ABAddressBook C Reference

Carbon > Apple Applications

2007-07-08

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Contents

ABAddressBook C Reference 5

Overview 5
Functions 6
- ABAddPropertiesAndTypes 6
- ABAddRecord 6
- ABCopyArrayOfAllGroups 7
- ABCopyArrayOfAllPeople 7
- ABCopyArrayOfMatchingRecords 8
- ABCopyArrayOfPropertiesForRecordType 8
- ABCopyDefaultCountryCode 9
- ABCopyRecordForUniqueId 9
- ABCopyRecordTypeFromUniqueId 10
- ABCreateFormattedAddressFromDictionary 10
- ABGetMe 10
- ABGetSharedAddressBook 11
- ABHasUnsavedChanges 11
- ABRemoveProperties 12
- ABRemoveRecord 12
- ABSave 13
- ABSetMe 13
- ABTypeOfProperty 14

Data Types 14
- ABAddressBookRef 14

Constants 15
- Property Types 15
- Database Notifications 17

Document Revision History 19

Index 21

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ABAddressBook C Reference

Derived From:	CFType
Framework:	AddressBook/ABAddressBookC.h
Companion guide	Address Book Programming Guide for Mac OS X
Declared in	ABAddressBookC.h ABGlobals.h ABTypedefs.h

Overview

The ABAddressBook opaque type provides a programming interface to the Address Book—a centralized database used by multiple applications to store contact and other personal information about people. The Address Book database also supports the notion of a "group" containing one or more persons. People may belong to multiple groups, and groups may also belong to other groups.

The ABAddressBook opaque type provides functions for accessing, adding, and removing group and person records including the "me" record corresponding to the logged-in user. For example, you use the `ABCopyArrayOfAllGroups` (page 7) function to get an array of all the group records in the database, or the `ABCopyArrayOfAllPeople` (page 7) function to get all the person records. You use the `ABGetMe` (page 10) function to get the person record corresponding to the logged-in user. You can also add and remove records using the `ABAddRecord` (page 6) and `ABRemoveRecord` (page 12) functions.

You can also search for records matching a particular query you specify by creating an ABSearchElement object. You use the `ABGroupCreateSearchElement` or `ABPersonCreateSearchElement` function to create an ABSearchElement object for the corresponding record. Then use the `ABCopyArrayOfMatchingValues` (page 8) ABAddressBook function, passing the ABSearchElement as the argument, to query the database. See ABSearchElement for more functions that create compound queries.

Your application uses a shared instance of ABAddressBook returned by the `ABGetSharedAddressBook` (page 11) function to interact with the database (multiple ABAddressBook instances are not supported). Changes you make to the record objects are stored in memory, and saved to disk when you invoke the `ABSave` (page 13) function.

The Address Book posts notifications if any application including yours makes changes to the database. Typically, you observe these notifications to update any dependent view or model objects in your application. Use CFNotificationCenter to register for the ABAddressBook notifications: `kABDatabaseChangedNotification` (page 17) and `kABDatabaseChangedExternallyNotification` (page 17). These notifications are not sent until `ABGetSharedAddressBook` (page 11) is called.

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The ABAddressBook opaque type is “toll-free bridged” with its Objective-C counterpart. This means that the `ABAddressBookRef` type is interchangeable in function or method calls with instances of the ABAddressBook class.

Functions

ABAddPropertiesAndTypes

Adds the given properties to all the records of the specified type in the Address Book database, and returns the number of properties successfully added.

```
CFIndex ABAddPropertiesAndTypes (
   ABAddressBookRef addressBook,
   CFStringRef recordType,
   CFDictionaryRef propertiesAnTypes
);
```

Parameters

addressBook

The address book for the logged-in user.

recordType

The record type you wish to add properties to: `kABGroupRecordType` or `kABPersonRecordType`.

propertiesAndTypes

A CFDictionary object containing the properties to add. In each dictionary entry, the key is a string with the property’s name, and the value is a constant with the property’s type. The property’s name must be unique. You may want to use Java-style package names for your properties, for example, `"org.dogclub.dogname"` or `"com.mycompany.customerID"`. The property type must be one of the constants described in `Property Types` (page 15).

