NSAccessibility Protocol Reference

Cocoa > Accessibility

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NSAccessibility Protocol Reference

(informal protocol)

Adopted by	NSObject
Framework	/System/Library/Frameworks/AppKit.framework
Companion guide	Accessibility Programming Guidelines for Cocoa
Declared in	NSAccessibility.h

Overview

The `NSAccessibility` informal protocol defines methods that Cocoa classes must implement to make themselves available to an external assistive application. An assistive application interacts with your application to allow persons with disabilities to use your application. For example, a person with a visual impairment could use an application to convert menu items and button labels into speech and then perform actions by verbal command.

Because many Cocoa user interface classes already implement the `NSAccessibility` protocol, providing reasonable default behavior in most cases, Cocoa applications built with standard widgets are automatically accessible. In general, you need to explicitly implement the `NSAccessibility` protocol methods only if you subclass one of them, adding new behavior.

The Cocoa implementations of these methods raise an `NSAccessibilityException` when errors occur, such as requesting the value of an unsupported attribute. In most cases, subclasses do not need to raise or catch these exceptions, because overridden methods should invoke their inherited methods for unrecognized attribute and action names.

See "Accessibility" for descriptions of Application Kit functions related to accessibility.

Tasks

Accessing Attributes

`- accessibilityAttributeNames` (page 7)
Returns an array of attribute names supported by the receiver.

`- accessibilityAttributeValue:` (page 8)
Returns the value of the receiver's attribute *`attribute`*.

`- accessibilityIsAttributeSettable:` (page 9)
Returns `YES` if the value for the receiver's attribute *`attribute`* can be set.

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- `accessibilitySetValue:forAttribute:` (page 11)
  Sets the value of the receiver's attribute *attribute* to *value*.
- `accessibilitySetOverrideValue:forAttribute:` (page 11)
  Overrides the receiver's attribute *attribute*, or adds it if it does not exist, and sets its value to *value*.

Accessing Parameterized Attributes

- `accessibilityParameterizedAttributeNames` (page 10)
  Returns a list of parameterized attribute names supported by the receiver. If you implement this method you should also implement `accessibilityAttributeValue:forParameter:` (page 8).
- `accessibilityAttributeValue:forParameter:` (page 8)
  Returns the value of the receiver's parameterized attribute corresponding to *attribute* and *parameter*. If you implement this method you should also implement `accessibilityParameterizedAttributeNames` (page 10).

Accessing Actions

- `accessibilityActionNames` (page 7)
  Returns an array of action names supported by the receiver.
- `accessibilityActionDescription:` (page 6)
  Returns a localized description of the action *action*.
- `accessibilityPerformAction:` (page 10)
  Performs the action associated with the name *action*.

Querying Elements

- `accessibilityIsIgnored` (page 10)
  Returns `YES` if the receiver should not be visible in the parent-child accessibility hierarchy.
- `accessibilityHitTest:` (page 9)
  Returns the deepest descendant of the accessibility hierarchy that contains the point *point*, which is in lower-left relative screen coordinates.
- `accessibilityFocusedUIElement` (page 8)
  Returns the deepest descendant of the user interface hierarchy that has the focus.

Instance Methods

accessibilityActionDescription:

Returns a localized description of the action *action*.

```
- (NSString *)accessibilityActionDescription:(NSString *)action
```


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Discussion
A button, for example, could return the string `press button` for the `NSAccessibilityPressAction` action. User interface classes must implement this method to return descriptions for all actions returned from `accessibilityActionNames` (page 7). Subclasses should invoke the superclass's implementation, if it exists, to obtain the descriptions of any inherited actions.

Availability
Available in Mac OS X v10.2 and later.

Declared In
`NSAccessibility.h`

accessibilityActionNames

Returns an array of action names supported by the receiver.

```
- (NSArray *)accessibilityActionNames
```

Discussion
User interface classes must implement this method. Subclasses should invoke the superclass's implementation, if it exists, and append additional action names or remove unsupported actions. Some common action names are defined by Cocoa and are described in the "Constants" (page 12) section.

Availability
Available in Mac OS X v10.2 and later.

Related Sample Code
Clock Control
Dicey
ImageMapExample
TrackBall

Declared In
`NSAccessibility.h`

accessibilityAttributeNames

Returns an array of attribute names supported by the receiver.

```
- (NSArray *)accessibilityAttributeNames
```

Discussion
User interface classes must implement this method. Subclasses should invoke the superclass's implementation, if it exists, and append additional attributes or remove unsupported attributes. Some attribute names are defined by Cocoa and are described in the "Constants" (page 12) section.

Availability
Available in Mac OS X v10.2 and later.

Related Sample Code
Clock Control
Dicey

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ImageMapExample
TrackBall

Declared In
NSAccessibility.h

accessibilityAttributeValue:

Returns the value of the receiver's attribute *attribute*.

```
- (id)accessibilityAttributeValue:(NSString *)attribute
```

Discussion
User interface classes must implement this method. Subclasses should invoke the superclass's implementation, if it exists, if *attribute* is not implemented in the subclass.

Availability
Available in Mac OS X v10.2 and later.

Declared In
NSAccessibility.h

accessibilityAttributeValue:forParameter:

Returns the value of the receiver's parameterized attribute corresponding to *attribute* and *parameter*. If you implement this method you should also implement `accessibilityParameterizedAttributeNames` (page 10).

```
- (id)accessibilityAttributeValue:(NSString *)attribute forParameter:(id)parameter
```

Availability
Available in Mac OS X v10.3 and later.

Declared In
NSAccessibility.h

accessibilityFocusedUIElement

Returns the deepest descendant of the user interface hierarchy that has the focus.

```
- (id)accessibilityFocusedUIElement
```

Discussion
You can assume that the search for the focus has already been narrowed down to the receiver. Override this method to do deeper searching by identifying which child element, if any, may have the focus. If a child element does not have the focus, either return `self` or, if available, invoke the superclass's implementation. The default `NSView` and `NSCell` implementations test whether the receiver is an ignored element and, if so, return the receiver's first unignored parent; otherwise they return `self`.

Availability
Available in Mac OS X v10.2 and later.

