
NSPersistentStore Class Reference

Data Management



2009-05-01



Apple Inc.
© 2009 Apple Inc.
All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without prior written permission of Apple Inc., with the following exceptions: Any person is hereby authorized to store documentation on a single computer for personal use only and to print copies of documentation for personal use provided that the documentation contains Apple's copyright notice.

The Apple logo is a trademark of Apple Inc.

Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

No licenses, express or implied, are granted with respect to any of the technology described in this document. Apple retains all intellectual property rights associated with the technology described in this document. This document is intended to assist application developers to develop applications only for Apple-labeled computers.

Every effort has been made to ensure that the information in this document is accurate. Apple is not responsible for typographical errors.

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

Apple, the Apple logo, Mac, and Mac OS are trademarks of Apple Inc., registered in the United States and other countries.

iPhone is a trademark of Apple Inc.

Simultaneously published in the United States and Canada.

Even though Apple has reviewed this document, APPLE MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS DOCUMENT, ITS QUALITY, ACCURACY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS DOCUMENT IS PROVIDED "AS IS," AND YOU, THE READER, ARE ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND ACCURACY.

IN NO EVENT WILL APPLE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR

CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT OR INACCURACY IN THIS DOCUMENT, even if advised of the possibility of such damages.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Apple dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Contents

NSPersistentStore Class Reference 5

Overview	5
Subclassing Notes	5
Tasks	6
Initializing a Persistent Store	6
Working with State Information	6
Managing Metadata	6
Setup and Teardown	7
Supporting Migration	7
Class Methods	7
metadataForPersistentStoreWithURL:error:	7
migrationManagerClass	7
setMetadata:forPersistentStoreWithURL:error:	8
Instance Methods	8
configurationName	8
didAddToPersistentStoreCoordinator:	9
identifier	9
initWithPersistentStoreCoordinator:configurationName:URL:options:	10
isReadOnly	10
loadMetadata:	11
metadata	11
options	11
persistentStoreCoordinator	12
setIdentifier:	12
setMetadata:	13
setReadOnly:	13
setURL:	13
type	14
URL	14
willRemoveFromPersistentStoreCoordinator:	14

Document Revision History 17

Index 19

NSPersistentStore Class Reference

Inherits from	NSObject
Conforms to	NSObject (NSObject)
Framework	/System/Library/Frameworks/CoreData.framework
Availability	Available in Mac OS X v10.5 and later.
Declared in	NSPersistentStore.h
Companion guides	Core Data Programming Guide Atomic Store Programming Topics
Related sample code	StickiesWithCoreData

Overview

This class is the abstract base class for all Core Data persistent stores.

Core Data provides four store types—SQLite, Binary, XML, and In-Memory (the XML store is not available on iPhone OS); these are described in [Persistent Stores](#). Core Data also provides a subclass of `NSPersistentStore`, `NSAtomicStore`. The Binary and XML stores are examples of atomic stores that inherit functionality from `NSAtomicStore`.

Subclassing Notes

You should not subclass `NSPersistentStore` directly. Core Data currently only supports subclassing of `NSAtomicStore`.

The designated initializer is

[initWithPersistentStoreCoordinator:configurationName:URL:options:](#) (page 10). When you implement the initializer, you must ensure you load metadata during initialization and set it using [setMetadata:](#) (page 13).

You must override these methods:

- [type](#) (page 14)
- [metadata](#) (page 11)
- [metadataForPersistentStoreWithURL:error:](#) (page 7)
- [setMetadata:forPersistentStoreWithURL:error:](#) (page 8)

Tasks

Initializing a Persistent Store

- [initWithPersistentStoreCoordinator:configurationName:URL:options:](#) (page 10)
Returns a store initialized with the given arguments.

Working with State Information

- [type](#) (page 14)
Returns the type string of the receiver.
- [persistentStoreCoordinator](#) (page 12)
Returns the persistent store coordinator which loaded the receiver.
- [configurationName](#) (page 8)
Returns the name of the managed object model configuration used to create the receiver.
- [options](#) (page 11)
Returns the options with which the receiver was created.
- [URL](#) (page 14)
Returns the URL for the receiver.
- [setURL:](#) (page 13)
Sets the URL for the receiver.
- [identifier](#) (page 9)
Returns the unique identifier for the receiver.
- [setIdentifier:](#) (page 12)
Sets the unique identifier for the receiver.
- [isReadOnly](#) (page 10)
Returns a Boolean value that indicates whether the receiver is read-only.
- [setReadOnly:](#) (page 13)
Sets whether the receiver is read-only.

Managing Metadata

- + [metadataForPersistentStoreWithURL:error:](#) (page 7)
Returns the metadata from the persistent store at the given URL.
- + [setMetadata:forPersistentStoreWithURL:error:](#) (page 8)
Sets the metadata for the store at a given URL.
- [metadata](#) (page 11)
Returns the metadata for the receiver.
- [loadMetadata:](#) (page 11)
Instructs the receiver to load its metadata.
- [setMetadata:](#) (page 13)
Sets the metadata for the receiver.

