
NSMigrationManager Class Reference

Data Management



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NSMigrationManager 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.
Companion guide	Core Data Model Versioning and Data Migration Programming Guide
Declared in	NSMigrationManager.h

Overview

Instances of `NSMigrationManager` perform a migration of data from one persistent store to another using a given mapping model.

Tasks

Initializing a Manager

- [initWithSourceModel:destinationModel:](#) (page 10)
Initializes a migration manager instance with given source and destination models.
- [setUserInfo:](#) (page 13)
Sets the user info for the receiver.

Performing Migration Operations

- [migrateStoreFromURL:type:options:withMappingModel:toDestinationURL:destinationType:destinationOptions:error:](#) (page 11)
Migrates the store at a given source URL to the store at a given destination URL, performing all of the mappings specified in a given mapping model.
- [reset](#) (page 12)
Resets the association tables for the migration.
- [cancelMigrationWithError:](#) (page 7)
Cancels the migration with a given error.

Monitoring Migration Progress

- [migrationProgress](#) (page 12)
Returns a number from 0 to 1 that indicates the proportion of completeness of the migration.
- [currentEntityMapping](#) (page 8)
Returns the entity mapping currently being processed.

Working with Source and Destination Instances

- [associateSourceInstance:withDestinationInstance:forEntityMapping:](#) (page 6)
Associates a given source instance with an array of destination instances for a given property mapping.
- [destinationInstancesForEntityMappingNamed:sourceInstances:](#) (page 9)
Returns the managed object instances created in the destination store for a named entity mapping for a given array of source instances.
- [sourceInstancesForEntityMappingNamed:destinationInstances:](#) (page 14)
Returns the managed object instances in the source store used to create a given destination instance for a given property mapping.

Getting Information About a Migration Manager

- [mappingModel](#) (page 11)
Returns the mapping model for the receiver.
- [sourceModel](#) (page 15)
Returns the source model for the receiver.
- [destinationModel](#) (page 9)
Returns the destination model for the receiver.
- [sourceEntityForEntityMapping:](#) (page 13)
Returns the entity description for the source entity of a given entity mapping.
- [destinationEntityForEntityMapping:](#) (page 8)
Returns the entity description for the destination entity of a given entity mapping.
- [sourceContext](#) (page 13)
Returns the managed object context the receiver uses for reading the source persistent store.
- [destinationContext](#) (page 8)
Returns the managed object context the receiver uses for writing the destination persistent store.
- [userInfo](#) (page 15)
Returns the user info for the receiver.

Instance Methods

associateSourceInstance:withDestinationInstance:forEntityMapping:

Associates a given source instance with an array of destination instances for a given property mapping.

```
- (void)associateSourceInstance:(NSManagedObject *)sourceInstance
    withDestinationInstance:(NSManagedObject *)destinationInstance
    forEntityMapping:(NSEntityMapping *)entityMapping
```

Parameters

sourceInstance

A source managed object.

destinationInstance

The destination manage object for *sourceInstance*.

entityMapping

The entity mapping to use to associate *sourceInstance* with the object in *destinationInstances*.

Discussion

Data migration is performed as a three-stage process (first create the data, then relate the data, then validate the data). You use this method to associate data between the source and destination stores, in order to allow for relationship creation or fix-up after the creation stage.

This method is called in the default implementation of `NSEntityMigrationPolicy's createDestinationInstancesForSourceInstance:entityMapping:manager:error:` method.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [sourceInstancesForEntityMappingNamed:destinationInstances:](#) (page 14)
- [destinationInstancesForEntityMappingNamed:sourceInstances:](#) (page 9)

Declared In

`NSMigrationManager.h`

cancelMigrationWithError:

Cancels the migration with a given error.

```
- (void)cancelMigrationWithError:(NSError *)error
```

Parameters

error

An error object that describes the reason why the migration is canceled.

Discussion

You can invoke this method from anywhere in the migration process to abort the migration. Calling this method causes [migrateStoreFromURL:type:options:withMappingModel:toDestinationURL:destinationType:destinationOptions:error:](#) (page 11) to abort the migration and return *error*—you should provide an appropriate error to indicate the reason for the cancellation.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSMigrationManager.h`

currentEntityMapping

Returns the entity mapping currently being processed.

- (NSEntityMapping *)currentEntityMapping

Return Value

The entity mapping currently being processed.

Discussion

Each entity is processed a total of three times (instance creation, relationship creation, validation).

Special Considerations

You can observe this value using key-value observing.

Availability

Available in Mac OS X v10.5 and later.