Return Value

The number of properties successfully added.

Availability

Available in Mac OS X v10.2 and later.

Declared In

`ABAddressBookC.h`

ABAddRecord

Adds a record of the specified type to the Address Book database.

```
bool ABAddRecord (
   ABAddressBookRef addressBook,
   ABRecordRef record
);
```

Parameters

addressBook

The address book for the logged-in user.

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record

The record to add to the Address Book database. If this parameter is `NULL`, the function raises an exception.

Return Value
`true` if the record was added successfully, `false` otherwise.

Availability
Available in Mac OS X v10.2 and later.

Related Sample Code
AddressBookCarbon

Declared In
`ABAddressBookC.h`

ABCopyArrayOfAllGroups

Returns an array of all the groups in the Address Book database.

```
CFArrayRef ABCopyArrayOfAllGroups (
   ABAddressBookRef addressBook
);
```

Parameters

addressBook

The address book for the logged-in user.

Return Value
An array of ABGroup objects representing all the groups in the Address Book database. If the database doesn't contain any groups, the function returns an empty array. You are responsible for releasing this object.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`ABAddressBookC.h`

ABCopyArrayOfAllPeople

Returns an array of all the people in the Address Book database.

```
CFArrayRef ABCopyArrayOfAllPeople (
   ABAddressBookRef addressBook
);
```

Parameters

addressBook

The address book for the logged-in user.

Return Value
An array of ABPerson objects representing all the people in the Address Book database. If the database does not contain any people, the function returns an empty array. You are responsible for releasing this object.

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Availability
Available in Mac OS X v10.3 and later.

Declared In
`ABAddressBookC.h`

ABCopyArrayOfMatchingRecords

Returns an array of records that match the given search element, or an empty array if no records match the search element.

```
CFArrayRef ABCopyArrayOfMatchingRecords (
   ABAddressBookRef addressBook,
   ABSearchElementRef search
);
```

Parameters

addressBook

The address book for the logged-in user.

search

The search element that specifies the query. If *search* is `NULL`, this function raises an exception. Create an ABSearchElement object using the record specific functions: `ABGroupCreateSearchElement` or `ABPersonCreateSearchElement`. See ABSearchElement for more functions that create compound queries.

Return Value
A new array containing ABRecord objects representing all the records that match *search*. If no records match *search*, this function returns an empty array. You are responsible for releasing this object.

Availability
Available in Mac OS X v10.2 and later.

Related Sample Code
AddressBookCarbon

Declared In
`ABAddressBookC.h`

ABCopyArrayOfPropertiesForRecordType

Returns an array containing the names of all the properties for the specified record type.

```
CFArrayRef ABCopyArrayOfPropertiesForRecordType (
   ABAddressBookRef addressBook,
   CFStringRef recordType
);
```

Parameters

addressBook

The address book for the logged-in user.

recordType

Specifies the type of record: `kABGroupRecordType` or `kABPersonRecordType`.

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Return Value
An new array containing the names (CFString objects) of all the properties in *recordType*. You are responsible for releasing this object.

Availability
Available in Mac OS X v10.2 and later.

Declared In
ABAddressBookC.h

ABCopyDefaultCountryCode

Returns the default country code for records with unspecified country codes.

```
CFStringRef ABCopyDefaultCountryCode (
   ABAddressBookRef addressBook
);
```

Parameters

addressBook
The address book for the logged-in user.

Return Value
A string with the default country code. You are responsible for releasing this object.

Availability
Available in Mac OS X v10.3 and later.