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Related Sample Code
Dicey
ImageMapExample
TrackBall

Declared In
`NSAccessibility.h`

accessibilityHitTest:

Returns the deepest descendant of the accessibility hierarchy that contains the point *`point`*, which is in lower-left relative screen coordinates.

```
- (id)accessibilityHitTest:(NSPoint)point
```

Discussion
You can assume the point has already been determined to lie within the receiver. Override this method to do deeper hit-testing by identifying which child element, if any, contains the point. `NSMatrix`, for example, identifies which of its cells contains *`point`* and propagates the hit-test to it. If *`point`* is not contained within one of the receiver's children, either return `self` or, if available, invoke the superclass's implementation. The default `NSView` and `NSCell` implementations test whether the receiver is an ignored element and, if so, return the receiver's first unignored parent; otherwise they return `self`.

Availability
Available in Mac OS X v10.2 and later.

Related Sample Code
Dicey
ImageMapExample

Declared In
`NSAccessibility.h`

accessibilityIsAttributeSettable:

Returns `YES` if the value for the receiver's attribute *`attribute`* can be set.

```
- (BOOL)accessibilityIsAttributeSettable:(NSString *)attribute
```

Discussion
User interface classes must implement this method. Subclasses should invoke the superclass's implementation, if it exists, if *`attribute`* is not implemented in the subclass.

Availability
Available in Mac OS X v10.2 and later.

Declared In
`NSAccessibility.h`

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accessibilityIsIgnored

Returns `YES` if the receiver should not be visible in the parent-child accessibility hierarchy.

```
- (BOOL)accessibilityIsIgnored
```

Discussion
In other words, when asking for an object's children, ignored children should not be included; instead, the ignored children should be replaced by their own unignored children. The same applies when asking for an object's parent; an ignored parent should be skipped and the first unignored ancestor treated as the real parent. Likewise, when a hit-test or focus test is satisfied by an ignored element, the element's first unignored ancestor (or descendant in certain cases, such as single-celled controls) should be used instead.

Ignored elements allow the accessibility hierarchy to be a simplified version of the view and object ownership hierarchies. Intermediate objects can be bypassed and the real user interface objects accessed more quickly. For example, `NSControl` objects are ignored when they are single-celled; the visible parent-child relationship is between the control's parent (or a higher ancestor if the parent is ignored, too) and the control's cell.

Availability
Available in Mac OS X v10.2 and later.

Related Sample Code
Dicey
ImageMapExample
TrackBall

Declared In
`NSAccessibility.h`

accessibilityParameterizedAttributeNames

Returns a list of parameterized attribute names supported by the receiver. If you implement this method you should also implement `accessibilityAttributeValue:forParameter:` (page 8).

```
- (NSArray *)accessibilityParameterizedAttributeNames
```

Availability
Available in Mac OS X v10.3 and later.

Declared In
`NSAccessibility.h`

accessibilityPerformAction:

Performs the action associated with the name *`action`*.

```
- (void)accessibilityPerformAction:(NSString *)action
```

Discussion
User interface classes must implement this method to handle all the actions returned from `accessibilityActionNames` (page 7). Subclasses should invoke the superclass's implementation, if it exists, if *`action`* is not implemented in the subclass.

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Availability
Available in Mac OS X v10.2 and later.

Declared In
`NSAccessibility.h`

accessibilitySetOverrideValue:forAttribute:

Overrides the receiver's attribute *`attribute`*, or adds it if it does not exist, and sets its value to *`value`*.

```
- (BOOL)accessibilitySetOverrideValue:(id)value forAttribute:(NSString *)attribute
```

Discussion
This method is for changing the set of attributes on an instance, as an alternative to subclassing. The return value indicates if the override was successful.

This method only works on objects whose class already implements the `NSAccessibility` protocol. If the specified attribute is already supported by the object, the value specified by this method wins.

If the specified attribute does not exist it is created. This is done outside the `NSAccessibility` protocol, so `accessibilityAttributeNames` still returns the old list which does not contain the new attribute. Likewise, `accessibilityAttributeValue` does not return attributes created by the override process nor does it return their overridden values.

The values of overridden attributes are not settable by assistive applications.

If you need to undo the effect of using this method, call it again passing `nil` for the value.

Ensure that you invoke this method on the actual object that represents the user interface element. For example, in the case of `NSButton`, use the underlying `NSButtonCell`. The `NSButton` itself is ignored by accessibility.

This method works only on an object representing a single user interface element. So, for example, you cannot use it when a single object represents multiple user interface elements, as with `NSSegmentedCell`, which has only a single object but provides user interface elements for each segment).

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

Declared In
`NSAccessibility.h`

accessibilitySetValue:forAttribute:

Sets the value of the receiver's attribute *`attribute`* to *`value`*.

```
- (void)accessibilitySetValue:(id)value forAttribute:(NSString *)attribute
```

Discussion
User interface classes must implement this method if any of its attributes are setable. Subclasses should invoke the superclass's implementation, if it exists, if *`attribute`* is not implemented in the subclass.

Availability
Available in Mac OS X v10.2 and later.

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Declared In
NSAccessibility.h

Constants

NSAccessibility defines numerous attribute names. Some can be used by any object; others are specific to a particular type of object.

Standard attributes for any object

The following are the standard attributes that can be adopted by any object.

```
NSString *const NSAccessibilityChildrenAttribute;
NSString *const NSAccessibilityContentsAttribute;
NSString *const NSAccessibilityDescriptionAttribute;
NSString *const NSAccessibilityEnabledAttribute;
NSString *const NSAccessibilityFocusedAttribute;
NSString *const NSAccessibilityHelpAttribute;
NSString *const NSAccessibilityMaxValueAttribute;
NSString *const NSAccessibilityMinValueAttribute;
NSString *const NSAccessibilityParentAttribute;
NSString *const NSAccessibilityPositionAttribute;
NSString *const NSAccessibilityRoleAttribute;
NSString *const NSAccessibilityRoleDescriptionAttribute;
NSString *const NSAccessibilitySelectedChildrenAttribute;
NSString *const NSAccessibilityShownMenuAttribute;
NSString *const NSAccessibilitySizeAttribute;
NSString *const NSAccessibilitySubroleAttribute;
NSString *const NSAccessibilityTitleAttribute;
NSString *const NSAccessibilityTopLevelUIElementAttribute;
NSString *const NSAccessibilityValueAttribute;
NSString *const NSAccessibilityValueDescriptionAttribute;
NSString *const NSAccessibilityVisibleChildrenAttribute;
NSString *const NSAccessibilityWindowAttribute;
```

Constants

NSAccessibilityChildrenAttribute

Elements that current element contains (NSArray)

Available in Mac OS X v10.2 and later.

