NSIndexPath Class Reference

Cocoa > Data Management

2008-10-15

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NSIndexPath Class Reference

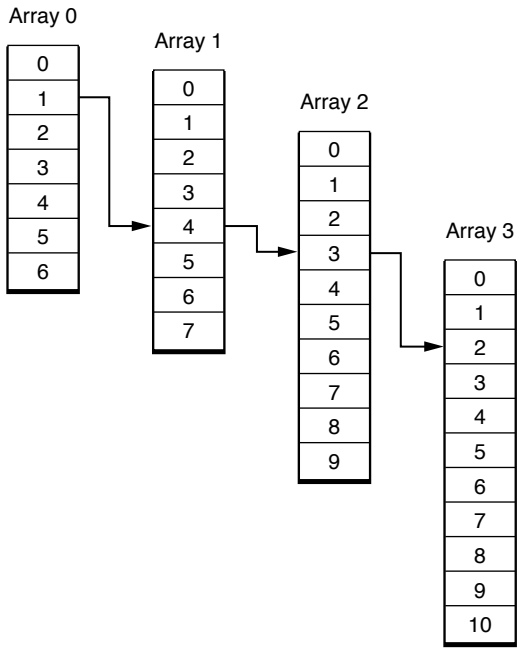
Inherits from	NSObject
Conforms to	NSCoding NSCopying NSObject (NSObject)
Framework	/System/Library/Frameworks/Foundation.framework
Availability	Available in Mac OS X v10.4 and later.
Declared in	NSIndexPath.h

Overview

The `NSIndexPath` class represents the path to a specific node in a tree of nested array collections. This path is known as an **index path**.

Each index in an index path represents the index into an array of children from one node in the tree to another, deeper, node. For example, the index path `1.4.3.2` specifies the path shown in Figure 1.

Figure 1 Index path `1.4.3.2`



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`NSIndexPath` objects are uniqued and shared. If an index path containing the specified index or indexes already exists, that object is returned instead of a new instance.

Adopted Protocols

NSCoding
- `encodeWithCoder:`
- `initWithCoder:`

NSCopying
- `copyWithZone:`

Tasks

Creating Index Paths

`+ indexPathWithIndex:` (page 9)
Creates an one-node index path.

`+ indexPathWithIndexes:length:` (page 9)
Creates an index path with one or more nodes.

`- initWithIndex:` (page 12)
Initializes an allocated `NSIndexPath` (page 7) object with a one-node index path.

`- initWithIndexes:length:` (page 12)
Initializes an allocated `NSIndexPath` (page 7) object with an index path of a specific length.

Querying Index Paths

`- getIndexes:` (page 10)
Provides a reference to the receiver's indexes.

`- indexAtPosition:` (page 11)
Provides the index at a particular node in the receiver.

`- indexPathByAddingIndex:` (page 11)
Provides an index path containing the indexes in the receiver and another index.

`- indexPathByRemovingLastIndex` (page 11)
Provides an index path with the indexes in the receiver, excluding the last one.

`- length` (page 13)
Provides the number of indexes in the receiver.

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Comparing Index Paths

`- compare:` (page 10)
Indicates the depth-first traversal order of the receiver and another index path.

Class Methods

indexPathWithIndex:

Creates an one-node index path.

```
+ (id)indexPathWithIndex:(NSUInteger)index
```

Parameters
index
Index of the item in node 0 to point to.

Return Value
One-node index path with *index*.

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

See Also
`- initWithIndex:` (page 12)

Declared In
`NSIndexPath.h`

indexPathWithIndexes:length:

Creates an index path with one or more nodes.

```
+ (id)indexPathWithIndexes:(NSUInteger *)indexes length:(NSUInteger)length
```

Parameters
indexes
Array of indexes to make up the index path.
length
Number of nodes to include in the index path.

Return Value
Index path with *indexes* up to *length*.