Declared In
ABAddressBookC.h

ABCopyRecordForUniqueId

Returns the record that matches the given unique ID.

```
ABRecordRef ABCopyRecordForUniqueId (
   ABAddressBookRef addressBook,
   CFStringRef uniqueId
);
```

Parameters

addressBook
The address book for the logged-in user.

uniqueId
A unique ID for the record. If this is NULL, this function raises an exception.

Return Value
The record that matches the given unique ID. If no record matches *uniqueId*, the function returns NULL. You are responsible for releasing this object.

Availability
Available in Mac OS X v10.2 and later.

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Declared In
ABAddressBookC.h

ABCopyRecordTypeFromUniqueId

Returns the type name of the record that matches a given unique ID.

```
CFStringRef ABCopyRecordTypeFromUniqueId (
   ABAddressBookRef addressBook,
   CFStringRef uniqueId
);
```

Parameters

addressBook

The address book for the logged-in user.

uniqueId

A unique ID for the record. If this is NULL, this function raises an exception.

Return Value
A string with the name of the type for the record that matches the given unique ID. You are responsible for releasing this object.

Availability
Available in Mac OS X v10.3 and later.

Declared In
ABAddressBookC.h

ABCreateFormattedAddressFromDictionary

Returns a string containing the formatted address.

```
CFStringRef ABCreateFormattedAddressFromDictionary (
   ABAddressBookRef addressBook,
   CFDictionaryRef address
);
```

Parameters

addressBook

The address book for the logged-in user.

Return Value
Returns a string containing the formatted address. You are responsible for releasing this object.

Availability
Available in Mac OS X v10.3 and later.

Declared In
ABAddressBookC.h

ABGetMe

Returns the ABPerson object for the logged-in user.

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```
ABPersonRef ABGetMe (
   ABAddressBookRef addressBook
);
```

Parameters

addressBook

The address book for the logged-in user.

Return Value

The ABPerson record that represents the logged-in user, or `NULL` if the user never specified such a record. You are responsible for retaining and releasing this object as needed.

Availability

Available in Mac OS X v10.2 and later.

Related Sample Code

MyFirstJNIProject

Declared In

`ABAddressBookC.h`

ABGetSharedAddressBook

Returns the unique shared ABAddressBook object.

```
ABAddressBookRef ABGetSharedAddressBook (
   void
);
```

Return Value

The address book for the logged-in user. You are responsible for retaining and releasing this object as needed.

Discussion

Every application shares the address book for the logged-in user and this function returns it. If you call this function more than once or try to create a new address book, you get a pointer to the same shared address book.

Availability

Available in Mac OS X v10.2 and later.

Related Sample Code

AddressBookCarbon

MyFirstJNIProject

Declared In

`ABAddressBookC.h`

ABHasUnsavedChanges

Returns whether if there are unsaved changes in the address book.

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```
bool ABHasUnsavedChanges (
   ABAddressBookRef addressBook
);
```

Parameters

addressBook

The address book for the logged-in user.

Return Value

`true` if there are unsaved changes, `false` otherwise.

Discussion

The unsaved changes flag is set automatically whenever changes are made to the address book.

Availability

Available in Mac OS X v10.2 and later.

Declared In

`ABAddressBookC.h`

ABRemoveProperties

Removes the given properties from all the records of this type in the Address Book database, and returns the number of properties successfully removed.

```
CFIndex ABRemoveProperties (
   ABAddressBookRef addressBook,
   CFStringRef recordType,
   CFArrayRef properties
);
```

Parameters

addressBook

The address book for the logged-in user.

recordType

The name of record to remove the properties from: `kABGroupRecordType` or `kABPersonRecordType`.

properties

An array of properties (CFString objects) to remove.

Return Value

The number of properties successfully removed.

Availability

Available in Mac OS X v10.2 and later.

Declared In

`ABAddressBookC.h`

ABRemoveRecord

Removes the specified record from the Address Book database.

