictionary *)options
    documentAttributes:(NSDictionary **)documentAttributes
```

#### Discussion

Filter services can be used to convert the contents of the URL into a format recognized by Cocoa. *options* can contain one of the values described in the “Constants” section of NSAttributedString Additions (“Option keys for importing documents”).

On return, the *documentAttributes* dictionary (if provided) contains the various keys described in the “Constants” section of NSAttributedString Additions.

#### Availability

Available in Mac OS X v10.0 and later.

#### Declared In

NSAttributedString.h

**readFromURL:options:documentAttributes:error:**

Sets the contents of receiver from the file at *url*.

```
- (BOOL)readFromURL:(NSURL *)url options:(NSDictionary *)opts
  documentAttributes:(NSDictionary **)dict error:(NSError **)error
```

**Discussion**

Filter services can be used to convert the contents of the URL into a format recognized by Cocoa. *opts* can contain one of the values described in the “Constants” section of NSAttributedString Additions (“Option keys for importing documents”).

On return, the *dict* dictionary (if provided) contains the various keys described in the “Constants” section of NSAttributedString Additions. If unsuccessful, returns NO, after setting *error* to point to an NSError that encapsulates the reason why the attributed string object could not be created.

**Availability**

Available in Mac OS X v10.4 and later.

**Related Sample Code**

Quartz Composer WWDC 2005 TextEdit  
TextEditPlus

**Declared In**

NSAttributedString.h

**setAlignment:range:**

Sets the alignment characteristic of the paragraph style attribute for the characters in *aRange* to *alignment*.

```
- (void)setAlignment:(NSTextAlignment)alignment range:(NSRange)aRange
```

**Discussion**

When attribute fixing takes place, this change will affect only paragraphs whose first character was included in *aRange*. Raises an NSRangeException if any part of *aRange* lies beyond the end of the receiver’s characters.

**Availability**

Available in Mac OS X v10.0 and later.

**See Also**

- [applyFontTraits:range:](#) (page 6)
- [fixParagraphStyleAttributeInRange:](#) (page 8)

**Declared In**

NSAttributedString.h

**setBaseWritingDirection:range:**

Sets the base writing direction for the characters in *range* to *writingDirection*.

```
- (void)setBaseWritingDirection:(NSWritingDirection)writingDirection
  range:(NSRange)range
```

### Availability

Available in Mac OS X v10.4 and later.

### Declared In

NSAttributedString.h

## subscriptRange:

Decrements the value of the superscript attribute for characters in *aRange* by 1.

- (void)subscriptRange:(NSRange)aRange

### Discussion

Raises an `NSRangeException` if any part of *aRange* lies beyond the end of the receiver's characters.

### Availability

Available in Mac OS X v10.0 and later.

### See Also

- [superscriptRange:](#) (page 11)
- [unscriptRange:](#) (page 12)

### Related Sample Code

CoreRecipes

### Declared In

NSAttributedString.h

## superscriptRange:

Increments the value of the superscript attribute for characters in *aRange* by 1.

- (void)superscriptRange:(NSRange)aRange

### Discussion

Raises an `NSRangeException` if any part of *aRange* lies beyond the end of the receiver's characters.

### Availability

Available in Mac OS X v10.0 and later.

### See Also

- [subscriptRange:](#) (page 11)
- [unscriptRange:](#) (page 12)

### Related Sample Code

CoreRecipes

### Declared In

NSAttributedString.h

## unscriptRange:

Removes the superscript attribute from the characters in *aRange*.

- (void)unscriptRange:(NSRange) *aRange*

### Discussion

Raises an `NSRangeException` if any part of *aRange* lies beyond the end of the receiver's characters.

### Availability

Available in Mac OS X v10.0 and later.

### See Also

- [subscriptRange:](#) (page 11)
- [superscriptRange:](#) (page 11)

### Declared In

NSAttributedString.h

## updateAttachmentsFromPath:

Updates all attachments based on files contained in the RTFD file package at *path*.

- (void)updateAttachmentsFromPath:(NSString \*)*path*

### Availability

Available in Mac OS X v10.0 and later.

### See Also

- `updateFromPath:` (NSFileWrapper)

### Declared In

NSTextAttachment.h

# Document Revision History

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This table describes the changes to *NSMutableAttributedString Additions Reference*.

Date	Notes
2006-05-23	First publication of this content as a separate document.

**REVISION HISTORY**

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