
iSync Plug-in Maker User Guide

Tools & Languages: IDEs



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Introduction to iSync Plug-in Maker User Guide

iSync Plug-in Maker is a developer tool that allows you to build, test, and release device plug-ins. With iSync Plug-in Maker, you can create plug-ins according to the specific features supported by a device. This includes the ability to write modem scripts for using the device to connect to the Internet. You can also use the tool to run a suite of standard automated tests, even if you didn't use the tool to create the plug-in. The tool reports error details so you can detect and fix bugs in the plug-in before shipping.

This document describes the iSync Plug-in Maker application and how you use it to develop iSync device plug-ins for Mac OS X. It provides a comprehensive guide to using the tool through each stage of the process: editing, testing, and exporting plug-ins.

iSync Plug-in Maker also includes documentation of numerous manual tests that should be run to fully test your plug-in. The manual tests contain steps that use Apple applications and iSync to modify and sync records—these steps cannot be automated. The manual tests are not described in this document. Read *iSync Manual Test Suite Guide* for information on manual tests.

Note: The Open Mobile Alliance (OMA) Data Synchronization Working Group is developing specifications for data synchronization that includes SyncML technology. This document refers to the data synchronization technology as SyncML.

Who Should Read This Document?

You should read this document if you are a phone manufacturer supplying iSync plug-ins or a third party that builds iSync plug-ins for Mac OS X. This document assumes you are familiar with handheld device technologies such as USB, Bluetooth, and SyncML. It assumes you know how syncing works in general, but not specifically how it works on Mac OS X. You do not need to know how to use the Sync Services framework in Mac OS X to use iSync Plug-in Maker. However, an overview of this technology is useful.

Organization of This Document

Read this chapter first for an overview of the process involved in creating and testing iSync plug-ins:

- [“Overview of Creating Plug-ins”](#) (page 9) describes the process of building and testing iSync plug-ins.

Read these chapters in sequence to learn how to use the iSync Plug-in Maker tool:

- [“Editing Plug-ins”](#) (page 13) explains how to configure the settings for a particular device. Configuration may include writing JavaScript functions as necessary for communicating over USB or Bluetooth using SyncML. You can also import and edit a modem script.

- [“Testing Plug-ins”](#) (page 43) explains how to run the automated test scenarios built into iSync Plug-in Maker. The testing mode helps you QA your plug-in by locating errors in your configuration or device.
- [“Exporting Plug-ins”](#) (page 55) explains how to export your plug-in and modem script for shipping independent of iSync releases.

See Also

Read *iSync Manual Test Suite Guide* for detailed descriptions of the manual tests that you should run before shipping your plug-in.

If you need to write JavaScript functions in iSync Plug-in Maker, read this document:

- *iSync JavaScript Reference* describes a few classes used to write JavaScript functions in iSync Plug-in Maker.

If you need to learn more about what SyncML commands iSync supports, read these document:

- *iSync SyncML Guide* and *iSync SyncML Reference* describes the SyncML commands supported by iSync.

If you need to debug a sync session using Syncropector, read this document:

- *Sync Services Tutorial* provides an introduction to testing syncing applications using Syncropector.

If you need to know more about the schemas used by Apple applications, read this document:

- *Apple Applications Schema Reference*

For an overview of Sync Services on Mac OS X, read these documents:

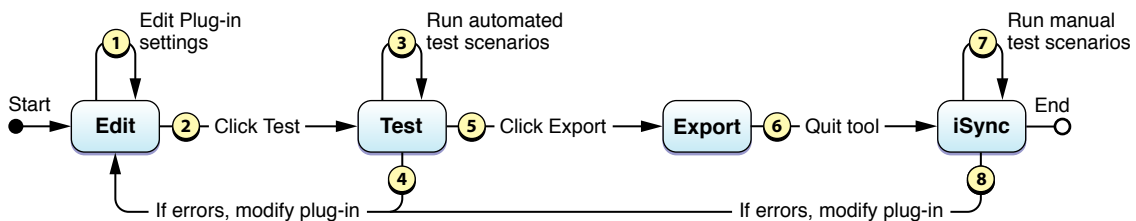
- The chapter *Sync Services Overview* in *Sync Services Programming Guide* describes the Sync Services architecture and core classes.
- The chapter *Managing Your Sync Session* in *Sync Services Programming Guide* describes the phases of syncing: negotiating, pushing, mingling, and pulling. Note that the terms used by Sync Services differ slightly from the terms used by SyncML.

Overview of Creating Plug-ins

You use iSync Plug-in Maker to build and test a plug-in, or just use iSync Plug-in Maker to test an existing plug-in. If you are building a plug-in, you create an iSync Plug-in Maker document and edit settings in it. For both new and existing plug-ins, you run a set of automated tests. When the plug-in passes all the automated tests, you export the plug-in to a package that can be loaded by iSync. Then you run a series of manual tests using Apple applications, the device, and iSync. If errors occur at any time during this process, return to the edit state to modify the plug-in and then test it again. The workflow for testing syncing between a device and iSync on a Macintosh computer is depicted in Figure 1-1.

Note: iSync Plug-in Maker creates plug-ins only for devices that support local SyncML as specified by the Open Mobile Alliance as OMA DS. See *iSync SyncML Reference* for more details on SyncML support.

Figure 1-1 Workflow for creating a plug-in

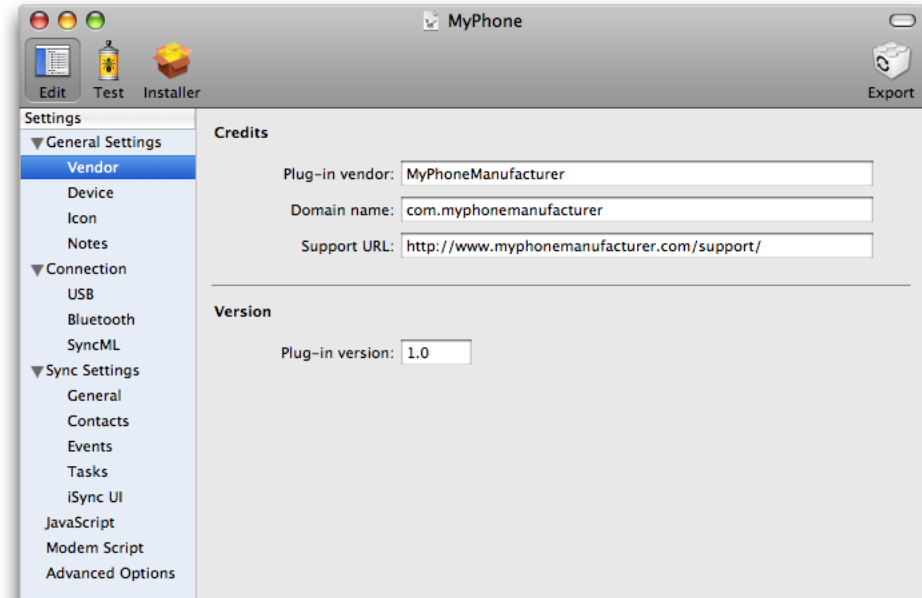


iSync Plug-in Maker is a document-based application—each document window represents a separate iSync Plug-in Maker document, and you can edit multiple documents simultaneously. Create a new plug-in by launching iSync Plug-in Maker. An Untitled document window appears. Edit and test the plug-in by following the steps below. When done, save the iSync Plug-in Maker document by choosing Save or Save As from the File menu. To create an iSync plug-in, export the document choosing the appropriate format.

1. Editing

You begin editing by launching the iSync Plug-in Maker tool and clicking the Edit button in the toolbar shown in Figure 1-2. (The Edit mode is selected by default.) You use the outline view on the left to move among all the settings you need to configure a device. These device settings are described in detail in “Editing Plug-ins” (page 13).

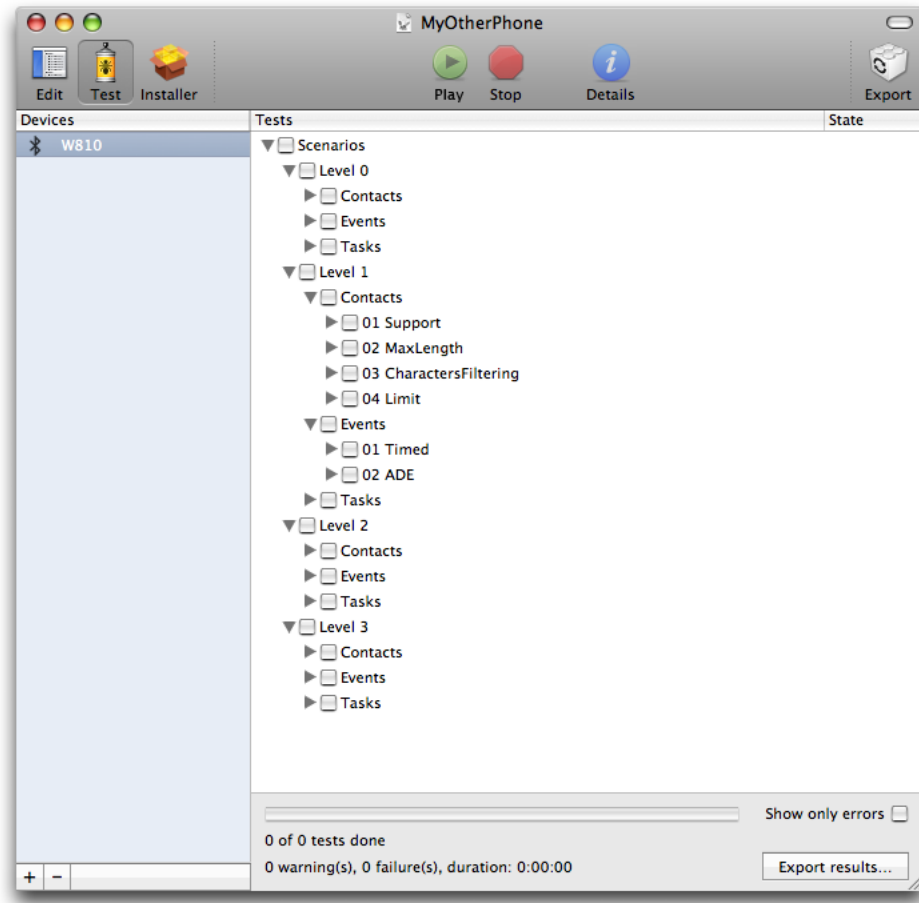
Figure 1-2 Editing plug-ins



2. Testing

You begin testing by clicking the Test button in the toolbar as shown in Figure 1-3. You add your device and run a number of automated test scenarios. Your device needs to be connected to your computer to run these tests. The testing phase is covered in “Testing Plug-ins” (page 43).

