
ISyncChange Class Reference

Data Management: Syncing



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

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ISyncChange Class Reference

Inherits from	NSObject
Conforms to	NSObject (NSObject)
Framework	/System/Library/Frameworks/SyncServices.framework
Availability	Available in Mac OS X v10.4 and later.
Companion guide	Sync Services Programming Guide
Declared in	ISyncChange.h
Related sample code	People SeeMyFriends SimpleStickies StickiesWithCoreData

Overview

An `ISyncChange` object encapsulates a set of changes to a single record such as adding, deleting, and modifying a record. You use `ISyncChange` objects to push your changes to the sync engine. Similarly, you pull `ISyncChange` objects from the sync engine when applying sync engine changes.

You use the [changeWithType:recordIdentifier:changes:](#) (page 6) method to create an `ISyncChange` object specifying the type of change (an add, delete, or modify), the identifier for the record that changed, and the new property values if any. Use the `pushChange: ISyncSession` method to push the change to the sync engine. You can also use the `deleteRecordWithIdentifier: ISyncSession` method to delete a record without needing to create an `ISyncChange` object.

Use the `changeEnumeratorForEntityNames: ISyncSession` method to pull changes from the sync engine. Use the returned object enumerator to process each `ISyncChange` object. Use the [type](#) (page 8) method to each `ISyncChange` object to get the type of change (add, modify or delete), the [recordIdentifier](#) (page 8) method to get the record identifier, and the [changes](#) (page 7) method get descriptions of the change.

Tasks

Creating and Initializing Instances

- + [changeWithType:recordIdentifier:changes:](#) (page 6)
Creates an ISyncChange object.
- [initWithChangeType:recordIdentifier:changes:](#) (page 7)
Initializes an ISyncChange object.

Getting Attributes

- [type](#) (page 8)
Returns the type of change the receiver represents.
- [recordIdentifier](#) (page 8)
Returns the unique record identifier for the record that changed.
- [record](#) (page 8)
Returns a dictionary representation of the record that changed.
- [changes](#) (page 7)
Returns an array of changes made to the record.

Class Methods

changeWithType:recordIdentifier:changes:

Creates an ISyncChange object.

```
+ (id)changeWithType:(ISyncChangeType)type recordIdentifier:(NSString
*)recordIdentifier changes:(NSArray)changes
```

Discussion

Creates and returns an ISyncChange object of the type specified by *type*, for the record identified by *recordIdentifier*, and with the changes specified by *changes*. The *type* argument should be one of the [ISyncChangeTypeAdd](#) (page 9), [ISyncChangeTypeModify](#) (page 9) or [ISyncChangeTypeDelete](#) (page 9) constants. The *changes* array encapsulates multiple property changes to a single record—it is expected to contain dictionaries that use the keys described in “[ISyncChange Property Keys](#)” (page 10). Each dictionary in the array encapsulates the change to a single property and specifies the property name, action, and new value if applicable. Use this method to create changes for pushing to the sync engine. Use the `pushChange:ISyncSession` method to push the change to the sync engine.

Availability

Available in Mac OS X v10.4 and later.

Declared In

ISyncChange.h

Instance Methods

changes

Returns an array of changes made to the record.

- (NSArray*)changes

Discussion

Returns an array of the changes made to the record returned by [record](#) (page 8) with the identifier returned by [recordIdentifier](#) (page 8). The changes array encapsulates multiple property changes to a single record. The returned array contains dictionaries with keys specifying the type of change to a property and its new value. See “[ISyncChange Property Keys](#)” (page 10) for a description of the keys used in these dictionaries. See [ISyncChangePropertyValueKey](#) (page 10) for a description of the value of relationship properties. Returns `nil` if the change `type` is `ISyncChangeTypeDelete`.

Availability

Available in Mac OS X v10.4 and later.

See Also

- [type](#) (page 8)

Related Sample Code

SimpleStickies

Declared In

ISyncChange.h

initWithChangeType:recordIdentifier:changes:

Initializes an ISyncChange object.

```
- (id)initWithChangeType:(ISyncChangeType)type recordIdentifier:(NSString *)recordIdentifier changes:(NSArray)changes
```

Discussion

Initializes an ISyncChange object of the type specified by `type`, for the record identified by `recordIdentifier`, and with the changes specified by `changes`. The `type` argument should be one of the [ISyncChangeTypeAdd](#) (page 9), [ISyncChangeTypeModify](#) (page 9) or [ISyncChangeTypeDelete](#) (page 9) constants. The `changes` array encapsulates multiple property changes to a single record—it is expected to contain dictionaries that use the keys described in “[ISyncChange Property Keys](#)” (page 10). Each dictionary encapsulates the change to a single property and specifies the property name, action, and new value if applicable. Use this method to create changes for pushing to the sync engine. Use the `pushChange:ISyncSession` method to push the change to the sync engine. This is the designated initializer for this class.

Availability

Available in Mac OS X v10.4 and later.

Declared In

ISyncChange.h

record

Returns a dictionary representation of the record that changed.

- (NSDictionary *)record

Discussion

The dictionary contains a key-value pair for each property unless the value of a property is unspecified. Only changes created by the sync engine have an associated record. Returns `nil` if the client created the receiver to push changes, or this is a delete change.