Declared in NSAccessibility.h.

NSAccessibilityContentsAttribute

Elements that represent the contents in the current element, such as the document view of a scroll view (NSArray)

Available in Mac OS X v10.2 and later.

Declared in NSAccessibility.h.

NSAccessibilityDescriptionAttribute

Instance description (NSString)

Available in Mac OS X v10.4 and later.

Declared in NSAccessibility.h.

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`NSAccessibilityEnabledAttribute`
: Flag indicating enabled state of element (`NSNumber`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityFocusedAttribute`
: Flag indicating presence of keyboard focus (`NSNumber`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityHelpAttribute`
: Instance description, such as a help tag string (`NSString`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityMaxValueAttribute`
: Element's maximum value (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityMinValueAttribute`
: Element's minimum value (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityParentAttribute`
: Element containing current element (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityPositionAttribute`
: Screen position of element's lower-left corner in lower-left relative screen coordinates (`NSValue`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRoleAttribute`
: Element type, such as `NSAccessibilityRadioButtonRole` (`NSString`). See the role attribute table below

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRoleDescriptionAttribute`
: Localized, user-readable description of role, such as `radio button` (`NSString`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedChildrenAttribute`
: Currently selected children (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

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`NSAccessibilityShownMenuAttribute`
: Menu currently being displayed (`id`)

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilitySizeAttribute`
: Element size (`NSValue`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilitySubroleAttribute`
: Element subrole type, such as `NSAccessibilityTableRowSubrole` (`NSString`). See the subrole attribute table below.

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityTitleAttribute`
: Title of element, such as button text (`NSString`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityTopLevelUIElementAttribute`
: User interface element for the top-level element (`id`)

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityValueAttribute`
: Element's value (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityValueDescriptionAttribute`
: Text description of value (`NSString`)

  Available in Mac OS X v10.5 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityVisibleChildrenAttribute`
: Child elements that are visible (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityWindowAttribute`
: Window containing current element (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Text-specific attributes

The following are attributes specific to text.

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```
NSString *const NSAccessibilityInsertionPointLineNumberAttribute;
NSString *const NSAccessibilityNumberOfCharactersAttribute;
NSString *const NSAccessibilitySelectedTextAttribute;
NSString *const NSAccessibilitySelectedTextRangeAttribute;
NSString *const NSAccessibilitySelectedTextRangesAttribute;
NSString *const NSAccessibilitySharedCharacterRangeAttribute;
NSString *const NSAccessibilitySharedTextUIElementsAttribute;
NSString *const NSAccessibilityVisibleCharacterRangeAttribute;
```

Constants

`NSAccessibilityInsertionPointLineNumberAttribute`

Line number containing caret (`NSNumber`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityNumberOfCharactersAttribute`

Number of characters (`NSNumber`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedTextAttribute`

Currently selected text (`NSString`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedTextRangeAttribute`

Range of selected text (`NSValue`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedTextRangesAttribute`

Array of `NSValue` (`rangeValue`) ranges of selected text (`NSArray`)

Available in Mac OS X v10.5 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySharedCharacterRangeAttribute`

The (`rangeValue`) part of shared text in this view (`NSValue`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySharedTextUIElementsAttribute`

Text views sharing text (`NSArray`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityVisibleCharacterRangeAttribute`

Range of visible text (`NSValue`). Returns ranges for entire lines. For example, characters that are horizontally clipped will be reported in the visible range.

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

Declared In

`NSAccessibility.h`

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Parameterized text-specific attributes

Parameterized attributes behave similar to a function by allowing you to pass a parameter when requesting an attribute value. The following are parameterized attributes specific to text:

```
NSString *const NSAccessibilityAttributedStringForRangeParameterizedAttribute;
NSString *const NSAccessibilityBoundsForRangeParameterizedAttribute;
NSString *const NSAccessibilityLineForIndexParameterizedAttribute;
NSString *const NSAccessibilityRTFForRangeParameterizedAttribute;
NSString *const NSAccessibilityRangeForIndexParameterizedAttribute;
NSString *const NSAccessibilityRangeForLineParameterizedAttribute;
NSString *const NSAccessibilityRangeForPositionParameterizedAttribute;
NSString *const NSAccessibilityStringForRangeParameterizedAttribute;
NSString *const NSAccessibilityStyleRangeForIndexParameterizedAttribute;
```

Constants

`NSAccessibilityLineForIndexParameterizedAttribute`

The line number (`NSNumber`) of the specified character (`NSNumber`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityRangeForLineParameterizedAttribute`

The range of characters (`NSValue` containing an `NSRange`) corresponding to the specified line number (`NSNumber`).

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityStringForRangeParameterizedAttribute`

The substring (`NSString`) specified by the range (`NSValue` containing an `NSRange`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityRangeForPositionParameterizedAttribute`

The range of characters (`NSValue` containing an `NSRange`) composing the glyph at the specified point (`NSValue` containing `NSPoint`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityRangeForIndexParameterizedAttribute`

The full range of characters (`NSValue` containing an `NSRange`), including the specified character, which compose a single glyph (`NSNumber`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityBoundsForRangeParameterizedAttribute`

The rectangle (`NSValue` containing an `NSRect`) enclosing the specified range of characters (`NSValue` containing an `NSRange`). If the range crosses a line boundary, the returned rectangle will fully enclose all the lines of characters.

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityRTFForRangeParameterizedAttribute`
: The RTF data (`NSData`) describing the specified range of characters (`NSValue` containing an `NSRange`)

  Available in Mac OS X v10.3 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityStyleRangeForIndexParameterizedAttribute`
: The full range of characters (`NSValue` containing an `NSRange`), including the specified character (`NSNumber`), which have the same style

  Available in Mac OS X v10.3 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityAttributedStringForRangeParameterizedAttribute`
: Does not use attributes from Appkit/AttributedString.h (`NSAttributedString`)

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Text attributed string attributes and constants

The following attributes and key constants are used with attributed strings:

```
NSString *const NSAccessibilityAttachmentTextAttribute;
NSString *const NSAccessibilityBackgroundColorTextAttribute;
NSString *const NSAccessibilityFontFamilyKey;
NSString *const NSAccessibilityFontNameKey;
NSString *const NSAccessibilityFontSizeKey;
NSString *const NSAccessibilityFontTextAttribute;
NSString *const NSAccessibilityForegroundColorTextAttribute;
NSString *const NSAccessibilityLinkTextAttribute;
NSString *const NSAccessibilityMisspelledTextAttribute;
NSString *const NSAccessibilityShadowTextAttribute;
NSString *const NSAccessibilityStrikethroughColorTextAttribute;
NSString *const NSAccessibilityStrikethroughTextAttribute;
NSString *const NSAccessibilitySuperscriptTextAttribute;
NSString *const NSAccessibilityUnderlineColorTextAttribute;
NSString *const NSAccessibilityUnderlineTextAttribute;
NSString *const NSAccessibilityVisibleNameKey;
```

Constants
`NSAccessibilityForegroundColorTextAttribute`
: Text foreground color (`CGColorRef`)

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityBackgroundColorTextAttribute`
: Text background color (`CGColorRef`)

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

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`NSAccessibilityUnderlineColorTextAttribute`
Text underline color (`CGColorRef`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityStrikethroughColorTextAttribute`
Text stikethrough color (`CGColorRef`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityUnderlineTextAttribute`
Text underline style (`NSNumber`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySuperscriptTextAttribute`
Text superscript style (`NSNumber`). Values > 0 are superscript; values < 0 are subscript.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityStrikethroughTextAttribute`
Text strikethrough (`NSNumber` as a Boolean value)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityShadowTextAttribute`
Text shadow (`NSNumber` as a Boolean value)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityAttachmentTextAttribute`
Text attachment (`id`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityLinkTextAttribute`
Text link (`id`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMisspelledTextAttribute`
Misspelled text (`NSNumber` as a Boolean value)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFontTextAttribute`
Font keys (`NSDictionary`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityFontNameKey`
Required key for font name

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFontFamilyKey`
Optional key for font family

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityVisibleNameKey`
Optional key for font visibility

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFontSizeKey`
Required key for font size

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Window-specific attributes

The following are attributes specific to windows:

```
NSString *const NSAccessibilityCancelButtonAttribute;
NSString *const NSAccessibilityCloseButtonAttribute;
NSString *const NSAccessibilityDefaultButtonAttribute;
NSString *const NSAccessibilityGrowAreaAttribute;
NSString *const NSAccessibilityMainAttribute;
NSString *const NSAccessibilityMinimizeButtonAttribute;
NSString *const NSAccessibilityMinimizedAttribute;
NSString *const NSAccessibilityModalAttribute;
NSString *const NSAccessibilityProxyAttribute;
NSString *const NSAccessibilityToolbarButtonAttribute;
NSString *const NSAccessibilityZoomButtonAttribute;
```

Constants
`NSAccessibilityCloseButtonAttribute`
Element for close button (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityGrowAreaAttribute`
Element for grow area (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityModalAttribute`
Element is the window modal (`NSNumber`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDefaultButtonAttribute`
Element for default button (`id`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityCancelButtonAttribute`
Element for cancel button (`id`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMainAttribute`
Flag indicating whether a window is the main window (`NSNumber`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMinimizeButtonAttribute`
Element for minimize button (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMinimizedAttribute`
Flag indicating whether a window is minimized (`NSNumber`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityToolbarButtonAttribute`
Element for toolbar toggle button (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityProxyAttribute`
Element for title's icon (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityZoomButtonAttribute`
Element for zoom button (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

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Orientations

`NSAccessibility` defines the following values to indicate the orientation of elements, such as scroll bars and split views. One of these values is returned as the value for an object's `NSAccessibilityOrientationAttribute`.

```
NSString *const NSAccessibilityHorizontalOrientationValue;
NSString *const NSAccessibilityVerticalOrientationValue;
```

Constants

`NSAccessibilityHorizontalOrientationValue`

Element is oriented horizontally

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityVerticalOrientationValue`

Element is oriented vertically

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Application-specific attributes

The following are attributes specific to the application object.

```
NSString *const NSAccessibilityClearButtonAttribute;
NSString *const NSAccessibilityColumnTitlesAttribute;
NSString *const NSAccessibilityFocusedUIElementAttribute;
NSString *const NSAccessibilityFocusedWindowAttribute;
NSString *const NSAccessibilityFrontmostAttribute;
NSString *const NSAccessibilityHiddenAttribute;
NSString *const NSAccessibilityMainWindowAttribute;
NSString *const NSAccessibilityMenuBarAttribute;
NSString *const NSAccessibilityOrientationAttribute;
NSString *const NSAccessibilitySearchButtonAttribute;
NSString *const NSAccessibilitySearchMenuAttribute;
NSString *const NSAccessibilityWindowsAttribute;
```

Constants

`NSAccessibilityFocusedUIElementAttribute`

Element with the current focus (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFocusedWindowAttribute`

Application's window with current focus (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFrontmostAttribute`

Flag indicating whether application is in front (`NSNumber`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityHiddenAttribute`
: Flag indicating whether application is hidden (`NSNumber`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityMainWindowAttribute`
: Application's main window (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityMenuBarAttribute`
: Application's menu bar (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityWindowsAttribute`
: Application's windows (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Grid view attributes

The following attributes are used with grid views, which are user interfaces like thumbnails and media browsers that present a grid of items. The children of a grid are ordered.

```
NSString *const NSAccessibilityColumnCountAttribute;
NSString *const NSAccessibilityOrderedByRowAttribute;
NSString *const NSAccessibilityRowCountAttribute;
```

Constants
`NSAccessibilityColumnCountAttribute`
: Number of columns in grid (`NSNumber` as `intValue`)

  Available in Mac OS X v10.5 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityOrderedByRowAttribute`
: Whether grid is ordered row major if `YES`, column major if `NO` (`NSNumber` as `boolValue`)

  Available in Mac OS X v10.5 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRowCountAttribute`
: Number of rows in grid (`NSNumber` as `intValue`)

  Available in Mac OS X v10.5 and later.

  Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

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Table view and outline view attributes

The following are attributes specific to tables and outlines.