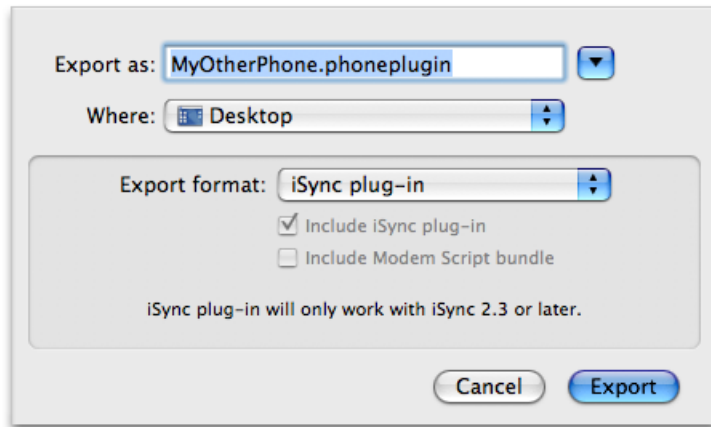
Figure 1-3 Testing plug-ins



3. Exporting

Once your plug-in passes all the automated tests, you export it by clicking the Export button in the toolbar as shown in [Figure 1-4](#) (page 12). How to export a plug-in and package options are covered in “Exporting Plug-ins.”

Figure 1-4 Exporting plug-ins



4. Manual Testing

Your plug-in is not complete unless it passes manual tests that involve using Apple applications and iSync to change and sync records on the computer.

This document does not describe manual testing. Read *iSync Manual Test Suite Guide* for detailed descriptions of the manual tests that you should run before shipping your plug-in.

Editing Plug-ins

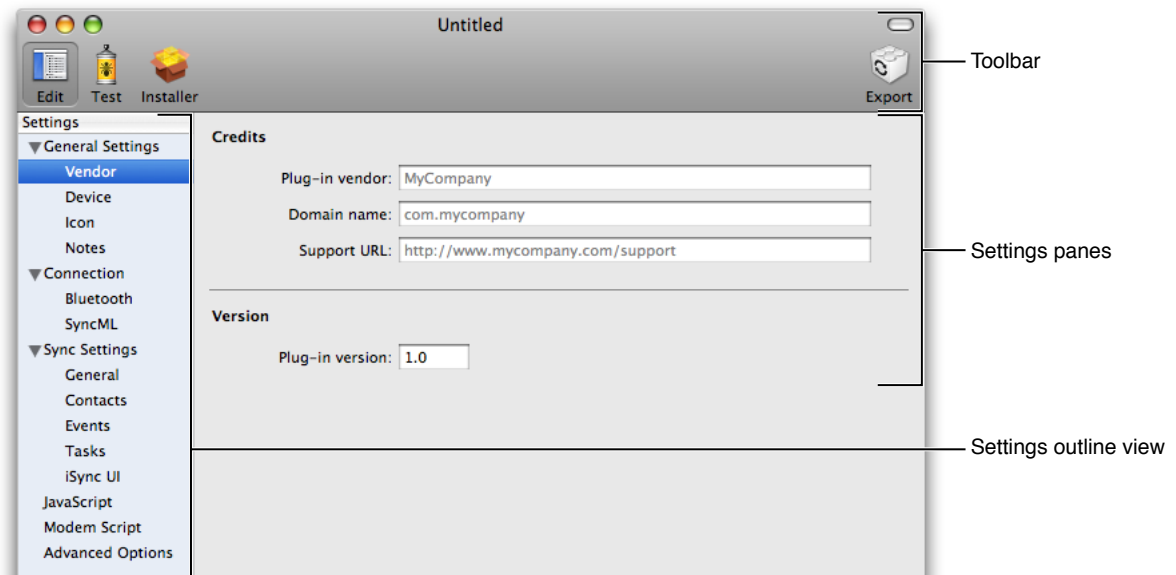
This chapter describes how to edit and configure a plug-in.

First create a new document by launching iSync Plug-in Maker; an Untitled document window appears as shown in Figure 2-1. If iSync Plug-in Maker is already running, choose New from the File menu. The File menu contains the typical menu items used to manipulate a document. For example, choose File > Save to save an iSync Plug-in Maker document.

By default the edit mode is selected. If not, click the Edit button on the toolbar to begin modifying the plug-in. You can return to the edit mode at any time during the process of developing a plug-in. For example, return to this mode after discovering bugs while testing.

Edit a plug-in by first selecting a category from the Settings outline view that appears on the left. The pane on the right displays the settings for the selected category. Fill in the form on the right to configure the group of settings. The following sections describe these settings in detail.

Figure 2-1 Edit mode



General Settings

The settings in this category apply to all types of devices.

Vendor

The Vendor pane contains settings pertaining to vendor information and versioning, as shown in Figure 2-2. The tables following the figure describe the Vendor settings and contain examples.

Figure 2-2 Vendor pane

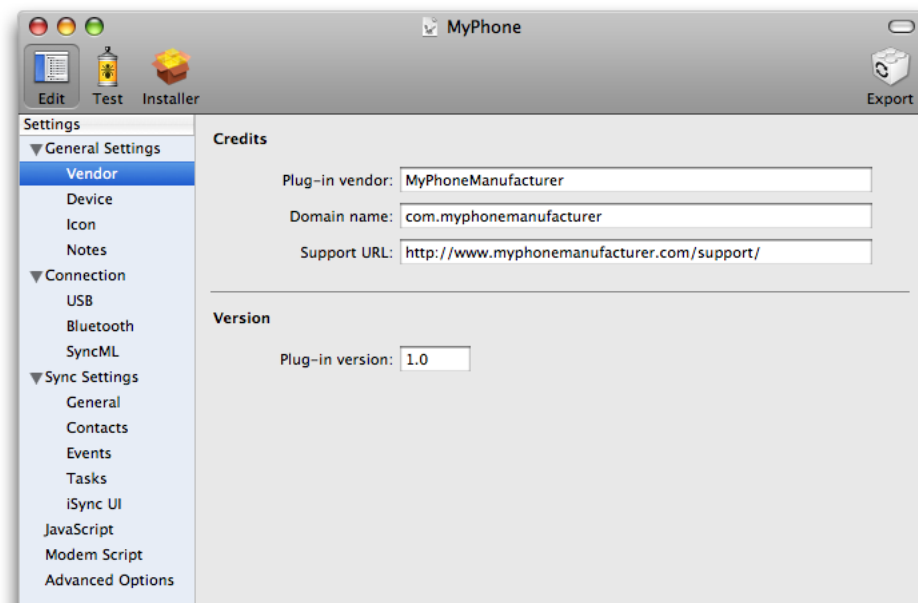


Table 2-1 Vendor > Credits settings

| Property | Discussion |
|----------------|--|
| Plug-in vendor | A human-readable name of the company that created this plug-in. |
| Domain name | A reverse-DNS style identifier for the company that created this plug-in—for example, <code>com.apple</code> . |
| Support URL | A URL for the company's support page—for example, <code>http://support.apple.com</code> . |

Table 2-2 Vendor > Version settings

| Property | Discussion |
|-----------------|---|
| Plug-in version | Specifies the plug-in release version number. For example, this version number may appear in the Get Info window in the Finder. |

Device

The Device pane contains settings that are specific to the device, as shown in Figure 2-3.

Connect a USB device to your computer or turn on a Bluetooth device and click the Get Device Info button at the bottom of this pane to automatically fill in some fields with information stored on the device. If you select a Bluetooth device that is not paired, iSync Plug-in Maker pairs the device to access the information. You may be prompted to enter a passkey on the phone and the computer to complete the paring process.

Typically, the GMM string in the AT Identification pane identifies the model and the GMI string identifies the manufacturer, but the device can return any string for these values. For example, the GMI string on Motorola phones might be “Motorola CE, Copyright 2000.”

The tables following the figure describe the Device settings.