Setup and Teardown

- [didAddToPersistentStoreCoordinator:](#) (page 9)
Invoked after the receiver has been added to the persistent store coordinator.
- [willRemoveFromPersistentStoreCoordinator:](#) (page 14)
Invoked before the receiver is removed from the persistent store coordinator.

Supporting Migration

- + [migrationManagerClass](#) (page 7)
Returns the `NSMigrationManager` class for this store class.

Class Methods

metadataForPersistentStoreWithURL:error:

Returns the metadata from the persistent store at the given URL.

```
+ (NSDictionary *)metadataForPersistentStoreWithURL:(NSURL *)url error:(NSError **)error
```

Parameters

url

The location of the store.

error

If an error occurs, upon return contains an `NSError` object that describes the problem.

Return Value

The metadata from the persistent store at *url*. Returns `nil` if there is an error.

Special Considerations

Subclasses must override this method.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSPersistentStore.h`

migrationManagerClass

Returns the `NSMigrationManager` class for this store class.

```
+ (Class)migrationManagerClass
```

Return Value

The `NSMigrationManager` class for this store class

Discussion

In a subclass of `NSPersistentStore`, you can override this to provide a custom migration manager subclass (for example, to take advantage of store-specific functionality to improve migration performance).

Availability

Available in Mac OS X v10.6 and later.

Declared In

`NSPersistentStore.h`

setMetadata:forPersistentStoreWithURL:error:

Sets the metadata for the store at a given URL.

```
+ (BOOL)setMetadata:(NSDictionary *)metadata forPersistentStoreWithURL:(NSURL *)url
      error:(NSError **)error
```

Parameters

metadata

The metadata for the store at *url*.

url

The location of the store.

error

If an error occurs, upon return contains an `NSError` object that describes the problem.

Return Value

YES if the metadata was written correctly, otherwise NO.

Special Considerations

Subclasses must override this method to set metadata appropriately.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSPersistentStore.h`

Instance Methods

configurationName

Returns the name of the managed object model configuration used to create the receiver.

```
- (NSString *)configurationName
```

Return Value

The name of the managed object model configuration used to create the receiver.

Availability

Available in Mac OS X v10.5 and later.

Declared In

NSPersistentStore.h

didAddToPersistentStoreCoordinator:

Invoked after the receiver has been added to the persistent store coordinator.

```
- (void)didAddToPersistentStoreCoordinator:(NSPersistentStoreCoordinator
*)coordinator
```

Parameters*coordinator*

The persistent store coordinator to which the receiver was added.

Discussion

The default implementation does nothing. You can override this method in a subclass in order to perform any kind of setup necessary before the load method is invoked.

Availability

Available in Mac OS X v10.5 and later.

Declared In

NSPersistentStore.h

identifier

Returns the unique identifier for the receiver.

```
- (NSString *)identifier
```

Return Value

The unique identifier for the receiver.

Discussion

The identifier is used as part of the managed object IDs for each object in the store.

Special Considerations

NSPersistentStore provides a default implementation to provide a globally unique identifier for the store instance.

Availability

Available in Mac OS X v10.5 and later.

See Also

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

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

Declared In

NSPersistentStore.h

initWithPersistentStoreCoordinator:configurationName:URL:options:

Returns a store initialized with the given arguments.

```
- (id)initWithPersistentStoreCoordinator:(NSPersistentStoreCoordinator *)root
    configurationName:(NSString *)name URL:(NSURL *)url options:(NSDictionary
    *)options
```

Parameters

coordinator

A persistent store coordinator.

configurationName

The name of the managed object model configuration to use. Pass `nil` if you do not want to specify a configuration.

url

The URL of the store to load.

options

A dictionary containing configuration options.

Return Value

A new store object, associated with *coordinator*, that represents a persistent store at *url* using the options in *options* and—if it is not `nil`—the managed object model configuration *configurationName*.

Discussion

You must ensure that you load metadata during initialization and set it using [setMetadata:](#) (page 13).

Special Considerations

This is the designated initializer for persistent stores.

Availability

Available in Mac OS X v10.5 and later.

See Also

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

Declared In

NSPersistentStore.h

isReadOnly

Returns a Boolean value that indicates whether the receiver is read-only.

```
- (BOOL)isReadOnly
```

Return Value

YES if the receiver is read-only, otherwise NO.

Availability

Available in Mac OS X v10.5 and later.

Related Sample Code

CustomAtomicStoreSubclass

Declared In

NSPersistentStore.h

loadMetadata:

Instructs the receiver to load its metadata.

- (BOOL)loadMetadata:(NSError **)error

Parameters*error*

If an error occurs, upon return contains an NSError object that describes the problem.

Return Value

YES if the metadata was loaded correctly, otherwise NO.

