NSPointerArray Class Reference

Cocoa > Data Management

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Apple Inc.
1 Infinite Loop
Cupertino, CA 95014
408-996-1010

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NSPointerArray Class Reference

Inherits from	NSObject
Conforms to	NSCoding NSCopying NSFastEnumeration NSObject (NSObject)
Framework	/System/Library/Frameworks/Foundation.framework
Declared in	NSPointerArray.h
Companion guides	Collections Programming Topics for Cocoa Garbage Collection Programming Guide
Availability	Available in Mac OS X v10.5 and later.

Overview

`NSPointerArray` is a mutable collection modeled after `NSArray` but it can also hold `NULL` values, which can be inserted or extracted (and which contribute to the object's count). Moreover, unlike traditional arrays, you can set the count of the array directly. In a garbage collected environment, if you specify a zeroing weak memory configuration, if an element is collected it is replaced by a `NULL` value.

The copying and archiving protocols are applicable only when a pointer array is configured for object uses.

The fast fast enumeration protocol (that is, use a pointer array in the `for...in` language construct—see Fast Enumeration in *The Objective-C 2.0 Programming Language*) will yield `NULL` values that are present in the array. It is defined for all types of pointers although the language syntax doesn't directly support this.

Tasks

Creating and Initializing a New Pointer Array

+ `pointerArrayWithOptions:` (page 6)
  Returns a new pointer array initialized to use the given options.
+ `pointerArrayWithPointerFunctions:` (page 7)
  A new pointer array initialized to use the given functions.
+ `pointerArrayWithStrongObjects` (page 7)
  Returns a new pointer array that maintains strong references to its elements.
+ `pointerArrayWithWeakObjects` (page 8)
  Returns a new pointer array that maintains weak references to its elements.

Managing the Collection

- `count` (page 9)
  Returns the number of elements in the receiver.
- `setCount:` (page 12)
  Sets the count for the receiver.
- `allObjects` (page 9)
  Returns an array containing all the objects in the receiver.
- `pointerAtIndex:` (page 11)
  Returns the pointer at a given index.
- `addPointer:` (page 8)
  Adds a given pointer to the receiver.
- `removePointerAtIndex:` (page 12)
  Removes the pointer at a given index.
- `insertPointer:atIndex:` (page 10)
  Inserts a pointer at a given index.
- `replacePointerAtIndex:withPointer:` (page 12)
  Replaces the pointer at a given index.
- `compact` (page 9)
  Removes `NULL` values from the receiver.

Getting the Pointer Functions

- `pointerFunctions` (page 11)
  Returns a new `NSPointerFunctions` object reflecting the functions in use by the receiver.

Class Methods

pointerArrayWithOptions:

Returns a new pointer array initialized to use the given options.

```
+ (id)pointerArrayWithOptions:(NSPointerFunctionsOptions)options
```

Parameters

options

The pointer functions options for the new instance.

Return Value

A new pointer array initialized to use the given options.

Availability

Available in Mac OS X v10.5 and later.

See Also

+ pointerArrayWithPointerFunctions: (page 7)
+ pointerArrayWithStrongObjects (page 7)
+ pointerArrayWithWeakObjects (page 8)

Declared In

NSPointerArray.h

pointerArrayWithPointerFunctions:

A new pointer array initialized to use the given functions.

```
+ (id)pointerArrayWithPointerFunctions:(NSPointerFunctions *)functions
```

Parameters

functions

The pointer functions for the new instance.

Return Value

A new pointer array initialized to use the given pointer functions.

Availability

Available in Mac OS X v10.5 and later.

See Also

+ pointerArrayWithOptions: (page 6)
+ pointerArrayWithStrongObjects (page 7)
+ pointerArrayWithWeakObjects (page 8)

Declared In

NSPointerArray.h

pointerArrayWithStrongObjects

Returns a new pointer array that maintains strong references to its elements.

```
+ (id)pointerArrayWithStrongObjects
```

Return Value

A new pointer array that maintains strong references to its elements.

Availability

Available in Mac OS X v10.5 and later.

See Also
+ pointerArrayWithWeakObjects (page 8)
+ pointerArrayWithOptions: (page 6)
+ pointerArrayWithPointerFunctions: (page 7)

Declared In
NSPointerArray.h

pointerArrayWithWeakObjects

Returns a new pointer array that maintains weak references to its elements.

```
+ (id)pointerArrayWithWeakObjects
```

Return Value
A new pointer array that maintains weak references to its elements.

Availability
Available in Mac OS X v10.5 and later.