Figure 2-3 Device pane

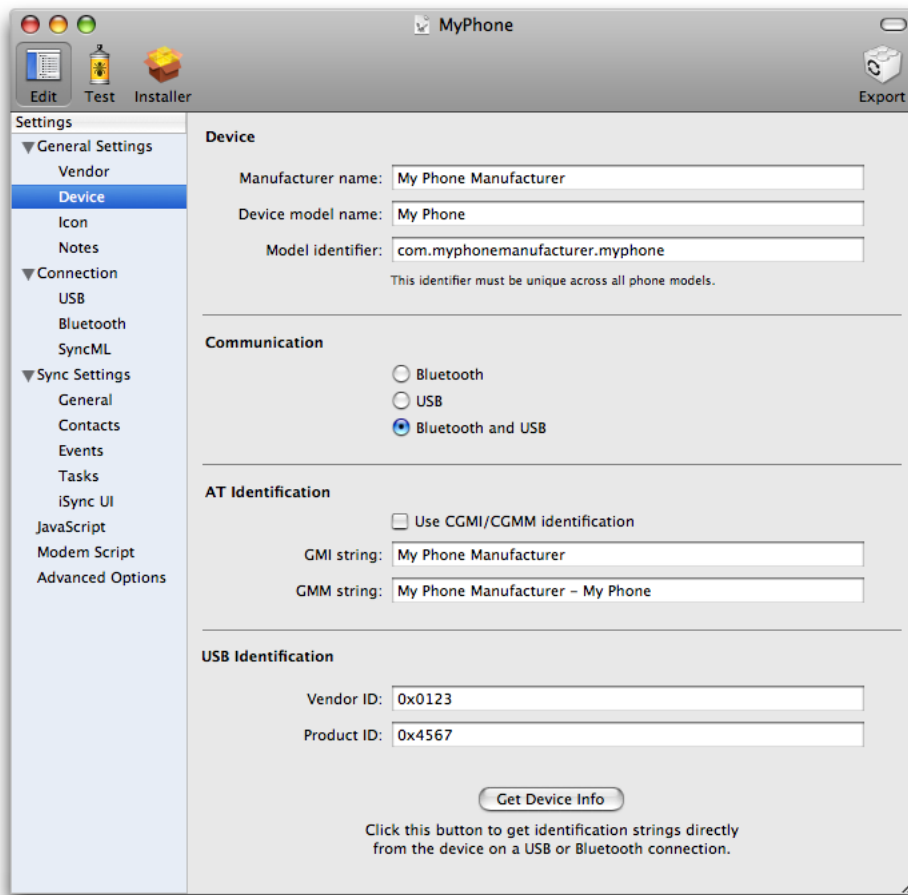


Table 2-3 Device > Device settings

| Property | Discussion |
|-------------------|---|
| Manufacturer name | A human-readable name of the manufacturer of this device or class of devices. |
| Device model name | A human-readable name describing the model or models supported by this plug-in. |

| Property | Discussion |
|------------------|--|
| Model identifier | A reverse-DNS style identifier used by the device manufacturer. Typically, the model identifier is more precise than the manufacturer name and device model name—it may provide details such as a firmware revision. The string should contain the device manufacturer name, model name, and optionally other information following this format: <code>com.<device manufacturer>.<device model>.<revision number></code> . |

Table 2-4 Device > Communication settings

| Property | Discussion |
|---------------|---|
| Communication | Specifies how the device communicates to the computer: <ul style="list-style-type: none"> ■ Bluetooth Device supports syncing over Bluetooth only. ■ USB Device supports syncing over USB only. ■ Bluetooth and USB Device supports syncing over both Bluetooth and USB. |

Table 2-5 Device > AT Identification settings

| Property | Discussion |
|------------------------------|--|
| Use CGMI/CGMM identification | Identify the device using CGMI and CGMM strings instead of GMI and GMM strings. |
| GMI string | Identifies the device's manufacturer. iSync chooses this plug-in if the GMI and GMM strings match the values returned by the device. |
| GMM string | Identifies the device's model. iSync chooses this plug-in if the GMI and GMM strings match the values returned by the device. You can optionally specify multiple GMM strings using this format: <code>[[[first_string][second_string][third_string]]]</code> For example, a Samsung-X820 plug-in may set this to <code>[[[SGH-X820][SGH-X820E]]]</code> . |

Table 2-6 Device > USB Identification settings

| Property | Discussion |
|-----------|--|
| Vendor ID | The USB device vendor identifier. Used to identify the device before sending GMI/GMM AT commands to get the specific model. You can optionally specify multiple vendor identifiers using this format: <code>[[[first_vendor][second_vendor][third_vendor]]]</code> |

| Property | Discussion |
|------------|--|
| Product ID | <p>The USB device product identifier. Used to identify the device before sending GMI/GMM AT commands to get the specific model.</p> <p>You can optionally specify multiple product identifiers using this format: <code>[[[first_product]][second_product]][third_product]]</code></p> <p>For example, you may set this to <code>[[0x1234][0x2345][0x3456]]</code>.</p> |

Icon

The Icon pane allows you to set icons that represent the device in the iSync user interface, as shown in Figure 2-4. Drop the image files with the corresponding resolution on the image views shown in Figure 2-4 to replace the generic device representations. Your icons should have transparent background and to support HiDPI screens, be available in all the resolutions that appear on this pane.

Figure 2-4 Icon pane

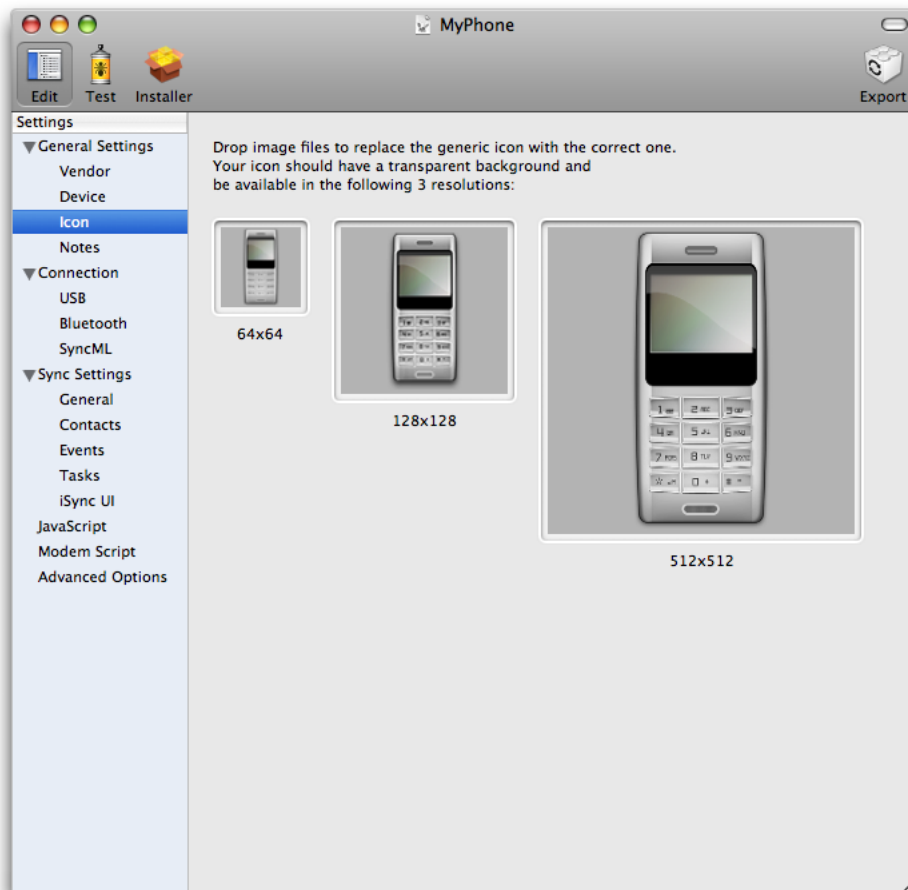
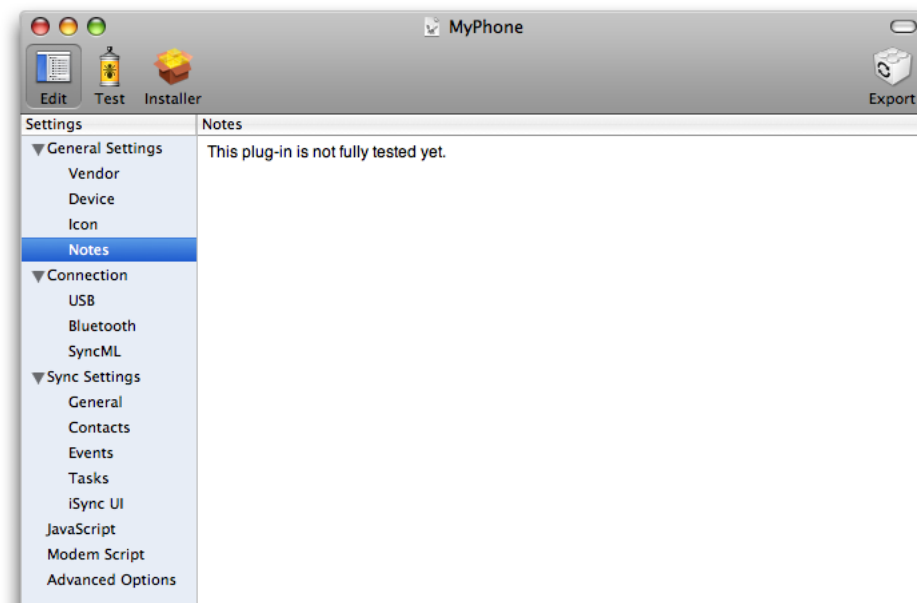


Table 2-7 Icon settings

| Property | Discussion |
|----------|--|
| 64x64 | A 64x64 pixel wide icon used to represent the device in iSync. Change the icon by double-clicking the icon or dragging an image from a Finder window or the desktop to this box. The icon should have a transparent background and will be resized (if larger or smaller) to 64x64. This property is mandatory. |
| 128x128 | A 128x128 pixel wide icon used to represent the device in iSync. Change the icon by double-clicking the icon or dragging an image from a Finder window or the desktop to this box. The icon should have a transparent background and will be resized (if larger or smaller) to 128x128 pixels. This property is mandatory. |
| 512x512 | A 512x512 pixel wide icon used to represent the device in iSync. Change the icon by double-clicking the icon or dragging an image from a Finder window or the desktop to this box. The icon should have a transparent background and will be resized (if larger or smaller) to 512x512 pixels. This property is mandatory. |

Notes

The Notes pane provides a text box for you to insert notes about the plug-in, as shown in Figure 2-5. These notes are visible only in iSync Plug-in Maker—they are not included when exporting the plug-in.

