
NSPropertyDescription Class Reference

Data Management



2009-05-25



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NSPropertyDescription Class Reference

Inherits from	NSObject
Conforms to	NSCoding NSCopying NSObject (NSObject)
Framework	/System/Library/Frameworks/CoreData.framework
Availability	Available in Mac OS X v10.4 and later.
Companion guide	Core Data Programming Guide
Declared in	NSPropertyDescription.h
Related sample code	Core Data HTML Store

Overview

The `NSPropertyDescription` class is used to define properties of an entity in a Core Data managed object model. Properties are to entities what instance variables are to classes.

A property describes a single value within an object managed by the Core Data Framework. There are different types of property, each represented by a subclass which encapsulates the specific property behavior—see `NSAttributeDescription`, `NSRelationshipDescription`, and `NSFetchedPropertyDescription`.

Note that a property name cannot be the same as any no-parameter method name of `NSObject` or `NSManagedObject`. For example, you cannot give a property the name "description". There are hundreds of methods on `NSObject` which may conflict with property names—and this list can grow without warning from frameworks or other libraries. You should avoid very general words (like "font" and "color") and words or phrases which overlap with Cocoa paradigms (such as "isEditing" and "objectSpecifier").

Properties—relationships as well as attributes—may be transient. A managed object context knows about transient properties and tracks changes made to them. Transient properties are ignored by the persistent store, and not just during saves: you cannot fetch using a predicate based on transients (although you can use transient properties to filter in memory yourself).

Editing Property Descriptions

Property descriptions are editable until they are used by an object graph manager (such as a persistent store coordinator). This allows you to create or modify them dynamically. However, once a description is used (when the managed object model to which it belongs is associated with a persistent store coordinator), it

must not (indeed cannot) be changed. This is enforced at runtime: any attempt to mutate a model or any of its sub-objects after the model is associated with a persistent store coordinator causes an exception to be thrown. If you need to modify a model that is in use, create a copy, modify the copy, and then discard the objects with the old model.

Tasks

Getting Features of a Property

- [entity](#) (page 7)
Returns the entity description of the receiver.
- [isIndexed](#) (page 8)
Returns a Boolean value that indicates whether the receiver is important for searching.
- [isOptional](#) (page 8)
Returns a Boolean value that indicates whether the receiver is optional.
- [isTransient](#) (page 9)
Returns a Boolean value that indicates whether the receiver is transient.
- [name](#) (page 10)
Returns the name of the receiver.
- [userInfo](#) (page 15)
Returns the user info dictionary of the receiver.

Setting Features of a Property

- [setIndexed:](#) (page 11)
Sets the optionality flag of the receiver.
- [setName:](#) (page 11)
Sets the name of the receiver.
- [setOptional:](#) (page 12)
Sets the optionality flag of the receiver.
- [setTransient:](#) (page 13)
Sets the transient flag of the receiver.
- [setUserInfo:](#) (page 14)
Sets the user info dictionary of the receiver.

Validation

- [validationPredicates](#) (page 16)
Returns the validation predicates of the receiver.
- [validationWarnings](#) (page 16)
Returns the error strings associated with the receiver's validation predicates.

- [setValidationPredicates:withValidationWarnings:](#) (page 14)
Sets the validation predicates and warnings of the receiver.

Versioning Support

- [versionHash](#) (page 16)
Returns the version hash for the receiver.
- [versionHashModifier](#) (page 17)
Returns the version hash modifier for the receiver.
- [setVersionHashModifier:](#) (page 15)
Sets the version hash modifier for the receiver.
- [renamingIdentifier](#) (page 10)
Returns the renaming identifier for the receiver.
- [setRenamingIdentifier:](#) (page 12)
Sets the renaming identifier for the receiver.

Spotlight Support

- [isIndexedBySpotlight](#) (page 8)
Returns a Boolean value that indicates whether the property should be indexed by Spotlight.
- [setIndexedBySpotlight:](#) (page 11)
Sets whether the property should be indexed by Spotlight.
- [isStoredInExternalRecord](#) (page 9)
Returns a Boolean value that indicates whether the property data should be written out in an external record file corresponding to the managed object.
- [setStoredInExternalRecord:](#) (page 13)
Sets whether the data should be written out in an external record file corresponding to the managed object.

Instance Methods

entity

Returns the entity description of the receiver.

```
- (NSEntityDescription *)entity
```

Return Value

The entity description of the receiver.

Availability

Available in Mac OS X v10.4 and later.

See Also

[setProperty:\(NSEntityDescription\)](#)

Declared In

NSPropertyDescription.h

isIndexed

Returns a Boolean value that indicates whether the receiver is important for searching.

- (BOOL)isIndexed

Return Value

YES if the receiver is important for searching, otherwise NO.