```
NSString *const NSAccessibilityColumnsAttribute;
NSString *const NSAccessibilityRowsAttribute;
NSString *const NSAccessibilitySelectedColumnsAttribute;
NSString *const NSAccessibilitySelectedRowsAttribute;
NSString *const NSAccessibilitySortDirectionAttribute;
NSString *const NSAccessibilityVisibleColumnsAttribute;
NSString *const NSAccessibilityVisibleRowsAttribute;
```

Constants

`NSAccessibilityColumnsAttribute`

Table's columns (`NSArray`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityRowsAttribute`

Table's rows (`NSArray`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedColumnsAttribute`

Table's selected columns (`NSArray`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedRowsAttribute`

Table's selected rows (`NSArray`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySortDirectionAttribute`

Column's sort direction (`NSString`). See "Column sort direction" (page 24).

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityVisibleColumnsAttribute`

Table's visible columns (`NSArray`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityVisibleRowsAttribute`

Table's visible rows (`NSArray`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In

`NSAccessibility.h`

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Outline view attributes

These attributes are used in outline views.

```
NSString *const NSAccessibilityDisclosedByRowAttribute;
NSString *const NSAccessibilityDisclosedRowsAttribute;
NSString *const NSAccessibilityDisclosingAttribute;
NSString *const NSAccessibilityDisclosureLevelAttribute;
```

Constants

`NSAccessibilityDisclosedByRowAttribute`

Row disclosing this row (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDisclosedRowsAttribute`

Rows disclosed by this row (`NSArray`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDisclosingAttribute`

Flag indicating whether a row is disclosing other rows (`NSNumber`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDisclosureLevelAttribute`

Indentation level of this row (`NSNumber`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

Declared In

`NSAccessibility.h`

Column sort direction

`NSAccessibility` defines the following values for `NSAccessibilitySortDirectionAttribute` to indicate the sort direction of a column.

```
NSString *const NSAccessibilityAscendingSortDirectionValue;
NSString *const NSAccessibilityDescendingSortDirectionValue;
NSString *const NSAccessibilityUnknownSortDirectionValue;
```

Constants

`NSAccessibilityAscendingSortDirectionValue`

Column sorted in ascending values

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDescendingSortDirectionValue`

Column sorted in descending values

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityUnknownSortDirectionValue`
Sort direction unknown

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Slider attributes

The following attributes are specific to sliders.

```
NSString *const NSAccessibilityAllowedValuesAttribute;
NSString *const NSAccessibilityLabelUIElementsAttribute;
NSString *const NSAccessibilityLabelValueAttribute;
```

Constants
`NSAccessibilityAllowedValuesAttribute`
Array of allowed values (`NSArray`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityLabelUIElementsAttribute`
Array of label elements (`NSArray`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityLabelValueAttribute`
Value of label element (`NSNumber`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Screen matte attributes

The following attributes are specific to screen mattes.

```
NSString *const NSAccessibilityMatteContentUIElementAttribute;
NSString *const NSAccessibilityMatteHoleAttribute;
```

Constants
`NSAccessibilityMatteHoleAttribute`
Bounds of matte hole in screen coordinates (`NSValue` containing an `NSRect`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMatteContentUIElementAttribute`
Element clipped by the matte (`id`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

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Declared In
NSAccessibility.h

Ruler view attributes

The following attributes are specific to ruler views.

```
NSString *const NSAccessibilityMarkerGroupUIElementAttribute;
NSString *const NSAccessibilityMarkerTypeAttribute;
NSString *const NSAccessibilityMarkerTypeDescriptionAttribute;
NSString *const NSAccessibilityMarkerUIElementsAttribute;
NSString *const NSAccessibilityMarkerValuesAttribute;
NSString *const NSAccessibilityUnitDescriptionAttribute;
NSString *const NSAccessibilityUnitsAttribute;
```

Constants

NSAccessibilityMarkerGroupUIElementAttribute
: Marker group user interface element (id)

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

: Declared in NSAccessibility.h.

NSAccessibilityMarkerTypeAttribute
: Type of marker (NSString). See "Ruler marker type values" (page 27).

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

: Declared in NSAccessibility.h.

NSAccessibilityMarkerTypeDescriptionAttribute
: Description of marker type (NSString)

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

: Declared in NSAccessibility.h.

NSAccessibilityMarkerUIElementsAttribute
: Array of marker user interface elements (NSArray)

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

: Declared in NSAccessibility.h.

NSAccessibilityMarkerValuesAttribute
: Marker values

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

: Declared in NSAccessibility.h.

NSAccessibilityUnitDescriptionAttribute
: Description of ruler units (NSString)

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

: Declared in NSAccessibility.h.

NSAccessibilityUnitsAttribute
: Ruler units (NSString). See "Ruler unit attributes" (page 28).

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

: Declared in NSAccessibility.h.

Declared In
NSAccessibility.h

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Ruler marker type values

NSAccessibility defines the following values for `NSAccessibilityMarkerTypeAttribute` to indicate the marker type of an element:

```
NSString *const NSAccessibilityCenterTabStopMarkerTypeValue;
NSString *const NSAccessibilityDecimalTabStopMarkerTypeValue;
NSString *const NSAccessibilityFirstLineIndentMarkerTypeValue;
NSString *const NSAccessibilityHeadIndentMarkerTypeValue;
NSString *const NSAccessibilityLeftTabStopMarkerTypeValue;
NSString *const NSAccessibilityRightTabStopMarkerTypeValue;
NSString *const NSAccessibilityTailIndentMarkerTypeValue;
NSString *const NSAccessibilityUnknownMarkerTypeValue;
```

Constants

`NSAccessibilityLeftTabStopMarkerTypeValue`
Left tab stop

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityRightTabStopMarkerTypeValue`
Right tab stop

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityCenterTabStopMarkerTypeValue`
Center tab stop

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDecimalTabStopMarkerTypeValue`
Decimal tab stop

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityHeadIndentMarkerTypeValue`
Head indent marker

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityTailIndentMarkerTypeValue`
Tail indent marker

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFirstLineIndentMarkerTypeValue`
First line indent marker

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityUnknownMarkerTypeValue`
Unknown marker type

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

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Declared In
NSAccessibility.h

Ruler unit attributes

NSAccessibility defines the following values for `NSAccessibilityUnitsAttribute` to indicate the unit values of the ruler.