Figure 2-5 Notes pane

Connection Settings

The USB and Bluetooth options in this section are appear if you specify that the device supports them in the Device pane.

USB

The USB pane covers USB-specific connection settings, as shown in Figure 2-6. The tables following the figure describe the USB settings and discuss options.

Figure 2-6 USB pane

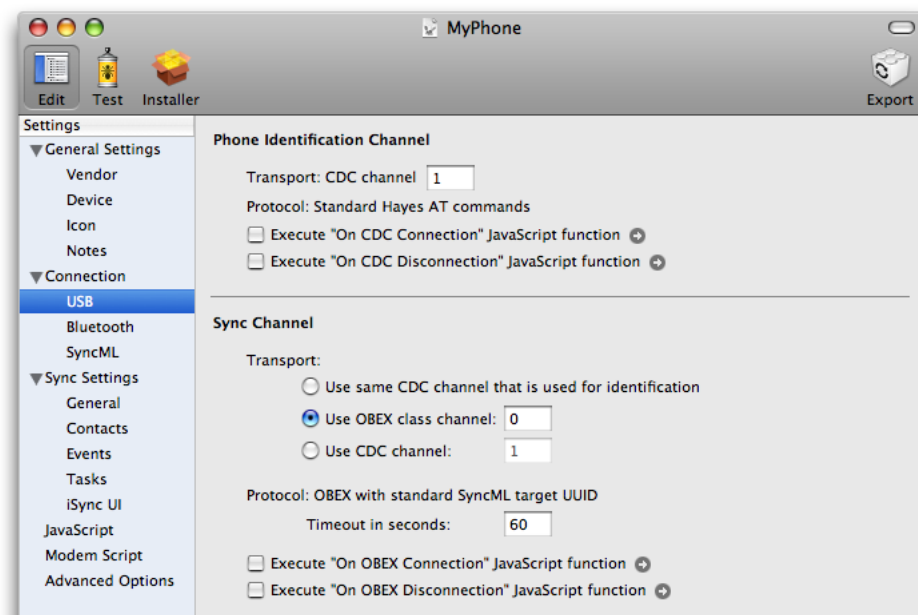


Table 2-8 USB > Phone Identification Channel settings

| Property | Discussion |
|---|---|
| Transport: CDC channel | Specifies the CDC channel used by USB messages. |
| Protocol | Specifies that the protocol used to identify the device is "Standard Hayes AT commands." |
| Execute "On CDC Connection" JavaScript function | Specifies a JavaScript function to execute before sending AT commands to the device. Typically, you use a connection function if the device needs to be sent specific AT commands before sending the AT identification commands (AT+GMI / AT+GMM). Click the arrow to edit the function. See "JavaScript" (page 36) for details. |

| Property | Discussion |
|--|---|
| Execute "On CDC Disconnection" JavaScript function | Specifies a JavaScript function to execute after sending AT commands to the device. You can use a disconnection function if you need to return a device to its original state. Click the arrow to edit the function. See "JavaScript" (page 36) for details. |

Table 2-9 USB > Sync Channel settings

| Property | Discussion |
|---|--|
| Transport | Specifies the channel used to sync over USB. Options are: <ul style="list-style-type: none"> ■ Use the same CDC channel that is used for identification ■ Use specified OBEX class channel ■ Use specified CDC channel |
| Protocol | Specifies that the protocol used for syncing over USB is "OBEX with standard SyncML target UUID." |
| Timeout in seconds | Specifies the time in seconds that iSync waits between sending a message to the device and receiving a response. If the timeout expires, iSync aborts all operations and displays an error to the user. |
| Execute "On OBEX Connection" JavaScript function | Specifies a JavaScript function to execute before sending an OBEX connect command to the device. Typically, you use a connection function if you need to enable SyncML communication with a device. Click the arrow to edit the function. See "JavaScript" (page 36) for details. |
| Execute "On OBEX Disconnection" JavaScript function | Specifies a JavaScript function to execute after sending an OBEX disconnect command to the device. You can use a disconnection function if you need to return a device to its original state. Click the arrow to edit the script. See "JavaScript" (page 36) for details. |

Bluetooth

The Bluetooth pane covers Bluetooth-specific connection settings, as shown in Figure 2-7. The tables following the figure describe the Bluetooth settings and discuss options.

Figure 2-7 Bluetooth pane

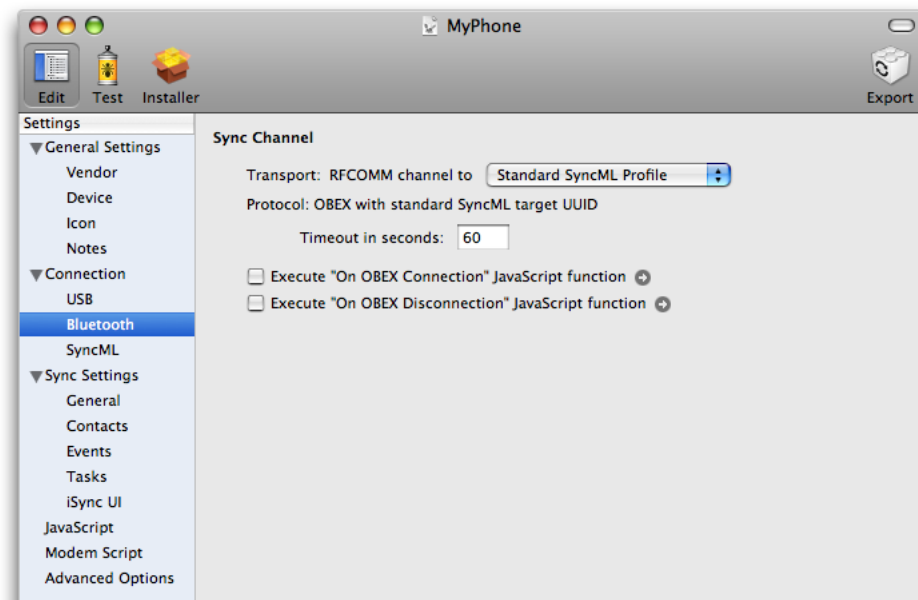


Table 2-10 Bluetooth > Sync Channel settings

| Property | Discussion |
|---|--|
| Transport | Specifies the RFCOMM channel used by Bluetooth messages. The options are: <ul style="list-style-type: none"> ■ Standard SyncML Profile ■ Serial Profile |
| Protocol | Specifies that the protocol used for syncing over Bluetooth is "OBEX with standard SyncML target UUID." |
| Timeout in seconds | Specifies the time in seconds that iSync waits between sending a message to the device and receiving a response. If the timeout expires, iSync aborts all operations and displays an error to the user. |
| Execute "On OBEX Connection" JavaScript function | Specifies a JavaScript function to execute before sending an OBEX connect command to the device. Typically, you use a connection function if you need to enable SyncML communication with a device. Click the arrow to edit the function. See "JavaScript" (page 36) for details. |
| Execute "On OBEX Disconnection" JavaScript function | Specifies JavaScript function to execute after sending an OBEX disconnect command to the device. You can use a disconnection function if you need to return a device to its original state. Click the arrow to edit the function. See "JavaScript" (page 36) for details. |

SyncML

This pane covers SyncML-specific settings, as shown in Figure 2-8. The tables following the figure describe the SyncML settings and discuss options.