Special Considerations

There is no way to return an error if the store is invalid.

Availability

Available in Mac OS X v10.6 and later.

Declared In

NSPersistentStore.h

metadata

Returns the metadata for the receiver.

- (NSDictionary *)metadata

Return Value

The metadata for the receiver. The dictionary must include the store type (NSStoreTypeKey) and UUID (NSStoreUUIDKey).

Special Considerations

Subclasses must override this method to provide storage and persistence for the store metadata.

Availability

Available in Mac OS X v10.5 and later.

Related Sample Code

Core Data HTML Store

CustomAtomicStoreSubclass

Declared In

NSPersistentStore.h

options

Returns the options with which the receiver was created.

- (NSDictionary *)options

Return Value

The options with which the receiver was created.

Discussion

See `NSPersistentStoreCoordinator` for a list of key names for options in this dictionary.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSPersistentStore.h`

persistentStoreCoordinator

Returns the persistent store coordinator which loaded the receiver.

- (NSPersistentStoreCoordinator *)persistentStoreCoordinator

Return Value

The persistent store coordinator which loaded the receiver.

Availability

Available in Mac OS X v10.5 and later.

Related Sample Code

`CustomAtomicStoreSubclass`

Declared In

`NSPersistentStore.h`

setIdentifier:

Sets the unique identifier for the receiver.

- (void)setIdentifier:(NSString *)*identifier*

Parameters

identifier

The unique identifier for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [identifier](#) (page 9)

- [metadata](#) (page 11)

Declared In

`NSPersistentStore.h`

setMetadata:

Sets the metadata for the receiver.

```
- (void)setMetadata:(NSDictionary *)storeMetadata
```

Parameters

storeMetadata

The metadata for the receiver.

Availability

Available in Mac OS X v10.5 and later.

Related Sample Code

CustomAtomicStoreSubclass

Declared In

NSPersistentStore.h

setReadOnly:

Sets whether the receiver is read-only.

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

Parameters

flag

YES if the receiver is read-only, otherwise NO.

Availability

Available in Mac OS X v10.5 and later.

Declared In

NSPersistentStore.h

setURL:

Sets the URL for the receiver.

```
- (void)setURL:(NSURL *)url
```

Parameters

url

The URL for the receiver.

Discussion

To alter the location of a store, send the persistent store coordinator a `setURL:forPersistentStore:` message.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [URL](#) (page 14)

Declared In

NSPersistentStore.h

type

Returns the type string of the receiver.

- (NSString *)type

Return Value

The type string of the receiver.

Discussion

This string is used when specifying the type of store to add to a persistent store coordinator.

Special Considerations

Subclasses must override this method to provide a unique type.

Availability

Available in Mac OS X v10.5 and later.

Related Sample Code

Core Data HTML Store

Declared In

NSPersistentStore.h

URL

Returns the URL for the receiver.

- (NSURL *)URL

Return Value

The URL for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also- [setURL:](#) (page 13)**Related Sample Code**

Core Data HTML Store

CustomAtomicStoreSubclass

Declared In

NSPersistentStore.h

willRemoveFromPersistentStoreCoordinator:

Invoked before the receiver is removed from the persistent store coordinator.

```
- (void)willRemoveFromPersistentStoreCoordinator:(NSPersistentStoreCoordinator  
*)coordinator
```

Parameters

coordinator

The persistent store coordinator from which the receiver was removed.

Discussion

The default implementation does nothing. You can override this method in a subclass in order to perform any clean-up before the store is removed from the coordinator (and deallocated).

Availability

Available in Mac OS X v10.5 and later.

Related Sample Code

Core Data HTML Store

CustomAtomicStoreSubclass

Declared In

NSPersistentStore.h

Document Revision History

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

Date	Notes
2009-05-01	Corrected typographical errors.
2009-02-03	Updated for iPhone OS 3.0.
2008-06-02	Updated for Mac OS X v10.6.
2007-07-22	New document that describes the abstract Core Data class that represents a persistent store.

REVISION HISTORY

Document Revision History

Index

C

configurationName **instance method 8**

D

didAddToPersistentStoreCoordinator: **instance method 9**

I

identifier **instance method 9**
initWithPersistentStoreCoordinator:
 configurationName:URL:options: **instance method 10**
isReadOnly **instance method 10**

L

loadMetadata: **instance method 11**

M

metadata **instance method 11**
metadataForPersistentStoreWithURL:error: **class method 7**
migrationManagerClass **class method 7**

O

options **instance method 11**

P

persistentStoreCoordinator **instance method 12**

S

setIdentifier: **instance method 12**
setMetadata: **instance method 13**
setMetadata:forPersistentStoreWithURL:error:
 class method 8
setReadOnly: **instance method 13**
setURL: **instance method 13**

T

type **instance method 14**

U

URL **instance method 14**

W

willRemoveFromPersistentStoreCoordinator:
 instance method 14