MBS Xojo Event Kit

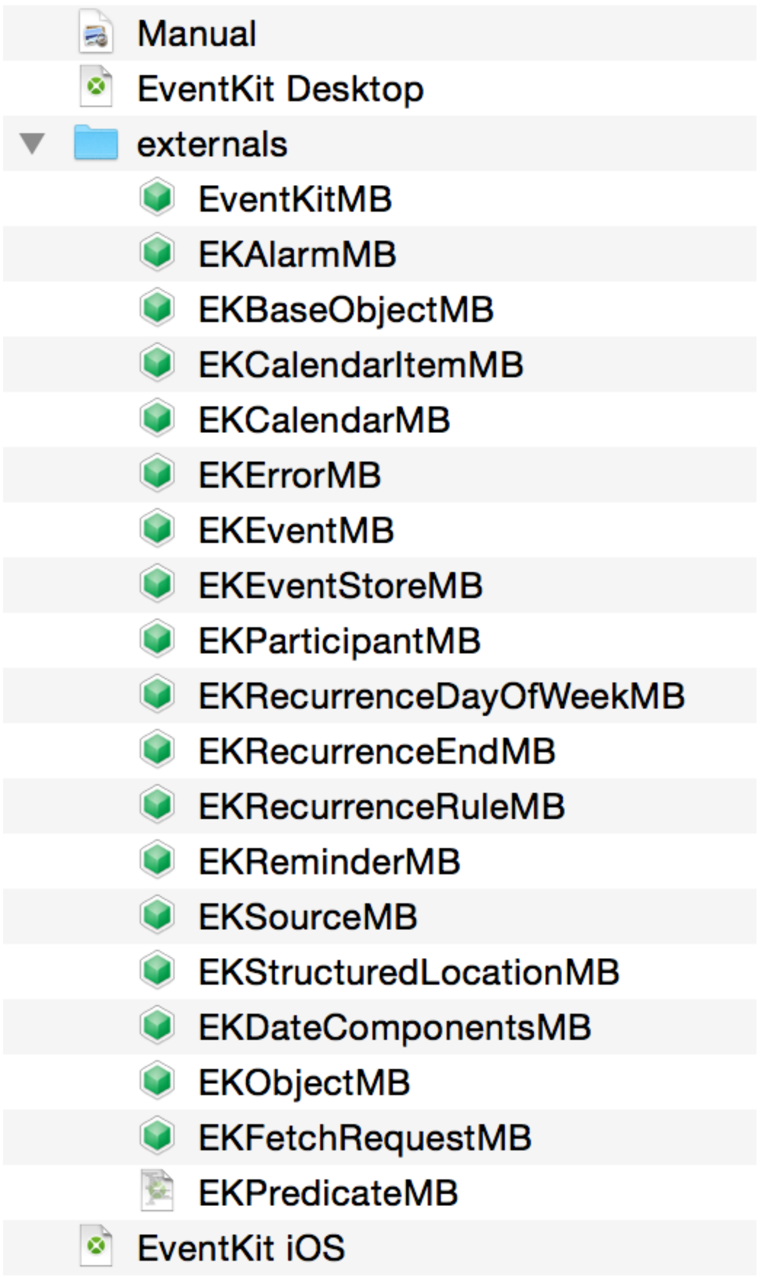
Version 1.3, © 2019 by Christian Schmitz

About the MBS Xojo Event Kit

The MBS Xojo Event Kit provides you with a few useful classes and modules to easily use calendar and reminder functions in iOS.

The Kit contains:

- Wrapper for OS X and iOS for EventKit framework.



Manual
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EventKit iOS

The Event Kit contains a wrapper for EventKit, Apple's latest framework for calendar and reminder functions on OS X and iOS:

Features

- Query/Get access to the internal calendar and reminder database
- Create, modify and delete reminders and events
- Handle multiple sources of calendar data
- Query participants for events
- asynchronously fetch events or reminders
- build search parameters using predicates
- Handle recurrence rules in various aspects

Wrapper Features

- For Xojo 2015r1
- Using exception handling to track error
- Test code included
- All classes with MB postfix to avoid name conflicts.
- Compiles for all targets
- All module definitions are protected to avoid conflicts
- Inline documentation
- Full Source code, no encryption
- Works for 32bit and 64bit targets.
- Example projects for Desktop, iOS and Console using our classes.

Interfaces

EKAlarmMB class

```
Class EKAlarmMB Inherits EKObjectMB
        ComputedProperty Description As text
                Sub Get()
                        Description of this object.
        ComputedProperty absoluteDate As Date
                Sub Set()
                        Represents an alarm that fires at a specific date.
                Sub Get()
        ComputedProperty proximity As EKAlarmProximity
                Sub Set()
                        Defines whether this alarm triggers via entering/exiting a geofence as defined by
                        structuredLocation.
                Sub Get()
        ComputedProperty relativeOffset As Double
                Sub Set()
                        Specifies a relative offset from an event start date to fire an alarm.

                        Set this property to an appropriate negative value to establish an alarm trigger
                        relative to the start date/time of an event. Setting this clears any existing
                        date trigger.

                Sub Get()
                         Specifies a relative offset from an event start date to fire an alarm.

                        Set this property to an appropriate negative value to establish an alarm trigger
                        relative to the start date/time of an event. Setting this clears any existing
                        date trigger.

        ComputedProperty structuredLocation As EKStructuredLocationMB
                Sub Set()
                        Allows you to set a structured location (a location with a potential geo-coordinate)
                        on an alarm. This is used in conjunction with proximity to do geofence-based
                        triggering of reminders.
                Sub Get()
        Enum EKAlarmProximity
                None = 0
                Enter = 1
                Leave = 2
        End Enum
        Sub Constructor(offset as Double)
                Creates a new alarm with a relative trigger time.
        Sub Constructor(Handle as Integer, Retain as Boolean)
                Create from Handle
        Sub Constructor(da as date)
                Creates a new alarm with an absolute trigger time.
        Shared Function alarmWithAbsoluteDate(da as date) As EKAlarmMB
                Creates a new alarm with an absolute trigger time.
        Shared Function alarmWithRelativeOffset(offset as Double) As EKAlarmMB
                Creates a new alarm with a relative trigger time.
        Function copy() As EKAlarmMB
                Copy function for NSCopying protocol
```

```
    Note "About"

    Note "Copyright"
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    This is part of the MBS Xojo Event Kit for iOS

    http://www.monkeybreadsoftware.de/xojo/
    Note "Note"
    The EKAlarm class provides an interface for accessing and manipulating calendar event alarms.

    The EKAlarm class represents alarms on an event. An alarm can be relative (e.g. 15 mins before)
    or absolute (specific time).
End Class
```

EKBaseObjectMB class

```
Class EKBaseObjectMB
	Sub Destructor()
		Cleanup
		Note "About"
		This is our base class for EventKit class.
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	Property Handle As Integer
End Class
```