Figure 2-8 SyncML pane

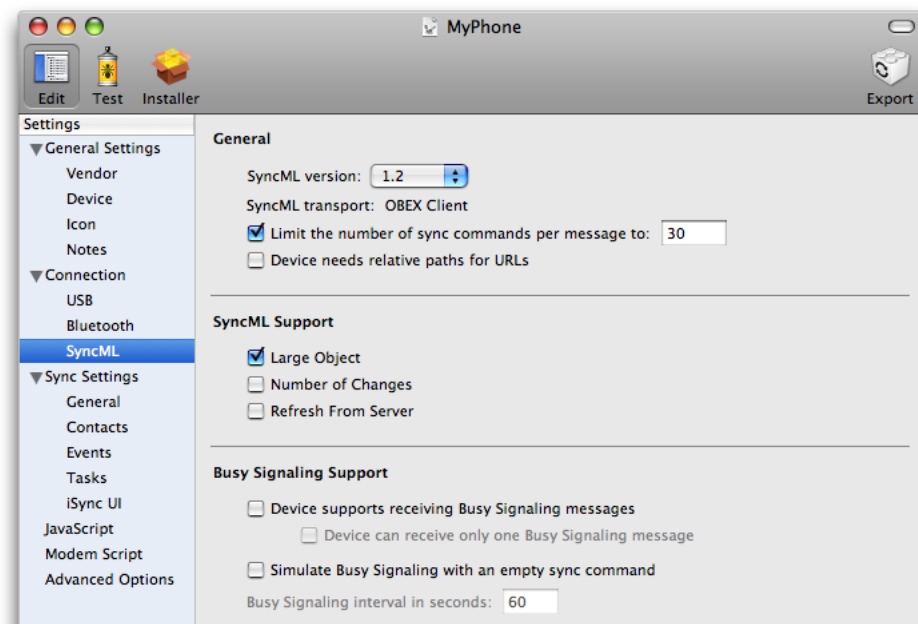


Table 2-11 SyncML > General settings

| Property | Discussion |
|--|---|
| SyncML version | Specifies the version of SyncML supported by the device. See <i>iSync SyncML Reference</i> for details on SyncML support. |
| SyncML transport | Specifies that the SyncML transport mechanism is "OBEX Client." |
| Limit the number of sync commands per message to | Specifies the maximum number of commands allowed per SyncML message. |
| Device needs relative paths for URLs | The device requires relative rather than absolute URL paths. |

Table 2-12 SyncML > SyncML Support settings

| Property | Discussion |
|--------------|--|
| Large Object | Device supports the ability to send and receive objects that exceed the size limit of a single message by splitting the object into several messages. For example, a contact with a picture might exceed the size limit of a single message. |

| Property | Discussion |
|---------------------|--|
| Number of Changes | Device tells iSync the total number of changes it has before syncing. This allows iSync to display a more accurate progress indicator—for example, displays a message that “x of y changes” are received. The information is also sent to the device. |
| Refresh From Server | <p>If the device supports a Refresh From Server sync, then iSync resets as follows:</p> <ul style="list-style-type: none"> ■ The device removes all its records. ■ iSync sends all its records to the device. <p>During this sync mode, the device only pulls records—it does not send any changes to iSync.</p> <p>If the device does not support refresh sync, then iSync resets as follows:</p> <ul style="list-style-type: none"> ■ iSync negotiates a slow sync with the device. ■ The device sends all its records to iSync. ■ iSync sends deletions for each record it receives. ■ iSync sends additions for all its records. <p>The reset takes much longer when the device does not support refresh sync.</p> |

Table 2-13 SyncML > Busy Signaling Support settings

| Property | Discussion |
|--|--|
| Device supports receiving Busy Signaling messages | <p>iSync sends Busy Signaling messages to the device when it is busy so the device does not timeout.</p> <p>Typically, iSync needs to wait after pulling records from the device during the mingling phase because other applications may join the sync session—for example, .Mac might be syncing and have changes to push to the device.</p> |
| Device can receive only one Busy Signaling message | Device supports only a single Busy Signaling message from iSync. iSync cannot request the device to wait more than once. |
| Simulate Busy Signaling with an empty sync command | <p>iSync sends an empty sync command periodically when it is busy.</p> <p>Select this option if the device does support Busy Signaling or only accepts a single Busy Signaling message. Otherwise, the device may timeout during a sync.</p> |
| Busy Signaling interval in seconds | The time interval in seconds between the time iSync sends Busy Signaling messages or empty sync commands to simulate Busy Signaling. |

Sync Settings

The Sync Settings category covers settings pertaining to iSync and syncing behavior such as the database, vCal/vCard support, and iSync user interface settings.

Read “Supported Properties” (page 31) for how to edit the supported field settings on the Contacts, Events, and Tasks panes.

General

The General pane covers settings common to all syncing devices as shown in Figure 2-9. The options in this pane are discussed in the following tables.

Figure 2-9 General pane

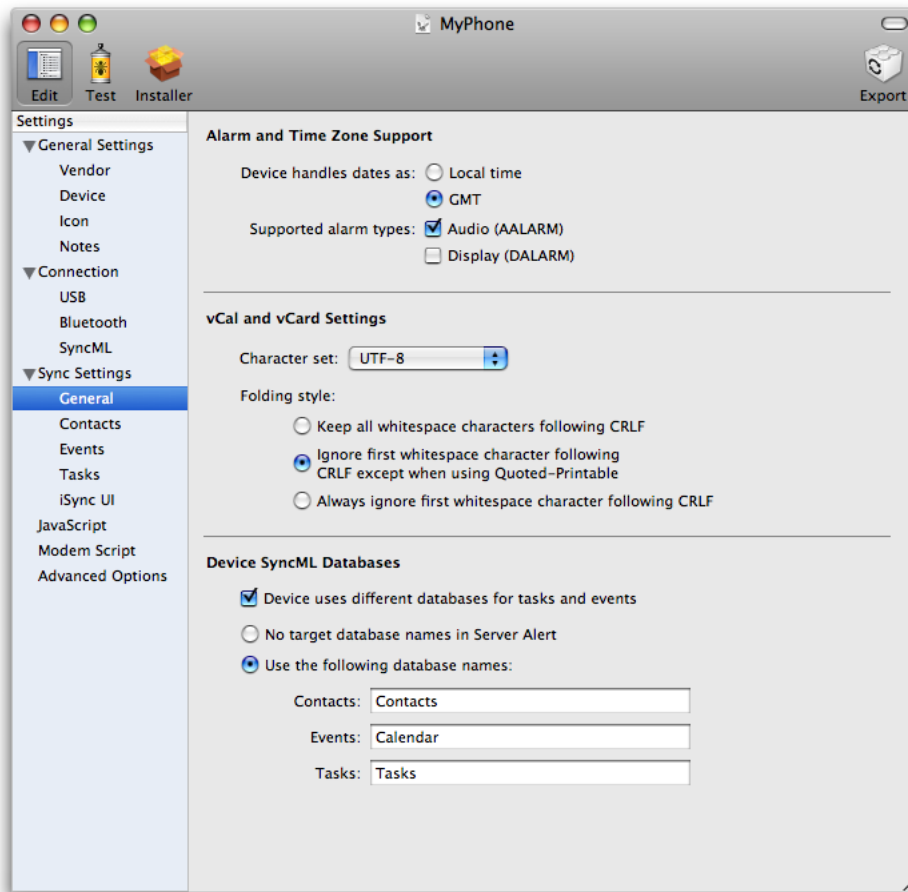


Table 2-14 General > Alarm and Time Zone Support settings

| Property | Discussion |
|-------------------------|--|
| Device handles dates as | <p>Specifies the date formats supported by the device. The options are:</p> <ul style="list-style-type: none"> ■ Local time ■ GMT <p>For example, if the date is May 5, 2004 10:05:00 AM in iCal, with a GMT+2 system time zone, and the device handles only local time, then iSync sends 20040505T1000500 to the device. If the device handles GMT, then iSync sends 20040505T080500Z to the device. The “Z” in the format indicates GMT.</p> |
| Supported alarm types | <p>Specifies the alarm types supported by the device. The options are:</p> <ul style="list-style-type: none"> ■ Audio (AALARM) ■ Display (DALARM) |

Table 2-15 General > vCal and vCard settings

| Property | Discussion |
|---------------|---|
| Character set | <p>Specifies the character set supported by the device in vCal and vCard records. The options are:</p> <ul style="list-style-type: none"> ■ UTF-7 ■ UTF-8 ■ ISO-8859-1 |
| Folding style | <p>Specifies the format of property values that are folded on multiple lines. The options are:</p> <ul style="list-style-type: none"> ■ Keep all whitespace characters following CRLF <p>All the whitespace characters following a CRLF character sequence are part of the property value even if the property value is encoded in Quoted-Printable. (CRLF represents a character sequence where CR is Carriage Return and LF is Line Feed. Quoted-Printable is an encoding used when there are non-ASCII characters in a property value.)</p> ■ Ignore first whitespace character following CRLF except when using Quoted-Printable <p>The first whitespace following a CRLF character sequence is not part of the property value and should be ignored except when the property value is encoded in Quoted-Printable.</p> ■ Always ignore first whitespace character following CRLF <p>The first whitespace following a CRLF sequence is not part of the property value and must be ignored, even if the property value is encoded in Quoted-Printable.</p> |

Table 2-16 General > Device SyncML Databases Settings

| Property | Discussion |
|--|---|
| Device uses different databases for tasks and events | iSync needs to know if a device stores tasks and events in separate databases, so it can properly sync all the relevant databases. |
| Databases Names | <p>Select one of these database options:</p> <ul style="list-style-type: none"> ■ No target database names in Server Alert <p>No target database names should be included in the Server Alert message sent to the device. (Server Alert is the first SyncML message sent to the device that begins a sync session.) Passing the database names is optional. Typically, you select this option if the user can change the database names on the device.</p> ■ Use the following database names <p>Device requires database names in the Server Alert message. Typically, you select this option and enter alternative database names if the device uses different database names than iSync.</p> |

Contacts

The Contacts pane covers settings specific to the Contacts database, as shown in Figure 2-10. The options in the Contacts pane are discussed in the tables following the figure. Read [“Supported Properties”](#) (page 31) for how to edit the Supported Properties section.