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

See Also
`- initWithIndexes:length:` (page 12)

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Declared In
`NSIndexPath.h`

Instance Methods

compare:

Indicates the depth-first traversal order of the receiver and another index path.

```
- (NSComparisonResult)compare:(NSIndexPath *)indexPath
```

Parameters

indexPath

Index path to compare.

This value must not be `nil`. If the value is `nil`, the behavior is undefined and may change in future versions of Mac OS X.

Return Value
The depth-first traversal ordering of the receiver and *indexPath*.

- `NSOrderedAscending`: The receiver comes before *indexPath*.
- `NSOrderedDescending`: The receiver comes after *indexPath*.
- `NSOrderedSame`: The receiver and *indexPath* are the same index path.

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

Declared In
`NSIndexPath.h`

getIndexes:

Provides a reference to the receiver's indexes.

```
- (void)getIndexes:(NSUInteger *)indexes
```

Parameters

indexes

Pointer to an unsigned integer array. On return, the receiver indexes.

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

Declared In
`NSIndexPath.h`

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indexAtPosition:

Provides the index at a particular node in the receiver.

```
- (NSUInteger)indexAtPosition:(NSUInteger)node
```

Parameters

node

Index value of the desired node. Node numbering starts at zero.

Return Value

Index value at *node*.

Availability

Available in Mac OS X v10.4 and later.

Declared In

NSIndexPath.h

indexPathByAddingIndex:

Provides an index path containing the indexes in the receiver and another index.

```
- (NSIndexPath *)indexPathByAddingIndex:(NSUInteger)index
```

Parameters

index

Index to append to the receiver's indexes.

Return Value

New NSIndexPath (page 7) object containing the receiver's indexes and *index*.

Availability

Available in Mac OS X v10.4 and later.

See Also

- indexPathByRemovingLastIndex (page 11)

Declared In

NSIndexPath.h

indexPathByRemovingLastIndex

Provides an index path with the indexes in the receiver, excluding the last one.

```
- (NSIndexPath *)indexPathByRemovingLastIndex
```

Return Value

New index path with the receiver's indexes, excluding the last one.

Discussion

Returns an empty NSIndexPath instance if the receiver's length is 1 or less.

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Special Considerations

On Mac OS X 10.4 and earlier this method returns `nil` when the length of the receiver is 1 or less. On Mac OS X 10.5 and later this method will never return `nil`.

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

See Also
`- indexPathByAddingIndex:` (page 11)

Declared In
`NSIndexPath.h`

initWithIndex:

Initializes an allocated `NSIndexPath` (page 7) object with a one-node index path.

```
- (id)initWithIndex:(NSUInteger)index
```

Parameters

index

Index of the item in node 0 to point to.

Return Value
Initialized `NSIndexPath` (page 7) object representing a one-node index path with *index*.

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

See Also
`+ indexPathWithIndex:` (page 9)

Declared In
`NSIndexPath.h`

initWithIndexes:length:

Initializes an allocated `NSIndexPath` (page 7) object with an index path of a specific length.

```
- (id)initWithIndexes:(NSUInteger *)indexes length:(NSUInteger)length
```

Parameters

indexes

Array of indexes to make up the index path.

length

Number of nodes to include in the index path.

Return Value
Initialized `NSIndexPath` (page 7) object with *indexes* up to *length*.

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

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See Also
`+ indexPathWithIndexes:length:` (page 9)

Declared In
`NSIndexPath.h`

length

Provides the number of indexes in the receiver.

```
- (NSUInteger)length
```

Return Value
Number of indexes in the receiver.

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

Declared In
`NSIndexPath.h`

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Document Revision History

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

Date	Notes
2008-10-15	Clarified indexAtPosition: description.
2008-09-09	Added return considerations to indexPathByRemovingLastIndex method.
2007-10-31	Updated the description of the compare: method.
2007-03-26	Made editorial improvements.
2006-05-23	First publication of this content as a separate document.

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