Declared In

NSMigrationManager.h

destinationContext

Returns the managed object context the receiver uses for writing the destination persistent store.

- (NSManagedObjectContext *)destinationContext

Return Value

The managed object context the receiver uses for writing the destination persistent store.

Discussion

This context is created on demand as part of the initialization of the Core Data stacks used for migration.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [sourceContext](#) (page 13)

Declared In

NSMigrationManager.h

destinationEntityForEntityMapping:

Returns the entity description for the destination entity of a given entity mapping.

- (NSEntityDescription *)destinationEntityForEntityMapping:(NSEntityMapping *)mEntity

Parameters

mEntity

An entity mapping.

Return Value

The entity description for the destination entity of *mEntity*.

Discussion

Entity mappings do not store the actual description objects, but rather the name and version information of the entity.

Availability

Available in Mac OS X v10.5 and later.

See Also

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

Declared In

NSMigrationManager.h

destinationInstancesForEntityMappingNamed:sourceInstances:

Returns the managed object instances created in the destination store for a named entity mapping for a given array of source instances.

```
- (NSArray *)destinationInstancesForEntityMappingNamed:(NSString *)mappingName
    sourceInstances:(NSArray *)sourceInstances
```

Parameters

mappingName

The name of an entity mapping in use.

sourceInstances

A array of managed objects in the source store.

Return Value

An array containing the managed object instances created in the destination store for the entity mapping named *mappingName* for *sourceInstances*. If *sourceInstances* is `nil`, all of the destination instances created by the specified property mapping are returned.

Special Considerations

This method throws an `NSInvalidArgumentException` exception if *mappingName* is not a valid mapping name.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [sourceInstancesForEntityMappingNamed:destinationInstances:](#) (page 14)

Declared In

NSMigrationManager.h

destinationModel

Returns the destination model for the receiver.

```
- (NSManagedObjectModel *)destinationModel
```

Return Value

The destination model for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [mappingModel](#) (page 11)
- [sourceModel](#) (page 15)
- [initWithSourceModel:destinationModel:](#) (page 10)

Declared In

NSMigrationManager.h

initWithSourceModel:destinationModel:

Initializes a migration manager instance with given source and destination models.

```
- (id)initWithSourceModel:(NSManagedObjectModel *)sourceModel
    destinationModel:(NSManagedObjectModel *)destinationModel
```

Parameters

sourceModel

The source managed object model for the migration manager.

destinationModel

The destination managed object model for the migration manager.

Return Value

A migration manager instance initialized to migrate data in a store that uses *sourceModel* to a store that uses *destinationModel*.

Discussion

You specify the mapping model in the migration method, [migrateStoreFromURL:type:options:withMappingModel:toDestinationURL:destinationType:destinationOptions:error:](#) (page 11).

Special Considerations

This is the designated initializer for NSMigrationManager.

Although validation of the models is performed during [migrateStoreFromURL:type:options:withMappingModel:toDestinationURL:destinationType:destinationOptions:error:](#) (page 11), as with `NSPersistentStoreCoordinator` once models are added to the migration manager they are immutable and cannot be altered.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [migrateStoreFromURL:type:options:withMappingModel:toDestinationURL:destinationType:destinationOptions:error:](#) (page 11)
- [mappingModel](#) (page 11)
- [sourceModel](#) (page 15)
- [destinationModel](#) (page 9)

Declared In

NSMigrationManager.h

mappingModel

Returns the mapping model for the receiver.

- (NSMappingModel *)mappingModel

Return Value

The mapping model for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [sourceModel](#) (page 15)

- [destinationModel](#) (page 9)

- [migrateStoreFromURL:type:options:withMappingModel:toDestinationURL:destinationType:destinationOptions:error:](#) (page 11)

Declared In

NSMigrationManager.h

migrateStoreFromURL:type:options:withMappingModel:toDestinationURL:destinationType:destinationOptions:error:

Migrates of the store at a given source URL to the store at a given destination URL, performing all of the mappings specified in a given mapping model.

```
- (BOOL)migrateStoreFromURL:(NSURL *)sourceURL type:(NSString *)sStoreType
  options:(NSDictionary *)sOptions withMappingModel:(NSMappingModel *)mappings
  toDestinationURL:(NSURL *)dURL destinationType:(NSString *)dStoreType
  destinationOptions:(NSDictionary *)dOptions error:(NSError **)error
```

Parameters

sourceURL

The location of an existing persistent store. A store must exist at this URL.

sStoreType

The type of store at *sourceURL* (see [NSPersistentStoreCoordinator](#) for possible values).

sOptions

A dictionary of options for the source (see [NSPersistentStoreCoordinator](#) for possible values).

mappings

The mapping model to use to effect the migration.

dURL

The location of the destination store.

dStoreType

The type of store at *dURL* (see [NSPersistentStoreCoordinator](#) for possible values).

dOptions

A dictionary of options for the destination (see [NSPersistentStoreCoordinator](#) for possible values).

error

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

Return Value

YES if the migration proceeds without errors during the compatibility checks or migration, otherwise NO.