Figure 2-10 Contacts pane

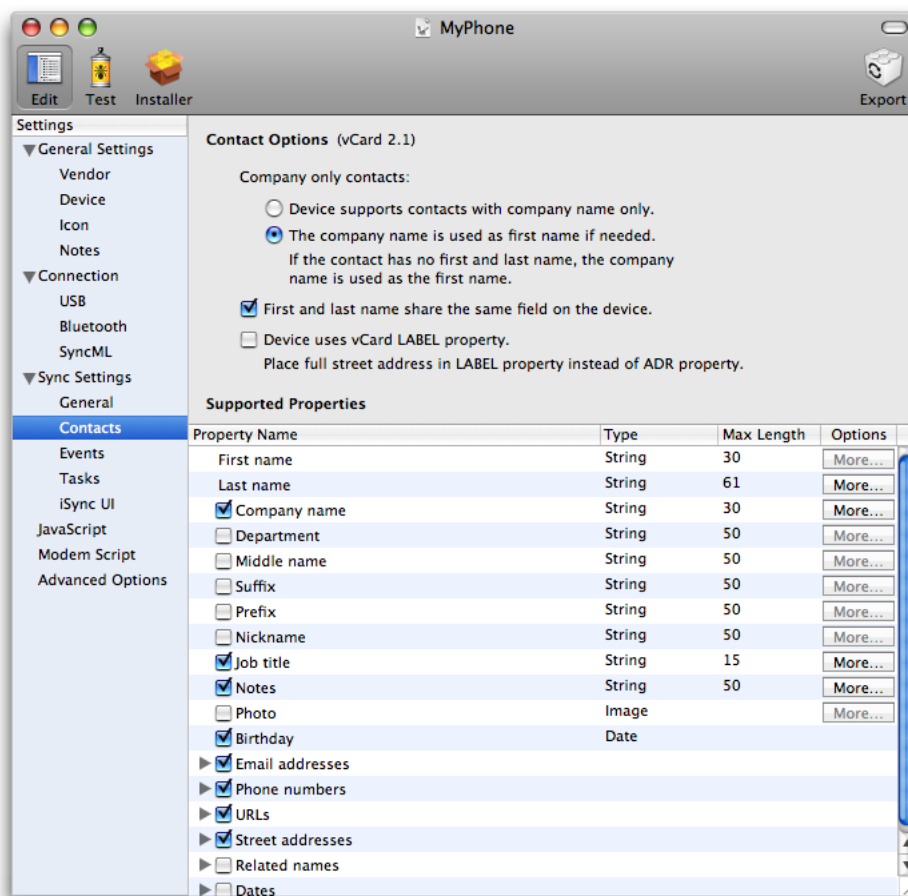


Table 2-17 Contacts > Contact Options settings

| Property | Discussion |
|--|--|
| Company only contacts | <p>Select one of these company name options:</p> <ul style="list-style-type: none"> ■ Device supports contacts with company name only Device properly displays contacts if they have a company name but no first and last name. ■ The company name is used as the first name if needed iSync sends the company name as the first name so the contact is displayed correctly on the device. Select this option if the device doesn't properly display contacts that have a company name but no first and last name. |
| First and last name share the same field on the device | Device doesn't use a separate field for the first and last name. |

| Property | Discussion |
|----------------------------------|---|
| Device uses vCard LABEL property | iSync places the full Street Address in the vCard LABEL property instead of the ADR property. |

Events

The Events pane covers settings specific to the Events database, as shown in Figure 2-11. The options in this pane are discussed in the tables following the figure. Read “Supported Properties” (page 31) for how to configure supported properties.

Figure 2-11 Events pane

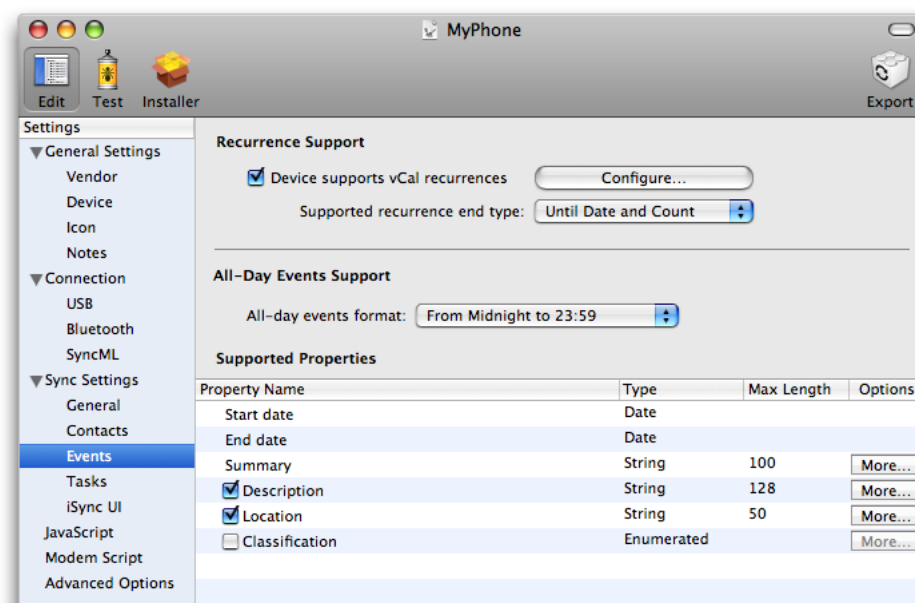


Table 2-18 Events > Recurrence Support settings

| Property | Discussion |
|----------------------------------|--|
| Device supports vCal recurrences | Device supports recurrent events as defined by the vCal specification. If the device doesn't support the entire specification, click the Configure button to set the recurrence options, which are shown in Figure 2-12 and explained below. |
| Supported recurrence end type | Options are: <ul style="list-style-type: none"> ■ Until Date and Count ■ Until Date Only ■ Count Only |

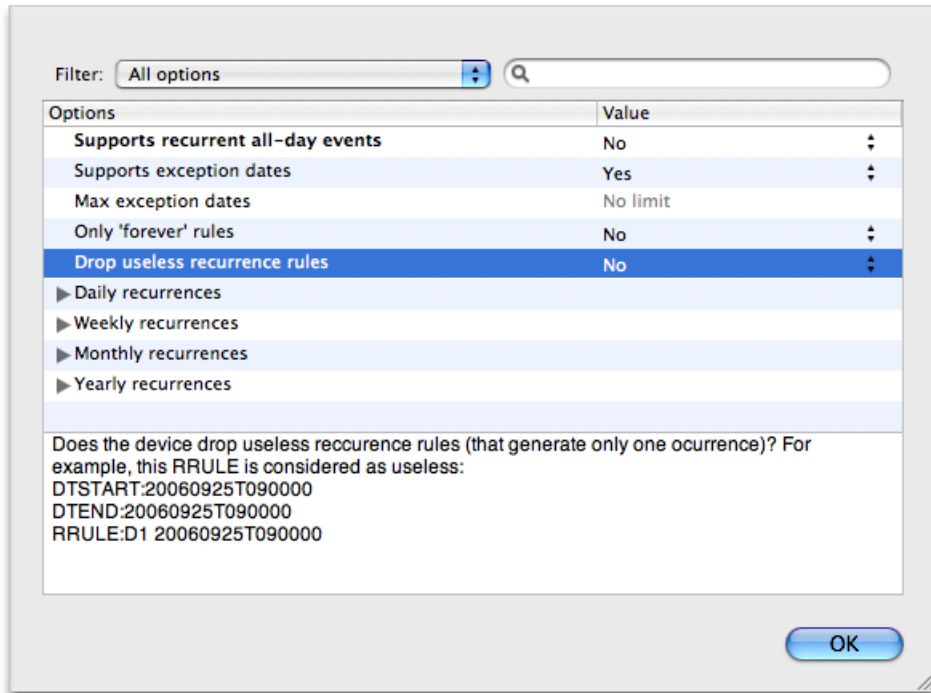
Table 2-19 Events > All-Day Events Support settings

| Property | Discussion |
|-----------------------|---|
| All-day events format | <p>All-day event format options are:</p> <ul style="list-style-type: none"> ■ OMA Formatting For example, DTSTART: 20060521T000000 and DTEND: 20060521T240000 are formatted in OMA. ■ From Midnight to Midnight For example, DTSTART: 20060521T000000 and DTEND: 20060522T000000 are formatted from midnight to midnight. ■ Use CATEGORIES Property Tags all-day events with a specific property. If you select this format, the property value used to tag the events can be specified in the Advanced Options > Databases settings > Events database settings. ■ From Midnight to 23:59 For example, dates between DTSTART: 20060521T000000 and DTEND: 20060521T235900. |

If the device supports recurrent events then select the "Device supports vCal recurrences" option in the Recurrence Support section of this pane. Then click the Configure button to set the recurrence options. A sheet appears as shown in Figure 2-12. Use this sheet to configure the details of what recurrence rules the device supports.

The table and layout on the recurrence sheet is similar to the Advanced Options pane. Select a row in the table to display a description of the option in the view at the bottom of this sheet. If a value is one of several options, select the appropriate option from the corresponding pop-up menu. Otherwise, double-click in a cell in the Value column and type in the value.

Figure 2-12 Recurrence sheet



Tasks

The Tasks pane covers settings specific to the Tasks database, as shown in Figure 2-13. The options in these panes are discussed in the tables following the figure. Read “Supported Properties” (page 31) for how to configure supported properties.