EKCalendarItemMB class

```
Class EKCalendarItemMB Inherits EKObjectMB
        ComputedProperty URL As text
                Sub Set()
                        set the URL
                Sub Get()
                        The URL
        ComputedProperty calendar As EKCalendarMB
                Sub Set()
                        The calendar
                Sub Get()
        ComputedProperty calendarItemExternalIdentifier As text
                Sub Get()
                        A server-provided identifier for this calendar item
                        This identifier, provided by the server, allows you to reference the same event or reminder
across
                        multiple devices. For calendars stored locally on the device, including the birthday calendar,
                        it simply passes through to calendarItemIdentifier.

                        This identifier is unique as of creation for every calendar item.  However, there are some
                        cases where duplicate copies of a calendar item can exist in the same database, including:
                        - A calendar item was imported from an ICS file into multiple calendars
                        - An event was created in a calendar shared with the user and the user was also invited to the
event
                        - The user is a delegate of a calendar that also has this event
                        - A subscribed calendar was added to multiple accounts
                        In such cases, you should choose between calendar items based on other factors, such as
                        the calendar or source.

                        This identifier is the same for all occurrences of a recurring event. If you wish to differentiate
                        between occurrences, you may want to use the start date.

                        In addition, there are two caveats for Exchange-based calendars:
                        - This identifier will be different between EventKit on iOS versus OS X
                        - This identifier will be different between devices for EKReminders
        ComputedProperty calendarItemIdentifier As text
                Sub Get()
                        A unique identifier for a calendar item.
                        Item identifiers are not sync-proof in that a full sync will lose
                        this identifier, so you should always have a back up plan for dealing
                        with a reminder that is no longer fetchable by this property, e.g. by title, etc.
                        Use EKEventStoreMB.calendarItemWithIdentifier to look up the item by this value.
        ComputedProperty creationDate As Date
                Sub Get()
                        The creation date, can be nil!
        ComputedProperty hasAlarms As Boolean
                Sub Get()
                        this item has alarms?
        ComputedProperty hasAttendees As Boolean
                Sub Get()
                        this item has attendees?
        ComputedProperty hasNotes As Boolean
                Sub Get()
                        this item has notes?
```

```
    ComputedProperty hasRecurrenceRules As Boolean
        Sub Get()
            this item has Recurrence Rules?
    ComputedProperty lastModifiedDate As Date
        Sub Get()
            The last modification date
    ComputedProperty location As text
        Sub Set()
            set the location
        Sub Get()
            the location
    ComputedProperty notes As text
        Sub Set()
            the notes
        Sub Get()
    ComputedProperty title As text
        Sub Set()
            set the title
        Sub Get()
            the title
    Sub addAlarm(alarm as EKAlarmMB)
        Adds an alarm to this item.
        This method add an alarm to an item. Be warned that some calendars can only
        allow a certain maximum number of alarms. When this item is saved, it will
        truncate any extra alarms from the array.
    Sub addRecurrenceRule(rule as EKRecurrenceRuleMB)
        Adds a recurrence rule
    Function alarms() As EKAlarmMB()
        An array of EKAlarm objects for alarms
    Function attendees() As EKParticipantMB()
        An array of EKParticipant objects for attendees
    Function recurrenceRules() As EKRecurrenceRuleMB()
        An array of EKRecurrenceRules, or nil if none.
    Sub removeAlarm(alarm as EKAlarmMB)
        Removes an alarm from this item.
    Sub removeRecurrenceRule(rule as EKRecurrenceRuleMB)
        Removes a recurrence rule
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End Class
```

EKCalendarMB class

```
Class EKCalendarMB Inherits EKObjectMB
        ComputedProperty CGColorRef As Integer
                Sub Set()
                        The calendar color as a CGColorRef.
                Sub Get()
        ComputedProperty ColorValue As color
                Sub Set()
                        The calendar color as a CGColorRef.
                Sub Get()
        ComputedProperty Immutable As Boolean
                Sub Get()
                        If this is set to YES, it means you cannot modify any attributes of
                        the calendar or delete it. It does NOT imply that you cannot add events
                        or reminders to the calendar.
        ComputedProperty allowedEntityTypes As Integer
                Sub Get()
                        Returns the entity types this calendar can contain. While our API only allows creation
                        of single-entity calendars, other servers might allow mixed-entity calendars.
        ComputedProperty allowsContentModifications As Boolean
                Sub Get()
                        Represents whether you can this add, remove, or modify items in this calendar.
        ComputedProperty calendarIdentifier As text
                Sub Get()
                        A unique identifier for the calendar. It is not sync-proof in that a full
                        sync will lose this identifier, so you should always have a back up plan for dealing
                        with a calendar that is no longer fetchable by this property, e.g. by title, type, color, etc.
                        Use EKEventStoreMB.calendarWithIdentifier to look up the calendar by this value.
        ComputedProperty source As EKSourceMB
                Sub Set()
                        The source representing the 'account' this calendar belongs to.
                        This is only settable when initially creating a calendar and then
                        effectively read-only after that. That is, you can create a calendar,
                        but you cannot move it to another source.
                Sub Get()
        ComputedProperty subscribed As Boolean
                Sub Get()
                        True if this calendar is a subscribed calendar.
        ComputedProperty supportedEventAvailabilities As Integer
                Sub Get()
                        Returns a bitfield of supported event availabilities, or EKCalendarEventAvailabilityNone
                        if this calendar does not support setting availability on an event.
        ComputedProperty timeZone As xojo.Core.TimeZone
                Sub Set()
                        The time zone
                Sub Get()
        ComputedProperty title As text
                Sub Set()
                        The title of the calendar.
                Sub Get()
        ComputedProperty type As EKCalendarType
                Sub Get()
                        The type of the calendar as a EKCalendarType. This is actually based on
                        what source the calendar is in, as well as whether it is a subscribed calendar.
```

```
				CalDAV subscribed calendars have type EKCalendarTypeCalDAV with isSubscribed = YES.
		Const EKCalendarEventAvailabilityBusy = 1
		Const EKCalendarEventAvailabilityFree = 2
		Const EKCalendarEventAvailabilityNone = 0
		Const EKCalendarEventAvailabilityTentative = 4
		Const EKCalendarEventAvailabilityUnavailable = 8
		Enum EKCalendarType
			Local = 0
			CalDAV = 1
			Exchange = 2
			Subscription = 3
			Birthday = 4
		End Enum
		Sub Constructor(entityType as EKEventStoreMB.EKEntityType, Store as EKEventStoreMB)
			Creates a new calendar that may contain the given entity type.
			You can only create calendars that accept either reminders or events via our API.
			However, other servers might allow mixing the two (though it is not common).
		Sub Constructor(Handle as Integer, Retain as Boolean)
			Create from Handle
		Shared Function calendarForEntityType(entityType as EKEventStoreMB.EKEntityType, Store as
EKEventStoreMB) As EKCalendarMB
			Creates a new calendar that may contain the given entity type.
			You can only create calendars that accept either reminders or events via our API.
			However, other servers might allow mixing the two (though it is not common).
			Note "About"
			The EKCalendar class represents a calendar for events.
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End Class
```

EKDateComponentsMB class

```
Class EKDateComponentsMB Inherits EKBaseObjectMB
	ComputedProperty Description As text
		Sub Get()
			Description of this object.
	ComputedProperty date As date
		Sub Get()
	ComputedProperty day As integer
		Sub Set()
		Sub Get()
	ComputedProperty hour As integer
		Sub Set()
		Sub Get()
	ComputedProperty minute As integer
		Sub Set()
		Sub Get()
	ComputedProperty month As integer
		Sub Set()
		Sub Get()
	ComputedProperty second As integer
		Sub Set()
		Sub Get()
	ComputedProperty timeZone As xojo.Core.TimeZone
		Sub Set()
			The time zone
		Sub Get()
	ComputedProperty validDate As Boolean
		Sub Get()
			Reports whether or not the combination of properties which have been set in the receiver is a date which exists in the calendar.
			This method is not appropriate for use on NSDateComponents objects which are specifying relative quantities of calendar components.
			Except for some trivial cases (e.g., 'seconds' should be 0 - 59 in any calendar), this method is not necessarily cheap.
			If the time zone property is set in the NSDateComponents object, it is used.
			The calendar property must be set, or false is returned.
	ComputedProperty weekday As integer
		Sub Set()
		Sub Get()
	ComputedProperty year As integer
		Sub Set()
		Sub Get()
	Sub Constructor()
	Sub Constructor(Handle as Integer, Retain as Boolean)
		Create from Handle
		Note "About"
		Wrapper for NSDateComponents.
		Needed for EKReminderMB
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End Class
```