Discussion

This method performs compatibility checks on the source and destination models and the mapping model.

Special Considerations

If a store does not exist at the destination URL (*dURL*), one is created; otherwise, the migration appends to the existing store.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [cancelMigrationWithError:](#) (page 7)

Declared In

`NSMigrationManager.h`

migrationProgress

Returns a number from 0 to 1 that indicates the proportion of completeness of the migration.

```
- (float)migrationProgress
```

Return Value

A number from 0 to 1 that indicates the proportion of completeness of the migration. If a migration is not taking place, returns 1.

Special Considerations

You can observe this value using key-value observing.

Availability

Available in Mac OS X v10.5 and later.

Declared In

`NSMigrationManager.h`

reset

Resets the association tables for the migration.

```
- (void)reset
```

Special Considerations

This method does not reset the source or destination contexts.

Availability

Available in Mac OS X v10.5 and later.

Declared In

NSMigrationManager.h

setUserInfo:

Sets the user info for the receiver.

- (void)setUserInfo:(NSDictionary *)*dict***Parameters***dict*

The user info for the receiver.

Discussion

You can use the user info dictionary to aid the customization of your migration process.

Availability

Available in Mac OS X v10.5 and later.

See Also- [userInfo](#) (page 15)**Declared In**

NSMigrationManager.h

sourceContext

Returns the managed object context the receiver uses for reading the source persistent store.

- (NSManagedObjectContext *)sourceContext

Return Value

The managed object context the receiver uses for reading the source persistent store.

Discussion

This context is created on demand as part of the initialization of the Core Data stacks used for migration.

Availability

Available in Mac OS X v10.5 and later.

See Also- [destinationContext](#) (page 8)**Declared In**

NSMigrationManager.h

sourceEntityForEntityMapping:

Returns the entity description for the source entity of a given entity mapping.

- (NSEntityDescription *)sourceEntityForEntityMapping:(NSEntityMapping *)*mEntity*

Parameters*mEntity*

An entity mapping.

Return ValueThe entity description for the source entity of *mEntity*.**Discussion**

Entity mappings do not store the actual description objects, but rather the name and version information of the entity.

Availability

Available in Mac OS X v10.5 and later.

See Also- [destinationEntityForEntityMapping:](#) (page 8)**Declared In**

NSMigrationManager.h

sourceInstancesForEntityMappingNamed:destinationInstances:

Returns the managed object instances in the source store used to create a given destination instance for a given property mapping.

```
- (NSArray *)sourceInstancesForEntityMappingNamed:(NSString *)mappingName
    destinationInstances:(NSArray *)destinationInstances
```

Parameters*mappingName*

The name of an entity mapping in use.

destinationInstances

A array of managed objects in the destination store.

Return ValueAn array containing the managed object instances in the source store used to create *destinationInstances* using the entity mapping named *mappingName*. If *destinationInstances* is nil, all of the source instances used to create the destination instance for this property mapping are returned.**Special Considerations**This method throws an `NSInvalidArgumentException` exception if *mappingName* is not a valid mapping name.**Availability**

Available in Mac OS X v10.5 and later.

See Also- [destinationInstancesForEntityMappingNamed:sourceInstances:](#) (page 9)**Declared In**

NSMigrationManager.h

sourceModel

Returns the source model for the receiver.

- (NSManagedObjectModel *)sourceModel

Return Value

The source model for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

- [mappingModel](#) (page 11)
- [destinationModel](#) (page 9)
- [initWithSourceModel:destinationModel:](#) (page 10)

Declared In

NSMigrationManager.h

userInfo

Returns the user info for the receiver.

- (NSDictionary *)userInfo

Return Value

The user info for the receiver.

Availability

Available in Mac OS X v10.5 and later.

See Also

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

Declared In

NSMigrationManager.h

Document Revision History

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

Date	Notes
2009-05-01	Corrected typographical errors.
2009-02-03	Updated for iOS 3.0.
2007-05-22	New document that describes the Core Data class that performs a migration of data from one persistent store to another.

REVISION HISTORY

Document Revision History