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```
bool ABRemoveRecord (
   ABAddressBookRef addressBook,
   ABRecordRef record
);
```

Parameters

addressBook

The address book for the logged-in user.

record

The ABRecord object to be removed. If `NULL`, this function raises an exception.

Return Value

`true` if the record was removed successfully, `false` otherwise.

Availability

Available in Mac OS X 10.2 and later.

Declared In

`ABAddressBookC.h`

ABSave

Saves all the changes made since the last save.

```
bool ABSave (
   ABAddressBookRef addressBook
);
```

Parameters

addressBook

The address book for the logged-in user.

Return Value

`true` if this function is successful or if there were no changes, `false` otherwise.

Availability

Available in Mac OS X v10.2 and later.

Related Sample Code

AddressBookCarbon

Declared In

`ABAddressBookC.h`

ABSetMe

Sets the record that represents the logged-in user.

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```
void ABSetMe (
   ABAddressBookRef addressBook,
   ABPersonRef moi
);
```

Parameters

addressBook

The address book for the logged-in user.

person

The ABPerson object that represents the logged-in user. Pass `NULL` if you don't want a record to represent the logged-in user.

Availability
Available in Mac OS X v10.2 and later.

Declared In
`ABAddressBookC.h`

ABTypeOfProperty

Returns the type of a given property for a given record.

```
ABPropertyType ABTypeOfProperty (
   ABAddressBookRef addressBook,
   CFStringRef recordType,
   CFStringRef property
);
```

Parameters

addressBook

The address book for the logged-in user.

recordType

The record type that contains *property*: `kABGroupRecordType` or `kABPersonRecordType`.

property

The property whose type you wish to obtain.

Return Value
The type of *property* as defined in `Property Types` (page 15). If *property* does not exist in *recordType*, this function returns `kABErrorInProperty`.

Availability
Available in Mac OS X v10.2 and later.

Declared In
`ABAddressBookC.h`

Data Types

ABAddressBookRef

A reference to an ABAddressBook object.

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```
typedef struct __ABAddressBookRef *ABAddressBookRef;
```

Availability
Available in Mac OS X v10.2 and later.

Declared In
`ABAddressBookC.h`

Constants

Property Types

These are the possible types of ABRecord properties.

```
typedef enum _ABPropertyType {
    kABErrorInProperty = 0x0,
    kABStringProperty = 0x1,
    kABIntegerProperty = 0x2,
    kABRealProperty = 0x3,
    kABDateProperty = 0x4,
    kABArrayProperty = 0x5,
    kABDictionaryProperty = 0x6,
    kABDataProperty = 0x7,
    kABMultiStringProperty = 0x100 | kABStringProperty,
    kABMultiIntegerProperty = 0x100 | kABIntegerProperty,
    kABMultiRealProperty = 0x100 | kABRealProperty,
    kABMultiDateProperty = 0x100 | kABDateProperty,
    kABMultiArrayProperty = 0x100 | kABArrayProperty,
    kABMultiDictionaryProperty = 0x100 | kABDictionaryProperty,
    kABMultiDataProperty = 0x100 | kABDataProperty
} ABPropertyType;
```

Constants

`kABErrorInProperty`
Returned by some functions when an invalid property is used.
Available in Mac OS X v10.2 and later.
Declared in `ABTypedefs.h`.

`kABStringProperty`
Indicates a CFString object.
Available in Mac OS X v10.2 and later.
Declared in `ABTypedefs.h`.

`kABIntegerProperty`
Indicates a CFNumber object representing an integer.
Available in Mac OS X v10.2 and later.
Declared in `ABTypedefs.h`.

`kABRealProperty`
Indicates a CFNumber object representing a real number.
Available in Mac OS X v10.2 and later.
Declared in `ABTypedefs.h`.

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`kABDateProperty`
Indicates a CFDate object.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABArrayProperty`
Indicates a CFArray object.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABDictionaryProperty`
Indicates a CFDictionary object.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABDataProperty`
Indicates a CFData object.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABMultiStringProperty`
Indicates an ABMultiValue containing NSString objects.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABMultiIntegerProperty`
Indicates an ABMultiValue containing NSNumber objects representing integers.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABMultiRealProperty`
Indicates an ABMultiValue containing NSNumber objects representing real numbers.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABMultiDateProperty`
Indicates an ABMultiValue containing NSDate objects.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABMultiArrayProperty`
Indicates an ABMultiValue containing NSArray objects.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

`kABMultiDictionaryProperty`
Indicates an ABMultiValue containing NSDictionary objects.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

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`kABMultiDataProperty`
Indicates an ABMultiValue containing NSData objects.

Available in Mac OS X v10.2 and later.

Declared in `ABTypedefs.h`.

Database Notifications

These are notifications published when something changes in the Address Book database. These notifications are not sent until `ABGetSharedAddressBook` (page 11) has been called.