EKErrorMB class

```
Class EKErrorMB Inherits EKbaseObjectMB
        ComputedProperty code As integer
                Sub Get()
                        get error code
        ComputedProperty domain As text
                Sub Get()
                        get error domain
        ComputedProperty localizedDescription As text
                Sub Get()
                        get localized error description
        Sub Constructor(Handle as Integer, Retain as Boolean)
                Create from Handle
                Note "Copyright"
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End Class
```

EKEventMB class

```
Class EKEventMB Inherits EKCalendarItemMB
	ComputedProperty AllDay As Boolean
		Sub Set()
			Indicates this event is an 'all day' event.
		Sub Get()
	ComputedProperty Detached As Boolean
		Sub Get()
			Represents whether this event is detached from a recurring series.
			If this EKEvent is an instance of a repeating event, and an attribute of this
			EKEvent has been changed from the default value generated by the repeating event,
			isDetached will return true. If the EKEvent is unchanged from its default state, or
			is not a repeating event, isDetached returns false.
	ComputedProperty Name As text
		Sub Get()
			A unique identifier for this event.

			This identifier can be used to look the event up using EKEventStoreMB.eventWithIdentifier.
			You can use this not only to simply fetch the event, but also to validate the event
			has not been deleted out from under you when you get an external change notification
			via the EKEventStore database changed notification. If eventWithIdentifier returns nil,
			the event was deleted.

			Please note that if you change the calendar of an event, this ID will likely change. It is
			currently also possible for the ID to change due to a sync operation. For example, if
			a user moved an event on a different client to another calendar, we'd see it as a
			completely new event here.
	ComputedProperty availability As EKEventMB.EKEventAvailability
		Sub Set()
			The availability setting for this event.
			The availability setting is used by CalDAV and Exchange servers to indicate
			how the time should be treated for scheduling. If the calendar the event is
			currently in does not support event availability, EKEventAvailabilityNotSupported
			is returned.
		Sub Get()
	ComputedProperty birthdayPersonID As Integer
		Sub Get()
			Specifies the address book ID of the person this event was created for.
			This property is only valid for events in the built-in Birthdays calendar. It specifies
			the Address Book ID of the person this event was created for. For any other type of event,
			this property returns -1.
	ComputedProperty endDate As Date
		Sub Set()
			The end date for the event.
		Sub Get()
	ComputedProperty organizer As EKParticipantMB
		Sub Get()
			The organizer of this event, or nil.
	ComputedProperty startDate As Date
		Sub Set()
			The start date for the event.
			This property represents the start date for this event. Floating events (such
			as all-day events) are currently always returned in the default time zone.
			([NSTimeZone defaultTimeZone])
		Sub Get()
	ComputedProperty status As EKEventMB.EKEventStatus
		Sub Set()
			The status of the event.
			While the status offers four different values in the EKEventStatus enumeration,
			in practice, the only actionable and reliable status is canceled. Any other status
			should be considered informational at best. You cannot set this property. If you
			wish to cancel an event, you should simply remove it using removeEvent.
		Sub Get()
	Const NSOrderedAscending = -1
	Const NSOrderedDescending = 1
	Const NSOrderedSame = 0
	Enum EKEventAvailability
		NotSupported = -1
		Busy = 0
		Free = 1
		Tentative = 2
		Unavailable = 3
	End Enum
	Enum EKEventStatus
		None = 0
		Confirmed = 1
		Tentative = 2
		Canceled = 3
	End Enum
	Sub Constructor(Store as EKEventStoreMB)
		Creates a new event object.
	Sub Constructor(Handle as Integer, Retain as Boolean)
		Create from Handle
	Function Refresh() As Boolean
		Refreshes an event object to ensure it's still valid.
	Function compareStartDateWithEvent(other as EKEventMB) As Integer
		Comparison function you can pass to sort NSArrays of EKEvents by start date.
		see NSOrdered constants
	Shared Function eventWithEventStore(Store as EKEventStoreMB) As EKEventMB
		Creates a new event object.
		Note "About"
		The EKEvent class represents an occurrence of an event.
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End Class
```

EKEventStoreMB class

```
Class EKEventStoreMB Inherits EKBaseObjectMB
        ComputedProperty eventStoreIdentifier As text
                Sub Get()
                        Returns a unique identifier string representing this calendar store.
        Enum EKAuthorizationStatus
                NotDetermined = 0
                Restricted = 1
                Denied = 2
                Authorized = 3
        End Enum
        Enum EKEntityMask
                Unknown = 0
                Events = 1
                Reminders = 2
                Both = 3
        End Enum
        Enum EKEntityType
                Events = 0
                Reminders = 1
        End Enum
        Enum EKSpan
                ThisEvent = 0
                FutureEvents = 1
        End Enum
        Sub Constructor()
                Creates a event store
        Sub Constructor(Handle as Integer, Retain as Boolean)
                Create from Handle
        Sub Destructor()
        Shared Function authorizationStatusForEntityType(entityType as EKEntityType) As EKAuthorizationStatus
                Returns the authorization status for the given entity type
        Function calendarItemWithIdentifier(identifier as text) As EKCalendarItemMB
                Returns either a reminder or the first occurrence of an event.
        Function calendarItemsWithExternalIdentifier(identifier as text) As EKCalendarItemMB()
                Returns either matching reminders or the first occurrences of any events matching
                the given external identifier.
                This method returns a set of EKEvents or EKReminders with the given external identifier.
                Due to reasons discussed in EKCalendarItem.calendarItemExternalIdentifier, there may be
                more than one matching calendar item.

                externalIdentifier  The value obtained from EKCalendarItem's
                calendarItemExternalIdentifier property
                An unsorted array of EKCalendarItem instances
        Function calendarWithIdentifier(identifier as text) As EKCalendarMB
                Returns a calendar with a specified identifier.
        Function calendars() As EKCalendarMB()
        Function calendarsForEntityType(EntityType as EKEntityType) As EKCalendarMB()
                Returns calendars that support a given entity type (reminders, events)
        Sub cancelFetchRequest(r as EKFetchRequestMB)
                Given a value returned from fetchRemindersMatchingPredicate, this method can be used to
                cancel the request. Once called, the completion block specified in fetchReminders... will
                not be called.
        Function commit(byref error as EKErrorMB) As Boolean
```

Commits pending changes to the database.
If you use saveCalendar/saveEvent/removeCalendar/removeEvent, etc. and you pass NO to their parameter, you are batching changes for a later commit. This method does that commit. This allows you to save the database only once for many additions or changes. If you pass true to methods' commit parameter, then you don't need to call this method.

This method will return true as long as nothing went awry, even if nothing was actually committed. If it returns false, error should contain the reason it became unhappy.

Function defaultCalendarForNewEvents() **As** EKCalendarMB

Returns the calendar that events should be added to by default, as set in the Settings application.

Function defaultCalendarForNewReminders() **As** EKCalendarMB

Returns the calendar that reminders should be added to by default, as set in the Settings application.

Function eventWithIdentifier(identifier **as** text) **As** EKEventMB

Returns the first occurrence of an event matching the given event identifier.
An EKEvent object, or nil if not found.

Function eventsMatchingPredicate(predicate **as** EKPredicateMB) **As** EKEventMB()

Searches for events that match the given predicate.
This call executes a search for the events indicated by the predicate passed to it.
It only includes events which have been committed (e.g. those saved using saveEvent:commit:NO are not included until commit is called.)