```
NSString *const NSAccessibilityCentimetersUnitValue;
NSString *const NSAccessibilityInchesUnitValue;
NSString *const NSAccessibilityPicasUnitValue;
NSString *const NSAccessibilityPointsUnitValue;
NSString *const NSAccessibilityUnknownUnitValue;
```

Constants

`NSAccessibilityInchesUnitValue`
Ruler units are inches.
Available in Mac OS X v10.4 and later.
Declared in `NSAccessibility.h`.

`NSAccessibilityCentimetersUnitValue`
Ruler units are centimeters.
Available in Mac OS X v10.4 and later.
Declared in `NSAccessibility.h`.

`NSAccessibilityPointsUnitValue`
Ruler units are points.
Available in Mac OS X v10.4 and later.
Declared in `NSAccessibility.h`.

`NSAccessibilityPicasUnitValue`
Ruler units are picas.
Available in Mac OS X v10.4 and later.
Declared in `NSAccessibility.h`.

`NSAccessibilityUnknownUnitValue`
Ruler units are unknown.
Available in Mac OS X v10.4 and later.
Declared in `NSAccessibility.h`.

Declared In
NSAccessibility.h

Linkage elements

These constants define link attributes.

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```
NSString *const NSAccessibilityLinkedUIElementsAttribute;
NSString *const NSAccessibilityServesAsTitleForUIElementsAttribute;
NSString *const NSAccessibilityTitleUIElementAttribute;
```

Constants

`NSAccessibilityLinkedUIElementsAttribute`

Elements corresponding to each other (`NSArray`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityTitleUIElementAttribute`

Element's title element (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityServesAsTitleForUIElementsAttribute`

Elements to which title applies (`NSArray`)

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

Declared In

`NSAccessibility.h`

Miscellaneous attributes

The following are miscellaneous attributes.

```
NSString *const NSAccessibilityDecrementButtonAttribute;
NSString *const NSAccessibilityDocumentAttribute;
NSString *const NSAccessibilityEditedAttribute;
NSString *const NSAccessibilityExpandedAttribute;
NSString *const NSAccessibilityFilenameAttribute;
NSString *const NSAccessibilityHeaderAttribute;
NSString *const NSAccessibilityHorizontalScrollBarAttribute;
NSString *const NSAccessibilityIncrementButtonAttribute;
NSString *const NSAccessibilityIndexAttribute;
NSString *const NSAccessibilityNextContentsAttribute;
NSString *const NSAccessibilityOverflowButtonAttribute;
NSString *const NSAccessibilityPreviousContentsAttribute;
NSString *const NSAccessibilitySelectedAttribute;
NSString *const NSAccessibilitySplittersAttribute;
NSString *const NSAccessibilityTabsAttribute;
NSString *const NSAccessibilityURLAttribute;
NSString *const NSAccessibilityVerticalScrollBarAttribute;
```

Constants

`NSAccessibilityClearButtonAttribute`

Search field clear button (`id`)

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityColumnTitlesAttribute`
: Elements for column titles (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityDecrementButtonAttribute`
: Stepper's decrement button (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityDocumentAttribute`
: URL for the file represented by the element (`NSString`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityEditedAttribute`
: Flag indicating whether element has been modified (`NSNumber`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityExpandedAttribute`
: Flag indicating whether element is expanded (`NSNumber`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityFilenameAttribute`
: Filename associated with element (`NSString`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityHeaderAttribute`
: Table view's header element (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityHorizontalScrollBarAttribute`
: Scroll view's horizontal scroll bar (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityIncrementButtonAttribute`
: Stepper's increment button (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityIndexAttribute`
: Index of element (`NSValue`)

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

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`NSAccessibilityNextContentsAttribute`
: Contents following current divider element, such as a subview adjacent to a split view's splitter element (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityOrientationAttribute`
: Element's orientation, which can have the value `NSAccessibilityHorizontalOrientationValue` or `NSAccessibilityVerticalOrientationValue`

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityOverflowButtonAttribute`
: Toolbar's overflow button (`id`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityPreviousContentsAttribute`
: Contents preceding current divider element, such as a subview adjacent to a split view's splitter bar element (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilitySearchButtonAttribute`
: Search field search button (`id`)

  Available in Mac OS X v10.3 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilitySearchMenuAttribute`
: Search field menu (`id`)

  Available in Mac OS X v10.3 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedAttribute`
: Flag indicating whether element is selected (`NSNumber`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilitySplittersAttribute`
: Splitter bar elements in a split view (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityTabsAttribute`
: Tab view's tab elements (`NSArray`)

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityURLAttribute`
: URL associated with element (`NSURL`)

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

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`NSAccessibilityVerticalScrollBarAttribute`

Scroll view's vertical scroll bar (`id`)

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Roles

These constants define standard roles that identify the type of object an accessibility object represents. One of these values is returned as the value for an object's `NSAccessibilityRoleAttribute`.