Discussion

Object stores can optionally use this information upon store creation for operations such as defining indexes.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [setIndexed:](#) (page 11)

Declared In

NSPropertyDescription.h

isIndexedBySpotlight

Returns a Boolean value that indicates whether the property should be indexed by Spotlight.

- (BOOL)isIndexedBySpotlight

Return Value

YES if the property should be indexed by Spotlight, otherwise NO.

Discussion

For details, see *Core Data Spotlight Integration Programming Guide*.

Special Considerations

This property has no effect on iOS.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [setIndexedBySpotlight:](#) (page 11)

Declared In

NSPropertyDescription.h

isOptional

Returns a Boolean value that indicates whether the receiver is optional.

- (BOOL)isOptional

Return Value

YES if the receiver is optional, otherwise NO.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [setOptional:](#) (page 12)

Declared In

NSPropertyDescription.h

isStoredInExternalRecord

Returns a Boolean value that indicates whether the property data should be written out in an external record file corresponding to the managed object.

- (BOOL)isStoredInExternalRecord

Return Value

YES if the property data should be written out in an external record file corresponding to the managed object, otherwise NO.

Discussion

For details, see *Core Data Spotlight Integration Programming Guide*.

Special Considerations

This property has no effect on iOS.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [setStoredInExternalRecord:](#) (page 13)

Declared In

NSPropertyDescription.h

isTransient

Returns a Boolean value that indicates whether the receiver is transient.

- (BOOL)isTransient

Return Value

YES if the receiver is transient, otherwise NO.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [setTransient:](#) (page 13)

Declared In

NSPropertyDescription.h

name

Returns the name of the receiver.

- (NSString *)name

Return Value

The name of the receiver.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [setName:](#) (page 11)

Related Sample Code

CoreRecipes

Declared In

NSPropertyDescription.h

renamingIdentifier

Returns the renaming identifier for the receiver.

- (NSString *)renamingIdentifier

Return Value

The renaming identifier for the receiver.

Discussion

This is used to resolve naming conflicts between models. When creating an entity mapping between entities in two managed object models, a source entity property and a destination entity property that share the same identifier indicate that a property mapping should be configured to migrate from the source to the destination. If unset, the identifier will return the property's name.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [setRenamingIdentifier:](#) (page 12)

Declared In

NSPropertyDescription.h

setIndexed:

Sets the optionality flag of the receiver.

- (void)setIndexed:(BOOL)flag

Parameters

flag

A Boolean value that indicates whether whether the receiver is important for searching (YES) or not (NO).

Discussion

Object stores can optionally use this information upon store creation for operations such as defining indexes.

Special Considerations

This method raises an exception if the receiver's model has been used by an object graph manager.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [isIndexed](#) (page 8)

Declared In

NSPropertyDescription.h

setIndexedBySpotlight:

Sets whether the property should be indexed by Spotlight.

- (void)setIndexedBySpotlight:(BOOL)flag

Parameters

flag

YES if the property should be indexed by Spotlight, otherwise NO.

Discussion

For details, see *Core Data Spotlight Integration Programming Guide*.

Special Considerations

This property has no effect on iOS.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [isIndexedBySpotlight](#) (page 8)

Declared In

NSPropertyDescription.h

setName:

Sets the name of the receiver.

```
- (void)setName:(NSString *)name
```

Parameters

name

The name of the receiver.

Special Considerations

A property name cannot be the same as any no-parameter method name of `NSObject` or `NSManagedObject`. Since there are hundreds of methods on `NSObject` which may conflict with property names, you should avoid very general words (like “font” and “color”) and words or phrases which overlap with Cocoa paradigms (such as “isEditing” and “objectSpecifier”).

This method raises an exception if the receiver’s model has been used by an object graph manager.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [name](#) (page 10)

Declared In

`NSPropertyDescription.h`

setOptional:

Sets the optionality flag of the receiver.

```
- (void)setOptional:(BOOL)flag
```

Parameters

flag

A Boolean value that indicates whether whether the receiver is optional (YES) or not (NO).

Discussion

The optionality flag specifies whether a property’s value can be `nil` before an object can be saved to a persistent store.

Special Considerations

This method raises an exception if the receiver’s model has been used by an object graph manager.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [isOptional](#) (page 8)

Declared In

`NSPropertyDescription.h`

setRenamingIdentifier:

Sets the renaming identifier for the receiver.

- (void)setRenamingIdentifier:(NSString *)*value*

Parameters

value

The renaming identifier for the receiver.

Discussion

See [renamingIdentifier](#) (page 10) for a full discussion.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [renamingIdentifier](#) (page 10)

Declared In

NSPropertyDescription.h

setStoredInExternalRecord:

Sets whether the data should be written out in an external record file corresponding to the managed object.

- (void)setStoredInExternalRecord:(BOOL)*flag*

Parameters

flag

YES if the property data should be written out in an external record file corresponding to the managed object, otherwise NO.