It is synchronous. If you want async behavior, you should either use dispatch_async or NSOperation to run the query someplace other than the main thread, and then funnel the array back to the main thread.

predicate   The predicate to invoke. If this predicate was not created with the predicate creation functions in this class, an exception is raised.
An array of EKEvent objects, or nil. There is no guaranteed order to the events.

Function fetchRemindersMatchingPredicate(predicate **as** EKPredicateMB) **As** EKFetchRequestMB

Fetches reminders asynchronously.
This method fetches reminders asynchronously and returns a value which can be used in cancelFetchRequest to cancel the request later if desired. The completion block is called with an array of reminders that match the given predicate (or potentially nil).
This only includes reminders which have been committed (e.g. those saved using saveReminder:commit:NO are not included until commit: is called.)

Function predicateForCompletedReminders(startDate **as** Date, endDate **as** Date, calendars() **as** EKCalendarMB = **nil**) **As** EKPredicateMB

Fetch completed reminders in a set of calendars.
You can use this method to search for reminders completed between a range of dates.
You can pass nil for start date to find all reminders completed before endDate.
You can pass nil for both start and end date to get all completed reminders in the specified calendars.

Function predicateForCompletedReminders(startDate **as** Date, endDate **as** Date, calendar **as** EKCalendarMB) **As** EKPredicateMB

Fetch completed reminders in a set of calendars.

Function predicateForEvents(startDate **as** Date, endDate **as** Date, calendars() **as** EKCalendarMB = **nil**) **As** EKPredicateMB

Creates a predicate for use with eventsMatchingPredicate or enumerateEventsMatchingPredicate:usingBlock:.
Creates a simple query predicate to search for events within a certain date range. At present, this will return events in the default time zone ([NSTimeZone defaultTimeZone]).

startDate	The start date.
endDate	The end date.
calendars	The calendars to search for events in, or nil to search all calendars.

Function predicateForEvents(startDate **as** Date, endDate **as** Date, calendar **as** EKCalendarMB) **As** EKPredicateMB

Creates a predicate for use with eventsMatchingPredicate

Function predicateForIncompleteReminders(startDate **as** Date, endDate **as** Date, calendars() **as** EKCalendarMB = **nil**) **As** EKPredicateMB

Fetch incomplete reminders in a set of calendars.
You can use this method to search for incomplete reminders due in a range.
You can pass nil for start date to find all reminders due before endDate.
You can pass nil for both start and end date to get all incomplete reminders
in the specified calendars.

Function predicateForIncompleteReminders(startDate **as** Date, endDate **as** Date, calendar **as** EKCalendarMB) **As** EKPredicateMB

Fetch incomplete reminders in a set of calendars.

Function predicateForReminders(calendars() **as** EKCalendarMB = **nil**) **As** EKPredicateMB

Fetch all reminders in a set of calendars.

Function predicateForReminders(calendar **as** EKCalendarMB) **As** EKPredicateMB

Fetch all reminders in one calendar.

Sub refreshSourcesIfNecessary()

Cause a sync to potentially occur taking into account the necessity of it.
You can call this method to pull new data from remote sources.
This only updates the event store's data. If you want to update your objects after
refreshing the sources, you should call refresh on each of them afterwards.
On iOS, this sync only occurs if deemed necessary.
On OS X, this will occur regardless of necessity, but may change in a future release to match the iOS behavior.

Function removeCalendar(calendar **as** EKCalendarMB, commit **as Boolean**, **byref** error **as** EKErrorMB) **As Boolean**

Removes a calendar from the database.
This method attempts to delete the given calendar from the calendar database. It
returns true if successful and false otherwise. Passing a calendar fetched from
another EKEventStore instance into this function will raise an exception.

calendar The calendar to delete.
commit Pass true to cause the database to save. You can pass false to batch multiple
changes and then call commit to save them all at once.
error If an error occurs, this will contain a valid NSError object on exit.

Function removeEvent(theEvent **as** EKErrorMB, span **as** EKSpan, **byref** error **as** EKErrorMB) **As Boolean**

Removes an event from the calendar store.
This method attempts to remove the event from the calendar database. It returns YES if
successful and false otherwise. It's possible for this method to return false, and error
will be set to nil. This occurs if the event wasn't ever added and didn't need removing. This
means the correct way to detect failure is a result of NO and a non-nil error parameter.
Passing an event from another CalendarStore into this function will raise an exception. After
an event is removed, it is no longer tied to this calendar store, and all data in the event
is cleared except for the eventIdentifier.

event The event to save.
span The span to use (this event, or this and future events).
error If an error occurs, this will contain a valid NSError object on exit.

Function removeEvent(theEvent **as** EKEventMB, span **as** EKSpan, commit **as Boolean**, **byref** error **as** EKErrorMB) **As Boolean**

Remove event

Function removeReminder(reminder **as** EKReminderMB, commit **as Boolean**, **byref** error **as** EKErrorMB) **As Boolean**

Removes a reminder from the event store.
This method attempts to remove the reminder from the event store database. It returns true if

successful and false otherwise. Passing a reminder from another EKEventStore into this function will raise an exception. After a reminder is removed, it is no longer tied to this event store.

Sub requestAccessToEntityType(entityType **as** EKEntityType)

Users are able to grant or deny access to event and reminder data on a per-app basis. To request access to

event and/or reminder data, call requestAccessToEntityType. This will not block the app while the user is being asked to grant or deny access.

Until access has been granted for an entity type, the event store will not contain any calendars for that entity type, and any attempt to save will fail. The user will only be prompted the first time access is requested; any subsequent instantiations of EKEventStore will use the existing permissions. When the user

taps to grant or deny access, the completion handler will be called on an arbitrary queue.

Sub reset()

Resets the event store.
You can use this method to forget ALL changes made to the event store (all additions, all fetched objects, etc.). It essentially is as if you released the store and then created a new one. It brings it back to its initial state. All objects ever created/fetched, etc. using this store are no longer connected to it and are considered invalid.

Function saveCalendar(calendar **as** EKCalendarMB, commit **as Boolean**, **byref** error **as** EKErrorMB) **As Boolean**

Saves changes to a calendar, or adds a new calendar to the database.
This method attempts to save the given calendar to the calendar database. It returns true if successful and NO otherwise. Passing a calendar fetched from another EKEventStore instance into this function will raise an exception.

calendar	The calendar to save.
commit	Pass true to cause the database to save. You can pass false to save multiple calendars and then call commit to save them all at once.
error	If an error occurs, this will contain a valid NSError object on exit.

Function saveEvent(theEvent **as** EKErrorMB, span **as** EKSpan, **byref** error **as** EKErrorMB) **As Boolean**

Saves changes to an event permanently.
This method attempts to save the event to the calendar database. It returns YES if successful and false otherwise. It's possible for this method to return NO, and error will be set to nil. This occurs if the event wasn't dirty and didn't need saving. This means the correct way to detect failure is a result of false and a non-nil error parameter. Passing an event fetched from another EKEventStore instance into this function will raise an exception.

After an event is successfully saved, it is also put into sync with the database, meaning that all fields you did not change will be updated to the latest values. If you save the event, but it was deleted by a different store/process, you will effectively recreate the event as a new event.

event	The event to save.
span	The span to use (this event, or this and future events).
error	If an error occurs, this will contain a valid NSError object on exit.