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```
NSString *const NSAccessibilityApplicationRole;
NSString *const NSAccessibilityBrowserRole;
NSString *const NSAccessibilityBusyIndicatorRole;
NSString *const NSAccessibilityButtonRole;
NSString *const NSAccessibilityCheckBoxRole;
NSString *const NSAccessibilityColorWellRole;
NSString *const NSAccessibilityColumnRole;
NSString *const NSAccessibilityComboBoxRole;
NSString *const NSAccessibilityDisclosureTriangleRole;
NSString *const NSAccessibilityDrawerRole;
NSString *const NSAccessibilityGridRole;
NSString *const NSAccessibilityGroupRole;
NSString *const NSAccessibilityGrowAreaRole;
NSString *const NSAccessibilityHelpTagRole;
NSString *const NSAccessibilityImageRole;
NSString *const NSAccessibilityIncrementorRole;
NSString *const NSAccessibilityLinkRole;
NSString *const NSAccessibilityListRole;
NSString *const NSAccessibilityMatteRole;
NSString *const NSAccessibilityMenuBarRole;
NSString *const NSAccessibilityMenuButtonRole;
NSString *const NSAccessibilityMenuItemRole;
NSString *const NSAccessibilityMenuRole;
NSString *const NSAccessibilityOutlineRole;
NSString *const NSAccessibilityPopUpButtonRole;
NSString *const NSAccessibilityProgressIndicatorRole;
NSString *const NSAccessibilityRadioButtonRole;
NSString *const NSAccessibilityRadioGroupRole;
NSString *const NSAccessibilityRowRole;
NSString *const NSAccessibilityRulerMarkerRole;
NSString *const NSAccessibilityRulerRole;
NSString *const NSAccessibilityScrollAreaRole;
NSString *const NSAccessibilityScrollBarRole;
NSString *const NSAccessibilitySheetRole;
NSString *const NSAccessibilitySliderRole;
NSString *const NSAccessibilitySortButtonRole;
NSString *const NSAccessibilitySplitGroupRole;
NSString *const NSAccessibilitySplitterRole;
NSString *const NSAccessibilityStaticTextRole;
NSString *const NSAccessibilitySystemWideRole;
NSString *const NSAccessibilityTabGroupRole;
NSString *const NSAccessibilityTableRole;
NSString *const NSAccessibilityTextAreaRole;
NSString *const NSAccessibilityTextFieldRole;
NSString *const NSAccessibilityToolbarRole;
NSString *const NSAccessibilityUnknownRole;
NSString *const NSAccessibilityValueIndicatorRole;
NSString *const NSAccessibilityWindowRole;
```

Constants

`NSAccessibilityApplicationRole`

Application

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityBrowserRole`
: Browser

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityBusyIndicatorRole`
: Busy indicator

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityCheckBoxRole`
: Checkbox

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityColorWellRole`
: Color well

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityColumnRole`
: Column

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityComboBoxRole`
: Combo box

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityDisclosureTriangleRole`
: Disclosure triangle

  Available in Mac OS X v10.5 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityDrawerRole`
: Drawer

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityGridRole`
: Grid

  Available in Mac OS X v10.5 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityGroupRole`
: Group

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

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`NSAccessibilityGrowAreaRole`
: Window's grow (resize) area

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityHelpTagRole`
: Help tag

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityImageRole`
: Image

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityIncrementorRole`
: Stepper

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityLinkRole`
: Link

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityListRole`
: List

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMatteRole`
: Matte

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMenuBarRole`
: Menu bar

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMenuButtonRole`
: Menu button

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMenuItemRole`
: Menu item

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityMenuRole`
: Menu

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityOutlineRole`
: Outline

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityPopUpButtonRole`
: Pop-up button

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityProgressIndicatorRole`
: Progress indicator

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityButtonRole`
: Button

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRadioButtonRole`
: Radio button

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRadioGroupRole`
: Radio group

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRowRole`
: Row

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRulerRole`
: Ruler

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityRulerMarkerRole`
: Ruler marker

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

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`NSAccessibilityScrollAreaRole`
: Scroll view

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityScrollBarRole`
: Scroll bar

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySheetRole`
: Sheet

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySliderRole`
: Slider

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySortButtonRole`
: Sort button

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySplitGroupRole`
: Split view

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySplitterRole`
: Splitter bar of a split view

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityStaticTextRole`
: Uneditable text

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySystemWideRole`
: Special system-wide element

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityTabGroupRole`
: Tab group

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityTableRole`
: Table

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityTextAreaRole`
: Text view

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityTextFieldRole`
: Text field

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityToolbarRole`
: Toolbar

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityUnknownRole`
: Unknown object type

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityValueIndicatorRole`
: Value indicator

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityWindowRole`
: Window

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Subroles

These constants define the sub-roles that identify a specialized type of object an accessibility object represents. One of these values is returned as the value for an object's `NSAccessibilitySubroleAttribute`.

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```
NSString *const NSAccessibilityCloseButtonSubrole;
NSString *const NSAccessibilityDecrementArrowSubrole;
NSString *const NSAccessibilityDecrementPageSubrole;
NSString *const NSAccessibilityDialogSubrole;
NSString *const NSAccessibilityFloatingWindowSubrole;
NSString *const NSAccessibilityIncrementArrowSubrole;
NSString *const NSAccessibilityIncrementPageSubrole;
NSString *const NSAccessibilityMinimizeButtonSubrole;
NSString *const NSAccessibilityOutlineRowSubrole;
NSString *const NSAccessibilitySearchFieldSubrole;
NSString *const NSAccessibilitySecureTextFieldSubrole;
NSString *const NSAccessibilityStandardWindowSubrole;
NSString *const NSAccessibilitySystemDialogSubrole;
NSString *const NSAccessibilitySystemFloatingWindowSubrole;
NSString *const NSAccessibilityTableRowSubrole;
NSString *const NSAccessibilityTextAttachmentSubrole;
NSString *const NSAccessibilityTextLinkSubrole;
NSString *const NSAccessibilityTimelineSubrole;
NSString *const NSAccessibilityToolbarButtonSubrole;
NSString *const NSAccessibilityUnknownSubrole;
NSString *const NSAccessibilityZoomButtonSubrole;
```

Constants

`NSAccessibilityCloseButtonSubrole`

Window's close button

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDecrementArrowSubrole`

Decrement arrow

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDecrementPageSubrole`

Decrement page

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityDialogSubrole`

Dialog

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFloatingWindowSubrole`

Floating window

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityIncrementArrowSubrole`

Increment arrow

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityIncrementPageSubrole`
: Increment page

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMinimizeButtonSubrole`
: Window's minimize button

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityOutlineRowSubrole`
: Outline row

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySearchFieldSubrole`
: Search field

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySecureTextFieldSubrole`
: Secure text field

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityStandardWindowSubrole`
: Standard window

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySystemDialogSubrole`
: System dialog

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySystemFloatingWindowSubrole`
: System floating window

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityTableRowSubrole`
: Table row

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityTextAttachmentSubrole`
: Text attachment

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityTextLinkSubrole`
: Text link

  Available in Mac OS X v10.4 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityTimelineSubrole`
: Timeline

  Available in Mac OS X v10.5 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityToolbarButtonSubrole`
: Window's toolbar toggle button

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityUnknownSubrole`
: Unknown subrole

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityZoomButtonSubrole`
: Window's zoom button

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Action values

These constants define standard actions that accessibility objects can perform.

```
NSString *const NSAccessibilityCancelAction;
NSString *const NSAccessibilityConfirmAction;
NSString *const NSAccessibilityDecrementAction;
NSString *const NSAccessibilityDeleteAction;
NSString *const NSAccessibilityIncrementAction;
NSString *const NSAccessibilityPickAction;
NSString *const NSAccessibilityPressAction;
NSString *const NSAccessibilityRaiseAction;
NSString *const NSAccessibilityShowMenuAction;
```

Constants

`NSAccessibilityConfirmAction`
: Simulates pressing Return in object, such as a text field.