```
CFStringRef kABDatabaseChangedNotification;
CFStringRef kABDatabaseChangedExternallyNotification;
```

Constants

`kABDatabaseChangedNotification`
This process has changed the AddressBook database.

Available in Mac OS X v10.2 and later.

Declared in `ABGlobals.h`.

`kABDatabaseChangedExternallyNotification`
Another process has changed the AddressBook database. The following keys are included in the user-info dictionary of the notification: `kABInsertedRecords`, `kABUpdatedRecords`, and `kABDeletedRecords`. If the values for all the keys are `nil`, everything has changed, such as when the Address Book database is restored from a backup copy.

Available in Mac OS X v10.2 and later.

Declared in `ABGlobals.h`.

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Document Revision History

This table describes the changes to *ABAddressBook C Reference*.

Date	Notes
2007-07-08	Updated for Mac OS X v10.5.
2006-05-23	Corrected typos.
2005-08-11	Corrected ABCreateFormattedAddressFromDictionary function result information.
2003-08-20	Revised for Mac OS X v10.3.
	Changed `ABCreateArrayOfAllGroups` to `ABCopyArrayOfAllGroups` (page 7). The former has been removed.
	Changed `ABCreateArrayOfAllPeople` to `ABCopyArrayOfAllPeople` (page 7). The former has been removed.
2003-03-01	First version of *ABAddressBook Reference for C*.

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Document Revision History

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Index

A

ABAddPropertiesAndTypes function 6
ABAddRecord function 6
ABAddressBookRef data type 14
ABCopyArrayOfAllGroups function 7
ABCopyArrayOfAllPeople function 7
ABCopyArrayOfMatchingRecords function 8
ABCopyArrayOfPropertiesForRecordType function 8
ABCopyDefaultCountryCode function 9
ABCopyRecordForUniqueId function 9
ABCopyRecordTypeFromUniqueId function 10
ABCreateFormattedAddressFromDictionary function 10
ABGetMe function 10
ABGetSharedAddressBook function 11
ABHasUnsavedChanges function 11
ABRemoveProperties function 12
ABRemoveRecord function 12
ABSave function 13
ABSetMe function 13
ABTypeOfProperty function 14

D

Database Notifications 17

K

kABArrayProperty constant 16
kABDatabaseChangedExternallyNotification constant 17
kABDatabaseChangedNotification constant 17
kABDataProperty constant 16
kABDateProperty constant 16
kABDictionaryProperty constant 16
kABErrorInProperty constant 15
kABIntegerProperty constant 15
kABMultiArrayProperty constant 16
kABMultiDataProperty constant 17
kABMultiDateProperty constant 16
kABMultiDictionaryProperty constant 16
kABMultiIntegerProperty constant 16
kABMultiRealProperty constant 16
kABMultiStringProperty constant 16
kABRealProperty constant 15
kABStringProperty constant 15

P

Property Types 15

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