Function saveEvent(theEvent **as** EKEventMB, span **as** EKSpan, commit **as Boolean**, **byref** error **as** EKErrorMB) **As Boolean**

Saves event

Function saveReminder(reminder **as** EKReminderMB, commit **as Boolean**, **byref** error **as** EKErrorMB) **As Boolean**

Saves changes to a reminder.
This method attempts to save the reminder to the event store database. It returns true if successful and false otherwise. Passing a reminder fetched from another EKEventStore instance into this function will raise an exception.

```
                After a reminder is successfully saved, its fields are updated to the latest values in
                the database.

                reminder    The reminder to save.
                commit      Whether to save to the database or not. Pass NO to batch changes together and
                commit with EKEventStore.commit.
                error       If an error occurs, this will contain a valid NSError object on exit.
        Function sourceWithIdentifier(identifier as text) As EKSourceMB
                Returns a source with a specified identifier.
        Function sources() As EKSourceMB()
                Returns an unordered array of sources.
                Note "About"
                The EKEventStore class provides an interface for accessing and manipulating calendar events and
reminders.

                The EKEventStore class is the main point of contact for accessing Calendar data. You must
                create a EKEventStore object in order to retrieve/add/delete events or reminders from the Calendar
database.

                Events, Reminders, and Calendar objects retrieved from an event store cannot be used with any other
event
                store. It is generally best to hold onto a long-lived instance of an event store, most
                likely as a singleton instance in your application.
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End Class
```

EKFetchRequestMB class

```
Class EKFetchRequestMB
        Sub Constructor(Handle as Integer)
                Create from Handle
        Sub Destructor()
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        Property Cancelled As Boolean
        Property Handle As Integer
End Class
```

EKObjectMB class

```
Class EKObjectMB Inherits EKBaseObjectMB
	ComputedProperty hasChanges As Boolean
		Sub Get()
			Returns true if this object or any sub-object (alarm, etc.) has uncommitted changes.
	ComputedProperty isNew As Boolean
		Sub Get()
			Returns YES if this object has never been saved.
	Function Refresh() As Boolean
		Determines if the object is still valid (i.e. it still exists in the database), and unloads all
		properties that have not been modified. If this ever returns false, it indicates the record was deleted
		and this instance should be discarded and no longer referenced.

	Sub reset()
		If this object is not new, this method will unload all loaded properties and clear any dirty state
	Sub rollback()
		If this object is not new, this method will unload dirty state only.
		Note "About"

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End Class
```

EKParticipantMB class

```
Class EKParticipantMB Inherits EKObjectMB
	ComputedProperty Description As text
		Sub Get()
			Description of this participant.
	ComputedProperty Name As text
		Sub Get()
			Name of this participant.
	ComputedProperty URL As text
		Sub Get()
			URL representing this participant.
	ComputedProperty isCurrentUser As Boolean
		Sub Get()
			A boolean indicating whether this participant represents the
			owner of this account.
	ComputedProperty participantRole As EKParticipantMB.EKParticipantRole
		Sub Get()
			Returns the role of the attendee as a EKParticipantRole value.
	ComputedProperty participantStatus As EKParticipantMB.EKParticipantStatus
		Sub Get()
			Returns the status of the attendee as a EKParticipantStatus value.
	ComputedProperty participantType As EKParticipantMB.EKParticipantType
		Sub Get()
			Returns the type of the attendee as a EKParticipantType value.
	Enum EKParticipantRole
		Unknown = 0
		Required = 1
		Optional_ = 2
		Chair = 3
		NonParticipant = 4
	End Enum
	Enum EKParticipantStatus
		Unknown = 0
		Pending = 1
		Accepted = 2
		Declined = 3
		Tentative = 4
		Delegated = 5
		Completed = 6
		InProcess = 7
	End Enum
	Enum EKParticipantType
		Unknown = 0
		Person = 1
		Room = 2
		Resource = 3
		Group = 4
	End Enum
	Function ABRecordWithAddressBook(ABAddressBookRef as Integer) As Integer
		Returns the ABRecordRef that represents this participant.
		This method returns the ABRecordRef that represents this participant,
		if a match can be found based on email address in the address book
		passed. If we cannot find the participant, nil is returned.
	Sub Constructor(Handle as Integer, Retain as Boolean)
```

```
            Create from Handle
        Function copy() As EKParticipantMB
            Copy function for NSCopying protocol

            Note "About"

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    End Class
```

EKPredicateMB class

```
Class EKPredicateMB Inherits EKbaseObjectMB
	Sub Constructor(Handle as Integer, Retain as Boolean)
		Create from Handle
		Note "Copyright"
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End Class
```

EKRecurrenceDayOfWeekMB class

```
Class EKRecurrenceDayOfWeekMB Inherits EKBaseObjectMB
        ComputedProperty dayOfTheWeek As integer
                Sub Get()
                        The day of the week.
        ComputedProperty weekNumber As integer
                Sub Get()
                        The week number.
        Sub Constructor(Handle as Integer, Retain as Boolean)
                Create from Handle
        Sub Constructor(dayOfWeek as Integer, weekNumber as Integer = 0)
                Creates an object with a day of the week and week number.
        Function copy() As EKRecurrenceDayOfWeekMB
                Copy function for NSCopying protocol

        Shared Function dayOfWeek(dayOfWeek as integer) As EKRecurrenceDayOfWeekMB
                Creates an object with a day of the week and week number of zero.
        Shared Function dayOfWeek(dayOfWeek as integer, weekNumber as Integer) As
EKRecurrenceDayOfWeekMB
                Creates an object with a day of the week and week number of zero.
                Note "About"
                Class which represents a day of the week this recurrence will occur.

                EKRecurrenceDayOfWeek specifies either a simple day of the week, or the nth instance
                of a particular day of the week, such as the third Tuesday of every month. The week
                number is only valid when used with monthly or yearly recurrences, since it would
                be otherwise meaningless.

                Valid values for dayOfTheWeek are integers 1-7, which correspond to days of the week
                with Sunday = 1. Valid values for weekNumber portion are (+/-)1-53, where a negative
                value indicates a value from the end of the range. For example, in a yearly event -1
                means last week of the year. -1 in a Monthly recurrence indicates the last week of
                the month.

                The value 0 also indicates the weekNumber is irrelevant (every Sunday, etc.).

                Day-of-week weekNumber values that are out of bounds for the recurrence type will
                result in an exception when trying to initialize the recurrence. In particular,
                weekNumber must be zero when passing EKRecurrenceDayOfWeek objects to initialize a weekly
                recurrence.
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End Class
```

EKRecurrenceEndMB class

```
Class EKRecurrenceEndMB Inherits EKBaseObjectMB
	ComputedProperty completionDate As Date
		Sub Get()
			The end date of this recurrence, or nil if it's count-based.
	ComputedProperty occurrenceCount As integer
		Sub Get()
			The maximum occurrence count, or 0 if it's date-based.
	Sub Constructor(Count as Integer)
		Creates a recurrence end with a maximum occurrence count.
	Sub Constructor(Handle as Integer, Retain as Boolean)
		Create from Handle
	Sub Constructor(EndDate as date)
		Creates a recurrence end with a maximum occurrence count.
	Function copy() As EKRecurrenceEndMB
		Copy function for NSCopying protocol

	Shared Function recurrenceEndWithEndDate(EndDate as date) As EKRecurrenceEndMB
		Creates an autoreleased recurrence end with a specific end date.
	Shared Function recurrenceEndWithOccurrenceCount(count as integer) As EKRecurrenceEndMB
		Creates a recurrence end with a maximum occurrence count.
		Note "About"
		Class which represents when a recurrence should end.

		EKRecurrenceEnd is an attribute of EKRecurrenceRule that defines how long
		the recurrence is scheduled to repeat. The recurrence can be defined either
		with an Integer that indicates the total number times it repeats, or with
		an NSDate, after which it no longer repeats. An event which is set to never
		end should have its EKRecurrenceEnd set to nil.

		If the end of the pattern is defines with an Date, the client must pass a
		valid NSDate, nil cannot be passed. If the end of the pattern is defined as
		terms of a number of occurrences, the occurrenceCount passed to the initializer
		must be positive, it cannot be 0. If the client attempts to initialize a
		EKRecurrenceEnd with a nil Date or OccurrenceCount of 0, an exception is raised.

		A EKRecurrenceEnd initialized with an end date will return 0 for occurrenceCount.
		One initialized with a number of occurrences will return nil for its endDate.
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End Class
```