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

`NSAccessibilityDecrementAction`
: Decrements the value of object.

  Available in Mac OS X v10.2 and later.

  Declared in `NSAccessibility.h`.

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`NSAccessibilityDeleteAction`
Deletes the value of object.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityIncrementAction`
Increments the value of object.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityPickAction`
Selects the object, such as a menu item.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityPressAction`
Simulates clicking an object, such as a button.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityCancelAction`
Cancels the operation.

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityRaiseAction`
Simulates bringing a window forward by clicking on its title bar.

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityShowMenuAction`
Simulates showing a menu by clicking on it.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Focus-change notifications

`NSAccessibility` defines the following notifications, which are sent to observing assistive applications when focus-change events occur. The notifications are sent using the `NSAccessibilityPostNotification` function instead of an `NSNotificationCenter` object.

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```
NSString *const NSAccessibilityMainWindowChangedNotification;
NSString *const NSAccessibilityFocusedWindowChangedNotification;
NSString *const NSAccessibilityFocusedUIElementChangedNotification;
```

Constants

`NSAccessibilityMainWindowChangedNotification`

Main window has changed.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFocusedWindowChangedNotification`

Key window has changed.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityFocusedUIElementChangedNotification`

Element has gained focus.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In

`NSAccessibility.h`

Window-change notifications

`NSAccessibility` defines the following notifications, which are sent to observing assistive applications when window-change events occur. The notifications are sent using the `NSAccessibilityPostNotification` function instead of an `NSNotificationCenter` object.

```
NSString *const NSAccessibilityWindowCreatedNotification;
NSString *const NSAccessibilityWindowDeminiaturizedNotification;
NSString *const NSAccessibilityWindowMiniaturizedNotification;
NSString *const NSAccessibilityWindowMovedNotification;
NSString *const NSAccessibilityWindowResizedNotification;
```

Constants

`NSAccessibilityWindowCreatedNotification`

A new window has appeared.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityWindowDeminiaturizedNotification`

Window has been restored to full size from the Dock.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityWindowMiniaturizedNotification`

Window has been put in the Dock.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityWindowMovedNotification`
Window has moved.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityWindowResizedNotification`
Window has changed size.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Application notifications

`NSAccessibility` defines the following notifications, which are sent to observing assistive applications when application events occur. The notifications are sent using the `NSAccessibilityPostNotification` function instead of an `NSNotificationCenter` object.

```
NSString *const NSAccessibilityApplicationActivatedNotification;
NSString *const NSAccessibilityApplicationDeactivatedNotification;
NSString *const NSAccessibilityApplicationHiddenNotification;
NSString *const NSAccessibilityApplicationShownNotification;
```

Constants
`NSAccessibilityApplicationActivatedNotification`
Application has activated.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityApplicationDeactivatedNotification`
Application has deactivated.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityApplicationHiddenNotification`
Application has been hidden.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityApplicationShownNotification`
Application has been shown.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

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Drawer and sheet notifications

`NSAccessibility` defines the following notifications, which are sent to observing assistive applications when drawer and sheet events occur. The notifications are sent using the `NSAccessibilityPostNotification` function instead of an `NSNotificationCenter` object.

```
NSString *const NSAccessibilityDrawerCreatedNotification;
NSString *const NSAccessibilitySheetCreatedNotification;
```

Constants

`NSAccessibilityDrawerCreatedNotification`

A drawer has appeared.

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySheetCreatedNotification`

A sheet has appeared.

Available in Mac OS X v10.3 and later.

Declared in `NSAccessibility.h`.

Declared In

`NSAccessibility.h`

Element notifications

`NSAccessibility` defines the following notifications, which are sent to observing assistive applications when certain events occur. The notifications are sent using the `NSAccessibilityPostNotification` function instead of an `NSNotificationCenter` object.

```
NSString *const NSAccessibilityCreatedNotification;
NSString *const NSAccessibilityMovedNotification;
NSString *const NSAccessibilityResizedNotification;
NSString *const NSAccessibilityTitleChangedNotification;
NSString *const NSAccessibilityUIElementDestroyedNotification;
NSString *const NSAccessibilityValueChangedNotification;
```

Constants

`NSAccessibilityCreatedNotification`

Element has been created.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityMovedNotification`

Element has been moved.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityResizedNotification`

Element has been resized.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilityTitleChangedNotification`
Title has changed.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityUIElementDestroyedNotification`
Element has been destroyed.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityValueChangedNotification`
Element's value has changed.

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

Miscellaneous notifications

`NSAccessibility` defines the following notifications, which are sent to observing assistive applications when certain events occur. The notifications are sent using the `NSAccessibilityPostNotification` function instead of an `NSNotificationCenter` object.

```
NSString *const NSAccessibilityHelpTagCreatedNotification;
NSString *const NSAccessibilityRowCountChangedNotification;
NSString *const NSAccessibilitySelectedChildrenChangedNotification;
NSString *const NSAccessibilitySelectedColumnsChangedNotification;
NSString *const NSAccessibilitySelectedRowsChangedNotification;
NSString *const NSAccessibilitySelectedTextChangedNotification;
```

Constants
`NSAccessibilityHelpTagCreatedNotification`
A help tag has appeared.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilityRowCountChangedNotification`
A row has been added or deleted.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedChildrenChangedNotification`
Selected child elements have changed.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedColumnsChangedNotification`
Selected columns have changed.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

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`NSAccessibilitySelectedRowsChangedNotification`
Selected rows have changed.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

`NSAccessibilitySelectedTextChangedNotification`
Selected text has changed.

Available in Mac OS X v10.4 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

UserInfo key for error codes in accessibility exceptions

This is a key used by the `userInfo` dictionary of an `NSAccessibilityException`.

```
NSString *const NSAccessibilityErrorCodeExceptionInfo;
```

Constants
`NSAccessibilityErrorCodeExceptionInfo`
Integer error code used for debugging (as an `NSNumber`).

Available in Mac OS X v10.2 and later.

Declared in `NSAccessibility.h`.

Declared In
`NSAccessibility.h`

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Document Revision History

This table describes the changes to *NSAccessibility Protocol Reference*.

Date	Notes
2007-12-11	Corrected descriptions of several constants.
2007-04-03	Added constants introduced with Mac OS X v10.5.
2006-05-23	First publication of this content as a separate document.

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Document Revision History

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