Discussion

For details, see *Core Data Spotlight Integration Programming Guide*.

Special Considerations

This property has no effect on iOS.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [isStoredInExternalRecord](#) (page 9)

Declared In

NSPropertyDescription.h

setTransient:

Sets the transient flag of the receiver.

- (void)setTransient:(BOOL)*flag*

Parameters

flag

A Boolean value that indicates whether whether the receiver is transient (YES) or not (NO).

Discussion

The transient flag specifies whether or not a property's value is ignored when an object is saved to a persistent store. Transient properties are not saved to the persistent store, but are still managed for undo, redo, validation, and so on.

Special Considerations

This method raises an exception if the receiver's model has been used by an object graph manager.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [isTransient](#) (page 9)

Declared In

NSPropertyDescription.h

setUserInfo:

Sets the user info dictionary of the receiver.

```
- (void)setUserInfo:(NSDictionary *)dictionary
```

Parameters

dictionary

The user info dictionary of the receiver.

Special Considerations

This method raises an exception if the receiver's model has been used by an object graph manager.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [userInfo](#) (page 15)

Declared In

NSPropertyDescription.h

setValidationPredicates:withValidationWarnings:

Sets the validation predicates and warnings of the receiver.

```
- (void)setValidationPredicates:(NSArray *)validationPredicates
withValidationWarnings:(NSArray *)validationWarnings
```

Parameters

validationPredicates

An array containing the validation predicates for the receiver.

validationWarnings

An array containing the validation warnings for the receiver.

Discussion

The *validationPredicates* and *validationWarnings* arrays should contain the same number of elements, and corresponding elements should appear at the same index in each array.

Instead of implementing individual validation methods, you can use this method to provide a list of predicates that are evaluated against the managed objects and a list of corresponding error messages (which can be localized).

Special Considerations

This method raises an exception if the receiver's model has been used by an object graph manager.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [validationPredicates](#) (page 16)
- [validationWarnings](#) (page 16)

Declared In

NSPropertyDescription.h

setVersionHashModifier:

Sets the version hash modifier for the receiver.

```
- (void)setVersionHashModifier:(NSString *)modifierString
```

Parameters

modifierString

The version hash modifier for the receiver.

Discussion

See [versionHashModifier](#) (page 17) for a full discussion.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [versionHash](#) (page 16)
- [versionHashModifier](#) (page 17)

Declared In

NSPropertyDescription.h

userInfo

Returns the user info dictionary of the receiver.

```
- (NSDictionary *)userInfo
```

Return Value

The user info dictionary of the receiver.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [setUserInfo:](#) (page 14)

Declared In

NSPropertyDescription.h

validationPredicates

Returns the validation predicates of the receiver.

- (NSArray *)validationPredicates

Return Value

An array containing the receiver's validation predicates.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [validationWarnings](#) (page 16)

- [setValidationPredicates:withValidationWarnings:](#) (page 14)

Declared In

NSPropertyDescription.h

validationWarnings

Returns the error strings associated with the receiver's validation predicates.

- (NSArray *)validationWarnings

Return Value

An array containing the error strings associated with the receiver's validation predicates.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [validationPredicates](#) (page 16)

- [setValidationPredicates:withValidationWarnings:](#) (page 14)

Declared In

NSPropertyDescription.h

versionHash

Returns the version hash for the receiver.

- (NSData *)versionHash

Return Value

The version hash for the receiver.

Discussion

The version hash is used to uniquely identify a property based on its configuration. The version hash uses only values which affect the persistence of data and the user-defined [versionHashModifier](#) (page 17) value. (The values which affect persistence are the name of the property, and the flags for `isOptional`, `isTransient`, and `isReadOnly`.) This value is stored as part of the version information in the metadata for stores, as well as a definition of a property involved in an `NSPropertyMapping` object.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [versionHashModifier](#) (page 17)
- [setVersionHashModifier:](#) (page 15)

Declared In

`NSPropertyDescription.h`

versionHashModifier

Returns the version hash modifier for the receiver.

```
- (NSString *)versionHashModifier
```

Return Value

The version hash modifier for the receiver.

Discussion

This value is included in the version hash for the property. You use it to mark or denote a property as being a different “version” than another even if all of the values which affect persistence are equal. (Such a difference is important in cases where the attributes of a property are unchanged but the format or content of its data are changed.)

This value is included in the version hash for the property.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [versionHash](#) (page 16)
- [setVersionHashModifier:](#) (page 15)

Declared In

`NSPropertyDescription.h`

Document Revision History

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

Date	Notes
2009-05-25	Added notes that Spotlight indexing is not available on iOS.
2009-02-24	Updated for iOS 3.0.
2006-10-03	Updated for Mac OS X v10.5.
2006-06-28	Enhanced the description of reserved attribute names.
2006-05-23	First publication of this content as a separate document.

REVISION HISTORY

Document Revision History