EKRecurrenceRuleMB class

```
Class EKRecurrenceRuleMB Inherits EKObjectMB
	ComputedProperty Description As text
		Sub Get()
			Description of this object.
	ComputedProperty calendarIdentifier As text
		Sub Get()
			Calendar used by this recurrence rule.
	ComputedProperty firstDayOfTheWeek As integer
		Sub Get()
			Recurrence patterns can specify which day of the week should be treated as the first day.
Possible values for this
			property are integers 0 and 1-7, which correspond to days of the week with Sunday = 1. Zero
indicates that the
			property is not set for this recurrence. The first day of the week only affects the way the
recurrence is expanded
			for weekly recurrence patterns with an interval greater than 1. For those types of recurrence
patterns, the
			Calendar framework will set firstDayOfTheWeek to be 2 (Monday). In all other cases, this
property will be set
			to zero. The iCalendar spec stipulates that the default value is Monday if this property is not
set.
	ComputedProperty frequency As EKRecurrenceRuleMB.EKRecurrenceFrequency
		Sub Get()
			This property designates the unit of time used to describe the recurrence pattern.
	ComputedProperty interval As integer
		Sub Get()
			The interval of a EKRecurrenceRule is an integer value which specifies how often the
recurrence rule repeats
			over the unit of time described by the EKRecurrenceFrequency. For example, if the
EKRecurrenceFrequency is
			EKRecurrenceWeekly, then an interval of 1 means the pattern is repeated every week. A
value of 2
			indicates it is repeated every other week, 3 means every third week, and so on. The value
must be a
			positive integer; 0 is not a valid value, and nil will be returned if the client attempts to
initialize a
			rule with a negative or zero interval.
	ComputedProperty recurrenceEnd As EKRecurrenceEndMB
		Sub Set()
			This property defines when the the repeating event is scheduled to end. The end date can be
specified by a number of
			occurrences, or with an end date.
		Sub Get()
	Enum EKRecurrenceFrequency
		Daily = 0
		Weekly = 1
		Monthly = 2
		Yearly = 3
	End Enum
	Sub Constructor(type as EKRecurrenceRuleMB.EKRecurrenceFrequency, interval as integer,
daysOfTheWeek() as EKRecurrenceDayOfWeekMB, daysOfTheMonth() as Integer, monthsOfTheYear() as Integer,
weekOfTheYear() as Integer, daysOfTheYear() as integer, setPositions() as Integer, ende as EKRecurrenceEndMB =
nil)
```

The designated initializer.
This can be used to build any kind of recurrence rule. But be aware that certain combinations make no sense and will be ignored. For example, if you pass daysOfTheWeek for a daily recurrence, they will be ignored.
type The type of recurrence
interval The interval. Passing zero will raise an exception.
daysOfTheWeek An array of EKRecurrenceDayOfWeek objects. Valid for all recurrence types except daily. Ignored otherwise.
Corresponds to the BYDAY value in the iCalendar specification.
daysOfTheMonth An array of Integers ([+/-] 1 to 31). Negative numbers infer counting from the end of the month.
For example, -1 means the last day of the month. Valid only for monthly recurrences. Ignored otherwise.
Corresponds to the BYMONTHDAY value in the iCalendar specification.
monthsOfTheYear An array of Integers (1 to 12). Valid only for yearly recurrences. Ignored otherwise. Corresponds to
the BYMONTH value in the iCalendar specification.
weeksOfTheYear An array of Integers ([+/1] 1 to 53). Negative numbers infer counting from the end of the year.
For example, -1 means the last week of the year. Valid only for yearly recurrences. Ignored otherwise.
Corresponds to the BYWEEKNO value in the iCalendar specification.
daysOfTheYear An array of Integers ([+/1] 1 to 366). Negative numbers infer counting from the end of the year.
For example, -1 means the last day of the year. Valid only for yearly recurrences. Ignored otherwise.
Corresponds to the BYYEARDAY value in the iCalendar specification.
setPositions An array of Integers ([+/1] 1 to 366). Used at the end of recurrence computation to filter the list
to the positions specified. Negative numbers indicate starting at the end, i.e. -1 indicates taking the
last result of the set. Valid when daysOfTheWeek, daysOfTheMonth, monthsOfTheYear, weeksOfTheYear, or
daysOfTheYear is passed. Ignored otherwise. Corresponds to the BYSETPOS value in the iCalendar specification.
end The recurrence end, or nil.

Sub Constructor(type **as** EKRecurrenceRuleMB.EKRecurrenceFrequency, interval **as integer**, ende **as** EKRecurrenceEndMB = **nil**)

Simple initializer to create a recurrence.
This is used to create a simple recurrence with a specific type, interval and end.
If interval is 0, an exception is raised. The end parameter can be nil.

Sub Constructor(Handle **as Integer**, Retain **as Boolean**)

Create from Handle

Shared Function RecurrenceRule(type **as** EKRecurrenceRuleMB.EKRecurrenceFrequency, interval **as integer**, daysOfTheWeek() **as** EKRecurrenceDayOfWeekMB, daysOfTheMonth() **as Integer**, monthsOfTheYear() **as Integer**, weekOfTheYear() **as Integer**, daysOfTheYear() **as integer**, setPositions() **as Integer**, ende **as** EKRecurrenceEndMB = **nil**) **As** EKRecurrenceRuleMB

Creates a recurrence.
This can be used to build any kind of recurrence rule. But be aware that certain combinations make no sense and will be ignored. For example, if you pass daysOfTheWeek for a daily recurrence, they will be ignored.
type The type of recurrence
interval The interval. Passing zero will raise an exception.
daysOfTheWeek An array of EKRecurrenceDayOfWeek objects. Valid for all recurrence types except daily. Ignored otherwise.
Corresponds to the BYDAY value in the iCalendar specification.
daysOfTheMonth An array of Integers ([+/-] 1 to 31). Negative numbers infer counting from the end of the month.

For example, -1 means the last day of the month. Valid only for monthly recurrences. Ignored otherwise.
Corresponds to the BYMONTHDAY value in the iCalendar specification.
monthsOfTheYear An array of Integers (1 to 12). Valid only for yearly recurrences. Ignored otherwise. Corresponds to
the BYMONTH value in the iCalendar specification.
weeksOfTheYear An array of Integers ([+/1] 1 to 53). Negative numbers infer counting from the end of the year.
For example, -1 means the last week of the year. Valid only for yearly recurrences. Ignored otherwise.
Corresponds to the BYWEEKNO value in the iCalendar specification.
daysOfTheYear   An array of Integers ([+/1] 1 to 366). Negative numbers infer counting from the end of the year.
For example, -1 means the last day of the year. Valid only for yearly recurrences. Ignored otherwise.
Corresponds to the BYYEARDAY value in the iCalendar specification.
setPositions   An array of Integers ([+/1] 1 to 366). Used at the end of recurrence computation to filter the list
to the positions specified. Negative numbers indicate starting at the end, i.e. -1 indicates taking the
last result of the set. Valid when daysOfTheWeek, daysOfTheMonth, monthsOfTheYear, weeksOfTheYear, or
daysOfTheYear is passed. Ignored otherwise. Corresponds to the BYSETPOS value in the iCalendar specification.
end   The recurrence end, or nil.