Figure 2-13 Tasks pane

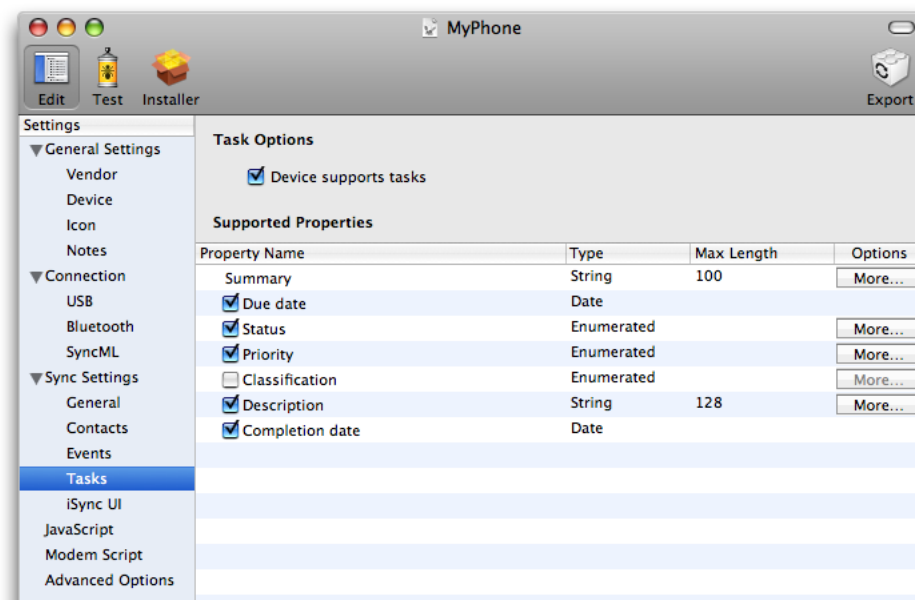


Table 2-20 Tasks > Task Options Settings

| Property | Discussion |
|-----------------------|---|
| Device supports tasks | Device supports tasks in addition to events in the Calendars schema. Tasks are the same as To Do items in vCal. |

Supported Properties

Each of the schema panes—the Contacts, Events, and Tasks panes—contains a Supported Properties section at the bottom of the pane that allows you to turn on or off properties of records that you want to sync. You can also configure the length of string values and configure other property-specific options. Some of the options pertain to reformatting records that are pushed to the device. In summary, you can use the Supported Properties section to specify a subset of the standard Apple schemas that the device supports. Only the properties and values you specify in the Supported Properties section are synced to the device.

The Supported Properties section contains a table like the one shown in Figure 2-13. The Property Name column contains the names of the properties of each corresponding entity defined in an Apple schema. For example, “First name” and “Last name” are properties of the Contact entity in the Contacts schema. When you create a new iSync Plug-in Maker document, all of the properties are enabled representing a full-featured device. Deselect the properties you want to disable. Some properties are mandatory and therefore, cannot be disabled.

Some properties are relationships to other entities. For example, the “Street addresses” and “Related name” properties are to-many relationships from the Contact entity to the “Street Address” and “Related Name” entities respectively. Click the triangle to the left of an option to view the properties of a relationship. For example, click the “Street addresses” property in the Contacts pane to reveal and configure the City, State, and “Postal code” properties as shown in Figure 2-14.

Note: iSync maps the Apple schema entities to the corresponding vCard and vCal properties. The tooltip for a property name in the Supported Properties table displays the corresponding vCard or vCal property. There is not always a one-to-one mapping between an Apple schema entity and a vCard and vCal property.

Figure 2-14 Street addresses properties

| Property Name | Type | Max Length | Options |
|---|--------|------------|---------|
| <input type="checkbox"/> Street | String | 25 | More... |
| <input checked="" type="checkbox"/> Postal code | String | 25 | More... |
| <input checked="" type="checkbox"/> City | String | 25 | More... |
| <input checked="" type="checkbox"/> State | String | 25 | More... |
| <input checked="" type="checkbox"/> Country | String | 25 | More... |
| <input type="checkbox"/> P.O. Box | String | 500 | More... |
| <input type="checkbox"/> Extended Address | String | 500 | More... |
| Address type | Label | | More... |

The Type column in the Supported Properties table displays the property type for each attribute—relationships do not have an attribute type. For example, an attribute type might be String, Date, or Image. If the type is Label, the attribute is one of several values, as in an Address Book label, such as “work,” “home,” or “other.”

The Max Length column displays the maximum length of a string field—specifically the maximum number of characters in a String value. Double-click the cell in this column to change the maximum number of characters supported by the device. iSync reformats records pushed to the device to fit in the specified string size.

Click the More button in the Options column to configure more details about a field. For example, click the More button for an attribute of type Label to select the possible labels the device supports. A More button is disabled if an attribute has no options or is not enabled. Relationships do not have a More button. The following sections describe the type-specific sheets that appear when you click the More button.

String Types

Figure 2-15 shows more details about a String attribute type. This sheet allows you to control the format of string attributes that are pushed to a device.

Select the “Allow all characters” option if there are no restrictions on the content of a string attribute.

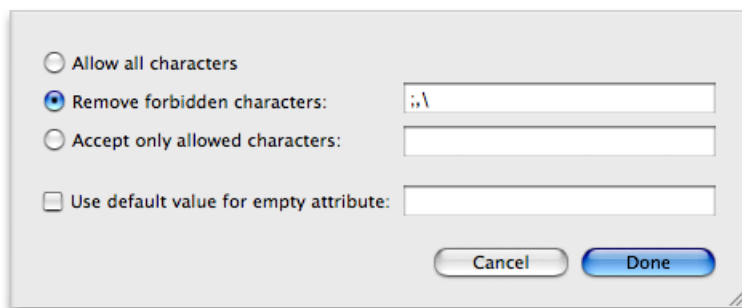
Select “Remove forbidden characters” if you want selected characters removed from a string pushed to the device. If you select this option, enter the forbidden characters, without any separators, in the adjacent text field. For example, enter ; . , to remove semicolons, periods, and commas from the string.

Select “Accept only allowed characters” if you want to limit the characters in a string to those entered in the adjacent text field.

Select “Use default value for empty attribute” if you want to specify an alternate string for an empty attribute. If this option is selected, enter the alternate string in the adjacent text field.

Click Done to apply your changes or Cancel to revert to the previous settings.

Figure 2-15 String More button sheet



Label Types

Figure 2-16 shows the labels of an attribute of type Label for the “Email address type” attribute of an Email Address entity. The table at the top of this sheet contains the supported Mac labels and corresponding vCard values.

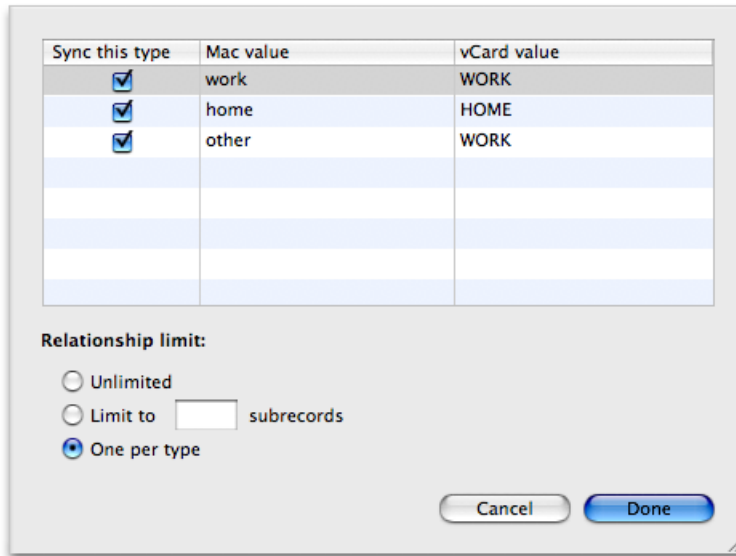
You use this sheet to specify the supported labels and may limit the number of email addresses or phone numbers allowed on the device. Click a checkbox in the “Sync this type” column to disable or enable a label displayed in the “Mac value” column. Only records with enabled labels are synced to the device.

You can also use this sheet to change the mapping of Mac labels to vCard types—for example, vCard phone types such as HOME, WORK, CELL, and FAX. Change a mapping by double-clicking a cell in the “vCard value” column and typing in a vCard type. You can leave a vCard value blank if the device doesn’t support the Mac value and you want to sync the record without syncing the vCard type.

You can map multiple labels to a single vCard type as shown in Figure 2-16 where both the `work` and `other` labels are mapped to the `WORK` vCard type. When multiple labels are mapped to the same type, the order of the rows in this sheet determines the value that is used when transforming device records to computer records. For example, if a phone number is created on the device with a vCard value of `WORK`, it will be mapped to the computer label `work` because it appears before `other` in the table on the Label More button sheet. Drag and drop the rows in this table to change the order.

Use the controls below the table to limit the number of records in the corresponding to-many relationship—for example, limit the number of targets of the to-many relationships from Contact to Phone Number or Contact to Email Address. In other words, you can limit the number of phone numbers or email addresses per contact that are synced to the device. Select the Unlimited option if the device has no limits. Select the “Limit to” option and enter the number of records the device supports for the corresponding to-many relationship. Select the “One per type” option if the device only supports one record per vCard type.

Click Done to apply your changes or Cancel to revert to the previous settings.