When pulling changes, this method returns a copy of the record as it appears in the truth database. Only those properties supported by the client are included in this record. Use the [changes](#) (page 7) method to get the changes made to this record, and use the [recordIdentifier](#) (page 8) method to get the record's unique identifier.

Availability

Available in Mac OS X v10.4 and later.

Related Sample Code

People
SimpleStickies

Declared In

ISyncChange.h

recordIdentifier

Returns the unique record identifier for the record that changed.

- (NSString *)recordIdentifier

Discussion

Returns the unique identifier for the record returned by [record](#) (page 8), or the record identifier you specified when creating the receiver. Use the [changes](#) (page 7) method to get the changes that were made to this record.

Availability

Available in Mac OS X v10.4 and later.

Related Sample Code

People
SeeMyFriends
SimpleStickies

Declared In

ISyncChange.h

type

Returns the type of change the receiver represents.

- (ISyncChangeType)type

Discussion

Returns whether or not this change was an add, delete or modify. See “[ISyncChangeType](#)” (page 9) for a description of the possible return values.

Availability

Available in Mac OS X v10.4 and later.

See Also

– [changes](#) (page 7)

Declared In

ISyncChange.h

Constants

ISyncChangeType

The type of change.

```
typedef int ISyncChangeType;
enum __ISyncChangeType {
    ISyncChangeTypeNone = 0,
    ISyncChangeTypeAdd = 1,
    ISyncChangeTypeModify,
    ISyncChangeTypeDelete
};
```

Constants

ISyncChangeTypeAdd

Indicates a record was added.

Available in Mac OS X v10.4 and later.

Declared in ISyncChange.h.

ISyncChangeTypeDelete

Indicates a record was deleted.

Available in Mac OS X v10.4 and later.

Declared in ISyncChange.h.

ISyncChangeTypeModify

Indicates a record was modified.

Available in Mac OS X v10.4 and later.

Declared in ISyncChange.h.

ISyncChangeTypeNone

Indicates a record was modified.

Available in Mac OS X v10.6 and later.

Declared in ISyncChange.h.

Discussion

Use one of these values to set the *type* argument when creating an ISyncChange object using either the [changeWithType:recordIdentifier:changes:](#) (page 6) class method or the [initWithChangeType:recordIdentifier:changes:](#) (page 7) instance method. The [type](#) (page 8) method also returns one of these values.

Availability

Available in Mac OS X v10.4 and later.

ISyncChange Property Keys

The following constants are used as keys for individual property changes encapsulated in an ISyncChange object.

```
extern NSString * const ISyncChangePropertyActionKey;
extern NSString * const ISyncChangePropertyNameKey;
extern NSString * const ISyncChangePropertyValueKey;
extern NSString * const ISyncChangePropertyValueIsDefaultKey;
```

Constants

ISyncChangePropertyActionKey

Specifies whether or not the property is being set or deleted. The value for this key should be either [ISyncChangePropertySet](#) (page 11) or [ISyncChangePropertyClear](#) (page 11) described below.

Available in Mac OS X v10.4 and later.

Declared in `ISyncChange.h`.

ISyncChangePropertyNameKey

Key for the name of the property.

Available in Mac OS X v10.4 and later.

Declared in `ISyncChange.h`.

ISyncChangePropertyValueKey

Key for the new value of the property. Not used if the action is [ISyncChangePropertyClear](#) (page 11). However, the absence of this key does not imply the property is being deleted. This key-value pair may be omitted if the value is unspecified. You can also set the value to `nil`. If the property is a relationship, then the value is an array of record identifiers belonging to the destination objects. If the relationship is to-one, this array contains a single record identifier.

Declared in `ISyncChange.h`.

Available in Mac OS X v10.4 and later.

ISyncChangePropertyValueIsDefaultKey

Key for the default value of the property.

Declared in `ISyncChange.h`.

Available in Mac OS X v10.6 and later.

Discussion

When pushing changes, use these keys to set key-value pairs for dictionaries you add to the *changes* argument passed to either the [changeWithType:recordIdentifier:changes:](#) (page 6) class method or the [initWithChangeType:recordIdentifier:changes:](#) (page 7) instance method. When pulling changes, you also use these keys to get the attributes of each change. Use the object enumerator returned by the [changes](#) (page 7) method to iterate through the changes array.

ISyncChange Property Action Key Values

The following constants are possible values for the [ISyncChangePropertyActionKey](#) (page 10) key used to describe the type of change to a single property.

```
extern NSString * const ISyncChangePropertySet;  
extern NSString * const ISyncChangePropertyClear;
```

Constants

ISyncChangePropertySet

Indicates the property was modified.

Available in Mac OS X v10.4 and later.

Declared in `ISyncChange.h`.

ISyncChangePropertyClear

Indicates the property was deleted.

Available in Mac OS X v10.4 and later.

Declared in `ISyncChange.h`.

Document Revision History

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

Date	Notes
2009-02-04	Updated for Mac OS X v10.6 by adding the <code>ISyncChangeTypeNone</code> and <code>ISyncChangePropertyValuesDefaultKey</code> constants.
2006-06-30	First publication of this content as a separate document.

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