Shared Function RecurrenceRule(type **as** EKRecurrenceRuleMB.EKRecurrenceFrequency, interval **as** **integer**, ende **as** EKRecurrenceEndMB = **nil**) **As** EKRecurrenceRuleMB

Creates a recurrence.
This is used to create a simple recurrence with a specific type, interval and end.
If interval is 0, an exception is raised. The end parameter can be nil.

Function copy() **As** EKRecurrenceRuleMB

Copy function for NSCopying protocol

Function daysOfTheMonth() **As Integer**()

This property is valid for rules whose EKRecurrenceFrequency is EKRecurrenceFrequencyMonthly, and that were initialized
with one or more specific days of the month (not with a day of the week and week of the month). This property can be
accessed as an array containing one or more NSNumbers corresponding to the days of the month the event recurs.
For all other EKRecurrenceRules, this property is nil. This property corresponds to BYMONTHDAY in the iCalendar
specification.

Function daysOfTheWeek() **As Integer**()

This property is valid for rules whose EKRecurrenceFrequency is EKRecurrenceFrequencyWeekly, EKRecurrenceFrequencyMonthly, or
EKRecurrenceFrequencyYearly. This property can be accessed as an array containing one or more EKRecurrenceDayOfWeek objects
corresponding to the days of the week the event recurs. For all other EKRecurrenceRules, this property is nil.
This property corresponds to BYDAY in the iCalendar specification.

Function daysOfTheYear() **As Integer**()

This property is valid for rules whose EKRecurrenceFrequency is EKRecurrenceFrequencyYearly. This property can be accessed
as an array containing one or more NSNumbers corresponding to the days of the year the event recurs. For all other
EKRecurrenceRules, this property is nil. This property corresponds to BYYEARDAY in the iCalendar specification. It should
contain values between 1 to 366 or -366 to -1.

Function monthsOfTheYear() **As Integer**()
This property is valid for rules whose EKRecurrenceFrequency is EKRecurrenceFrequencyYearly. This property can be accessed
as an array containing one or more NSNumbers corresponding to the months of the year the event recurs. For all other
EKRecurrenceRules, this property is nil. This property corresponds to BYMONTH in the iCalendar specification.
Function setPositions() **As Integer**()
This property is valid for rules which have a valid daysOfTheWeek, daysOfTheMonth, weeksOfTheYear, or monthsOfTheYear property.
It allows you to specify a set of ordinal numbers to help choose which objects out of the set of selected events should be
included. For example, setting the daysOfTheWeek to Monday-Friday and including a value of -1 in the array would indicate
the last weekday in the recurrence range (month, year, etc). This value corresponds to the iCalendar BYSETPOS property.
Function weeksOfTheYear() **As Integer**()
This property is valid for rules whose EKRecurrenceFrequency is EKRecurrenceFrequencyYearly. This property can be accessed
as an array containing one or more NSNumbers corresponding to the weeks of the year the event recurs. For all other
EKRecurrenceRules, this property is nil. This property corresponds to BYWEEK in the iCalendar specification. It should
contain integers from 1 to 53 or -1 to -53.
Note "About"
Represents how an event repeats.

This class describes the recurrence pattern for a repeating event. The recurrence rules that
can be expressed are not restricted to the recurrence patterns that can be set in Calendar's UI.

It is currently not possible to directly modify a EKRecurrenceRule or any of its properties.
This functionality is achieved by creating a new EKRecurrenceRule, and setting an event to use the new rule.
When a new recurrence rule is set on an EKEvent, that change is not saved until the client
has passed the modified event to EKEventStore's saveEvent: method.
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Note "Properties"
Properties that are only valid for certain EKRecurrenceRules

// The properties that follow are only valid for certain recurrence rules, and are always arrays. For recurrence rules
// that can be expressed with one of the simple initializers, the arrays will contain a single object, corresponding
// to the day of the week, the day of the month, the "NthWeekDay" (for example, the fourth Thursday), or the month of
// the year the event recurs. The objects will be NSNumbers, except in the "NthWeekDay" case just mentioned, when
// the array will contain a CalNthWeekDay instead of an NSNumber.
//
// Repeating events using one of the advanced initializers may recur multiple times in the specified time period, for

```
		//  example, the first and sixteenth days of a month. When this is true, the arrays may contain more 
than one entry.
		//
		//  These properties will only be valid for certain EKRecurrenceRules, depending on how the rule's 
recurrence is
		//  defined. The constraints on when these properties is valid are described below. When these 
constraints are not met,
		//  the property's value will be nil.
End Class
```

EKReminderMB class

```
Class EKReminderMB Inherits EKCalendarItemMB
	ComputedProperty Completed As Boolean
		Sub Set()
			Whether or not the reminder is completed.
			Setting it to true will set the completed date to the current date.
			Setting it to false will set the completed date to nil.
		Sub Get()
	ComputedProperty completionDate As Date
		Sub Set()
			The date on which this reminder was completed.
		Sub Get()
	ComputedProperty dueDateComponents As EKDateComponentsMB
		Sub Set()
			The date by which this reminder should be completed.
			The use of date components allows the due date and its time zone to be represented in a
single property.
			A nil time zone represents a floating date.  Setting a date component without a hour, minute
and second component will set allDay to YES.
			If you set this property, the calendar must be set to NSGregorianCalendar. An exception is
raised otherwise.

			On iOS, if you set the due date for a reminder, you must also set a start date, otherwise you
will receive
			an error (EKErrorNoStartDate) when attempting to save this reminder. This is not a
requirement on OS X.
		Sub Get()
	ComputedProperty priority As integer
		Sub Set()
			The priority of the reminder.
			Priorities run from 1 (highest) to 9 (lowest).  A priority of 0 means no priority.
			Saving a reminder with any other priority will fail.
			Per RFC 5545, priorities of 1-4 are considered "high," a priority of 5 is "medium," and
priorities of 6-9 are "low."

		Sub Get()
	ComputedProperty startDateComponents As EKDateComponentsMB
		Sub Set()
			The start date of the task, as date components.
			The use of date components allows the start date and its time zone to be represented in a
single property.
			A nil time zone represents a floating date.  Setting a date component without a hour, minute
and second component will set allDay to YES.
			If you set this property, the calendar must be set to NSGregorianCalendar. An exception is
raised otherwise.
		Sub Get()
	Sub Constructor(Store as EKEventStoreMB)
		Creates a new reminder in the given event store.
	Sub Constructor(Handle as Integer, Retain as Boolean)
		Create from Handle
	Shared Function reminderWithEventStore(Store as EKEventStoreMB) As EKReminderMB
		Creates a new reminder in the given event store.
		Note "About"
```

```
        Note "Completed"
        //  These two properties Completed and CompletionDate are inextricably linked.
        //  Setting completed to be true, will set the completedDate to be now,
        //  and setting any completedDate will change completed to be true.
        //  Similarly, setting completed to be false will set
        //  the completedDate to be nil, and setting the completedDate changes completed to NO.
        //  Note, you may encounter the case where isCompleted is true, but completionDate is nil,
        //  if the reminder was completed using a different client.
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End Class
```