See Also
+ pointerArrayWithStrongObjects (page 7)
+ pointerArrayWithOptions: (page 6)
+ pointerArrayWithPointerFunctions: (page 7)

Declared In
NSPointerArray.h

Instance Methods

addPointer:

Adds a given pointer to the receiver.

```
- (void)addPointer:(void *)pointer
```

Parameters
pointer
The pointer to add. This value may be NULL.

Discussion
pointer is added at index count (page 9).

Availability
Available in Mac OS X v10.5 and later.

Declared In
NSPointerArray.h

allObjects

Returns an array containing all the objects in the receiver.

```
- (NSArray *)allObjects
```

Return Value
An array containing all the object in the receiver.

Availability
Available in Mac OS X v10.5 and later.

See Also
- `count` (page 9)

Declared In
`NSPointerArray.h`

compact

Removes `NULL` values from the receiver.

```
- (void)compact
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`NSPointerArray.h`

count

Returns the number of elements in the receiver.

```
- (NSUInteger)count
```

Return Value
The number of elements in the receiver.

Availability
Available in Mac OS X v10.5 and later.

See Also
- `setCount:` (page 12)

Declared In
`NSPointerArray.h`

initWithOptions:

Initializes the receiver to use the given options.

```
- (id)initWithOptions:(NSPointerFunctionsOptions)options
```

Parameters

options

The pointer functions options for the new instance.

Return Value

The receiver, initialized to use the given options.

Availability

Available in Mac OS X v10.5 and later.

See Also

- `initWithPointerFunctions:` (page 10)
+ `pointerArrayWithOptions:` (page 6)
+ `pointerArrayWithPointerFunctions:` (page 7)

Declared In

`NSPointerArray.h`

initWithPointerFunctions:

Initializes the receiver to use the given functions.

```
- (id)initWithPointerFunctions:(NSPointerFunctions *)functions
```

Parameters

functions

The pointer functions for the new instance.

Return Value

The receiver, initialized to use the given functions.

Availability

Available in Mac OS X v10.5 and later.

See Also

- `initWithOptions:` (page 9)
+ `pointerArrayWithPointerFunctions:` (page 7)
+ `pointerArrayWithOptions:` (page 6)

Declared In

`NSPointerArray.h`

insertPointer:atIndex:

Inserts a pointer at a given index.

```
- (void)insertPointer:(void *)item atIndex:(NSUInteger)index
```

Parameters

item

The pointer to add.

index

The index of an element in the receiver. This value must be less than the `count` (page 9) of the receiver.

Discussion
Elements at and above *index*, including `NULL` values, slide higher.

Availability
Available in Mac OS X v10.5 and later.

Declared In
`NSPointerArray.h`

pointerAtIndex:

Returns the pointer at a given index.

```
- (void *)pointerAtIndex:(NSUInteger)index
```

Parameters

index

The index of an element in the receiver. This value must be less than the `count` (page 9) of the receiver.

Return Value
The pointer at *index*.

Discussion
The returned value may be `NULL`.

Availability
Available in Mac OS X v10.5 and later.

Declared In
`NSPointerArray.h`

pointerFunctions

Returns a new `NSPointerFunctions` object reflecting the functions in use by the receiver.

```
- (NSPointerFunctions *)pointerFunctions
```

Return Value
A new `NSPointerFunctions` object reflecting the functions in use by the receiver.

Discussion
The returned object is a new `NSPointerFunctions` object that you can modify and/or use directly to create other pointer collections.

Availability
Available in Mac OS X v10.5 and later.

Declared In
`NSPointerArray.h`

removePointerAtIndex:

Removes the pointer at a given index.

```
- (void)removePointerAtIndex:(NSUInteger)index
```

Parameters

index

The index of an element in the receiver. This value must be less than the `count` (page 9) of the receiver.

Discussion

Elements above *index*, including `NULL` values, slide lower.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSPointerArray.h`

replacePointerAtIndex:withPointer:

Replaces the pointer at a given index.

```
- (void)replacePointerAtIndex:(NSUInteger)index withPointer:(void *)item
```

Parameters

index

The index of an element in the receiver. This value must be less than the `count` (page 9) of the receiver.

item

The item with which to replace the element at *index*. This value may be `NULL`.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSPointerArray.h`

setCount:

Sets the count for the receiver.

```
- (void)setCount:(NSUInteger)count
```

Parameters

count

The count for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

- `count` (page 9)

Discussion
If *count* is greater than the `count` (page 9) of the receiver, `NULL` values are added; if *count* is less than the `count` (page 9) of the receiver, then elements at indexes *count* and greater are removed from the receiver.

Declared In
`NSPointerArray.h`

Document Revision History

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

Date	Notes
2009-03-04	Clarified behavior in fast enumeration.
2007-01-06	New document that describes the mutable collection that can hold NULL values.

Document Revision History

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