EKSourceMB class

```
Class EKSourceMB Inherits EKObjectMB
        ComputedProperty sourceIdentifier As text
                Sub Get()
                        the source identifier
        ComputedProperty sourceType As EKSourceMB.EKSourceType
                Sub Get()
                        The source type
        ComputedProperty title As text
                Sub Get()
                        the title for this source
        Enum EKEntityType
                Events = 0
                Reminder = 1
        End Enum
        Enum EKSourceType
                Local = 0
                Exchange = 1
                CalDAV = 2
                MobileMe = 3
                Subscribed = 4
                Birthdays = 5
        End Enum
        Sub Constructor(Handle as Integer, Retain as Boolean)
                Create from Handle
        Function calendars() As EKCalendarMB()
                the calendars for this source
        Function calendarsForEntityType(Type as EKSourceMB.EKEntityType) As EKCalendarMB()
                Returns the calendars that belong to this source that
                support a given entity type (reminders, events)
        Function eventCalendars() As EKCalendarMB()
                convenience function
        Function reminderCalendars() As EKCalendarMB()
                convenience function
                Note "About"

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                http://www.monkeybreadsoftware.de/xojo/
End Class
```

EKStructuredLocationMB class

```
Class EKStructuredLocationMB Inherits EKBaseObjectMB
        ComputedProperty geoLocation As Integer
                Sub Set()
                        the location as CLLocation reference
                Sub Get()
        ComputedProperty radius As double
                Sub Set()
                        0 = use default, unit is meters
                Sub Get()
        ComputedProperty title As text
                Sub Set()
                        set the title
                Sub Get()
                        the title
        Sub Constructor(Handle as Integer, Retain as Boolean)
                Create from Handle
        Sub Constructor(title as text)
                Creates a new location
        Function copy() As EKStructuredLocationMB
                Copy function for NSCopying protocol

        Shared Function reminderWithEventStore(title as text) As EKStructuredLocationMB
                Creates a new location
                Note "About"

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End Class
```

EventKitMB class

```
Module EventKitMB
        ComputedProperty Available As Boolean
                Sub Get()
                        Check and see if EventKit is Available
        Const EKErrorAlarmGreaterThanRecurrence = 8
        Const EKErrorAlarmProximityNotSupported = 21
        Const EKErrorCalendarDoesNotAllowEvents = 22
        Const EKErrorCalendarDoesNotAllowReminders = 23
        Const EKErrorCalendarHasNoSource = 14
        Const EKErrorCalendarIsImmutable = 16
        Const EKErrorCalendarReadOnly = 6
        Const EKErrorCalendarSourceCannotBeModified = 15
        Const EKErrorDatesInverted = 4
        Const EKErrorDomain = EKErrorDomain
        Const EKErrorDurationGreaterThanRecurrence = 7
        Const EKErrorEventNotMutable = 0
        Const EKErrorInternalFailure = 5
        Const EKErrorInvalidEntityType = 26
        Const EKErrorInvalidSpan = 13
        Const EKErrorInvitesCannotBeMoved = 12
        Const EKErrorNoCalendar = 1
        Const EKErrorNoEndDate = 3
        Const EKErrorNoStartDate = 2
        Const EKErrorObjectBelongsToDifferentStore = 11
        Const EKErrorPriorityIsInvalid = 25
        Const EKErrorRecurringReminderRequiresDueDate = 18
        Const EKErrorReminderLocationsNotSupported = 20
        Const EKErrorSourceDoesNotAllowCalendarAddDelete = 17
        Const EKErrorSourceDoesNotAllowReminders = 24
        Const EKErrorStartDateCollidesWithOtherOccurrence = 10
        Const EKErrorStartDateTooFarInFuture = 9
        Const EKErrorStructuredLocationsNotSupported = 19
        Const EKFriday = 6
        Const EKMonday = 2
        Const EKSaturday = 7
        Const EKSunday = 1
        Const EKThursday = 5
        Const EKTuesday = 3
        Const EKWednesday = 4
        Protected Function CGColorToColor(cgColorRef as Integer) As color
        Protected Function ClassName(ref as integer) As text
                class name of object
        Protected Function ColorToCGColor(co as color) As Integer
        Protected Function DateToNSDate(d as date) As Integer
        Protected Function Description(ref as integer) As text
                class description of object
        Protected Sub LoadConstants()
                optionally called to load constants
        Protected Function NSArrayCount(NSArrayRef as integer) As Integer
        Protected Function NSArrayOfAlarms(r as integer) As EKAlarmMB()
        Protected Function NSArrayOfCalendarItems(r as integer) As EKCalendarItemMB()
        Protected Function NSArrayOfCalendars(r as integer) As EKCalendarMB()
        Protected Function NSArrayOfEvents(r as integer) As EKEventMB()
```

```
    Protected Function NSArrayOfIntegers(r as integer) As Integer()
    Protected Function NSArrayOfParticipants(r as integer) As EKParticipantMB()
    Protected Function NSArrayOfRecurrenceRules(r as integer) As EKRecurrenceRuleMB()
    Protected Function NSArrayOfReminders(r as integer) As EKReminderMB()
    Protected Function NSArrayOfSources(r as integer) As EKSourceMB()
    Protected Function NSClassFromText(Name as Text) As Integer
    Protected Function NSDateToDate(Ref as Integer) As date
    Protected Sub NSLog(s as text, h as integer)
        log some object
    Protected Function NSSetToNSArray(NSSetRef as integer) As integer
    Protected Function NSStringToText(ref as integer) As text
    Protected Function NSTimeZoneToTimeZone(t as integer) As xojo.Core.TimeZone
    Protected Function NSURLFromText(URL as String) As Integer
    Protected Function NSURLFromText(URL as Text) As Integer
    Protected Function NSURLToText(NSURLHandle as integer) As text
    Protected Function NewEKCalendarNSArray(values() as EKCalendarMB) As Integer
    Protected Function NewEKRecurrenceDayOfWeekNSArray(values() as EKRecurrenceDayOfWeekMB) As
Integer
    Protected Function NewIntegerNSArray(values() as Integer) As Integer
    Protected Function TextToNSString(t as text) As integer
    Protected Function TimeZoneToNSTimeZone(t as xojo.Core.TimeZone) As integer
    Protected Function defaultNotificationCenter() As Integer
    Protected Function mainQueue() As Integer
    Protected Function newEKCalendarItemMB(Ref as Integer, Retain as Boolean) As EKCalendarItemMB
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        http://www.monkeybreadsoftware.de/xojo/
    Property Protected EKEventStoreChangedNotification As text
End Module
```

Version History

Tip: If you want to update your existing code with new release, you‘d best compare projects with Arbed (http://www.tempel.org/Arbed) and copy modifications to your project.

1.3, 31st July 2019

- Fixes for MacOS 10.14 Mojave and iOS 12 privacy changes
- Updated for Xojo 2019r1

1.2, 23rd April 2018

- Added privacy entries for info.plist via build script step.
- Updated for Xojo 2018r1
- Fixed bugs with color for Mac and we now use NSColor there.
- Fixed bug with EKCalendarItemMB.URL setter

1.1, 10th November 2016

- Updated for Xojo 2016r3.
- Added retain/release for arrays in methods to not get them freed too early.
- Worked around Feedback case #44874 by using CFDate functions now.

1.0, first release, 29th September 2015

Known issues

- Change event doesn’t fire currently.
- If you don’t use NSCalendarsUsageDescription in info.plist of your app to declare calendar usage, you will see a crash with the function __CRASHING_DUE_TO_PRIVACY_VIOLATION__ in stack trace.

Installation

To get your projects working with this Event Kit, you need to follow a few steps.

Drop the folder „externals“ into your project and access all the modules and classes. Or copy from existing example projects what you need.

Requirements

You need Xojo 2015r1 or newer.
We did not test with older versions, but you can if you need.

If you need similar functions for Mac OS X cross platform, please check our MBS Plugins, especially the Cocoa and Leopard plugin parts.

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Access to updates is included for one year. After that time you can order an update or keep using the old version you have.

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