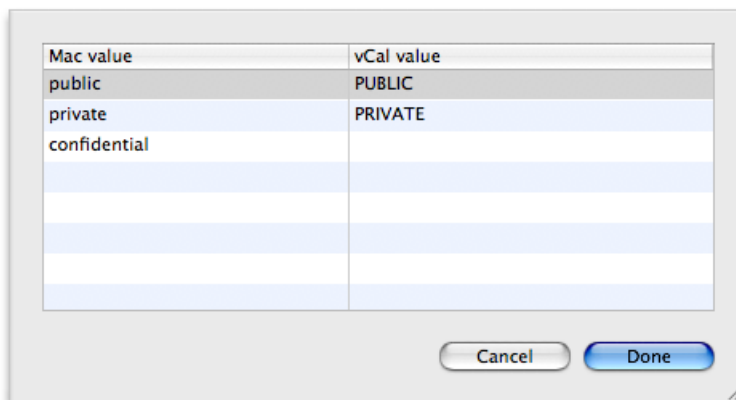
Figure 2-16 Label More button sheet

Enumerated Types

Figure 2-17 shows an Enumerated attribute type details sheet for the Tasks database Status field. The table at the top of this sheet behaves similar to the table at the top of the Label More button sheet, except that you can not disable Mac values.

Change a mapping from a Mac value to a vCal value by double-clicking a cell in the “vCard value” column and typing in a vCard value. You can leave a vCard value blank if the device doesn’t support the Mac value and you want to sync the record without syncing the vCard value. You can map multiple Mac values to the same vCal value. Drag and drop a row to change the search order for a Mac value when transforming vCal records to computer records.

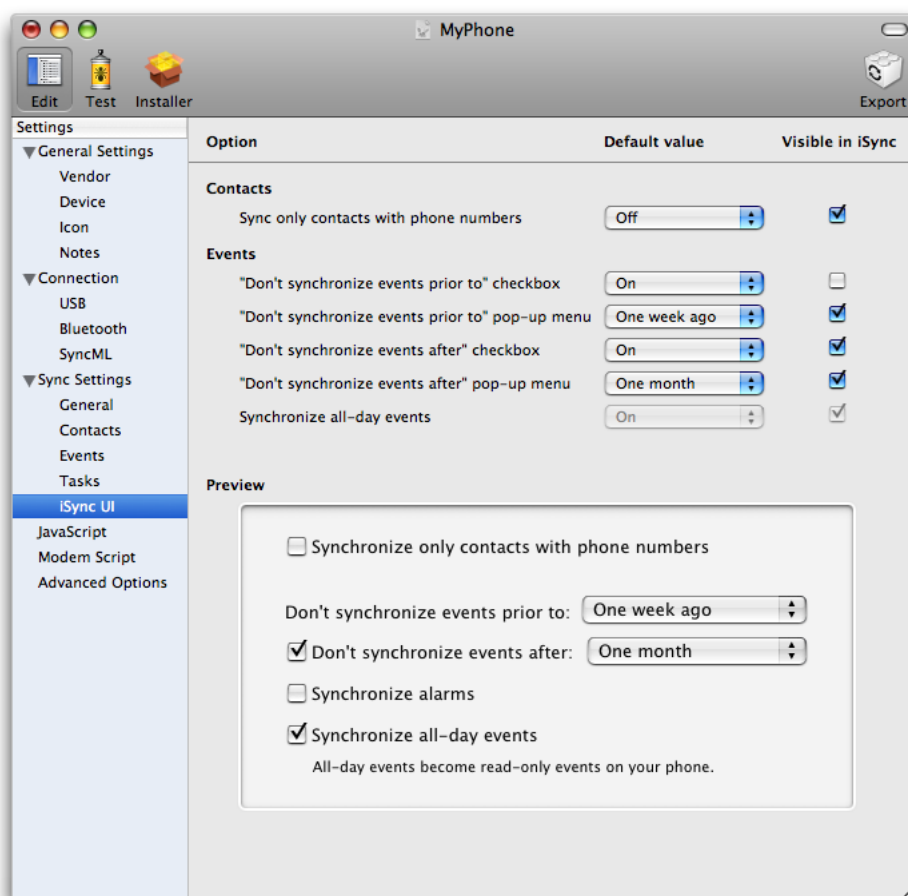
Click Done to apply your changes or Cancel to revert to the previous settings.

Figure 2-17 Enumerated More button sheet

iSync UI

The iSync UI pane, shown in Figure 2-18, allow you to configure the user interface in iSync based on what the device supports. The user interface features are organized by schema. Currently, there are only Contacts and Events user interface options. Each of these settings corresponds to a control in the iSync user interface.

Figure 2-18 iSync UI pane



Use these settings to set whether an option is visible to the user in iSync and set its default value. All of the Contacts and Events controls on this pane correspond to a control on the More Options pane in iSync. A preview of all the options is provided at the bottom of this pane so you can see what the iSync user interface looks like. If an option is not visible, then iSync uses the default value for all records sent to the device. If an option is visible, the associated control displays the default value in the More Options pane in iSync.

Use the settings on this pane cautiously. The iSync user experience should not change too much from device to device. New plug-ins should show the same user interface controls as those shipped by Apple. Therefore, seriously consider removing or adding controls to iSync before doing so. If you remove a control, carefully choose a default value because the user can not change it after the plug-in ships.

The options in the Events section, described in Table 2-22, let you configure how events are synced to a device. The checkbox and pop-up menu settings allow you to filter events by a time interval. For example, if the device has limited capacity, you can filter the number of events synced to the device by a time interval.

Set the default value of the "Don't synchronize events prior to" and the "Don't synchronize events after" checkboxes to On. Also, deselect Visible in iSync (located at the right side of the pane) for these options so the user can't sync all events. Select the appropriate default interval values for the corresponding pop-up menus that range from one day to one month. Optionally, select Visible in iSync for the pop-up menu options if the user is allowed to change these settings.

Table 2-21 iSync UI > Contacts settings

| Property | Discussion |
|--------------------------------------|---|
| Sync only contacts with phone number | If the device does not support contacts without a phone number, you might set the default value to On and deselect the Visible in iSync checkbox. If the device does not display contacts without phone numbers, then you might set the default value to Off and deselect the Visible in iSync checkbox. This way, users are not bothered with options that are not supported by the device |

Table 2-22 iSync UI > Events Settings

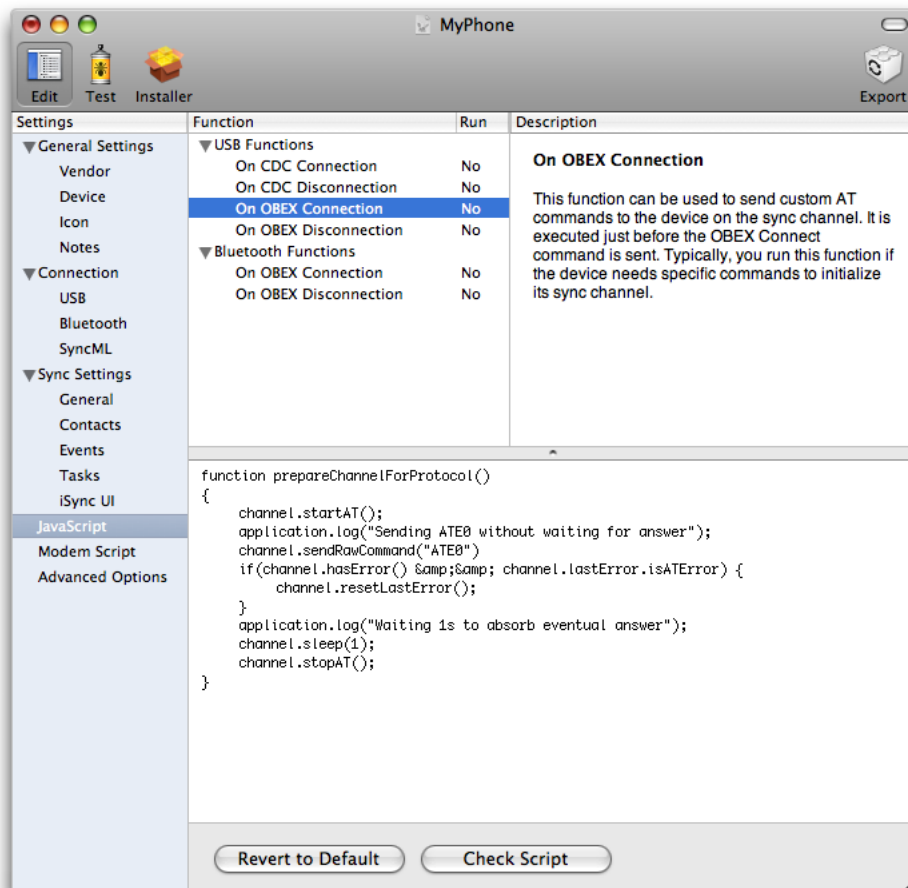
| Property | Discussion |
|---|--|
| "Don't synchronize events prior to" checkbox | If you want to allow the number of events synced to a device to be filtered by a time interval, then set the default value for this option to On and select the Visible in iSync option. |
| "Don't synchronize events prior to" pop-up menu | Choose the default value for the start of the time interval used to filter events. Select Visible in iSync if the user is allowed to change the start date. |
| "Don't synchronize events after" checkbox | If you want to allow the number of events synced to a device to be filtered by a time interval, then set the default value for this option to On and select the Visible in iSync option. |
| "Don't synchronize events after" pop-up menu | Choose the default value for the end of the time interval used to filter events. Select Visible in iSync if the user is allowed to change the end date. |
| Synchronize all-day events | If the device does not display all-day events nicely, then set the default value for this option to Off. For example, some devices may display an all-day event as an event from 0:00 to 23:59 that may obscure other events on the same day. Note that iSync always allows users to sync all-day events to a device. |

JavaScript

Click JavaScript in the outline view to optionally edit any of the JavaScript functions used to communicate with the device. The JavaScript pane is shown in Figure 2-19. These are the same JavaScript functions that you can access from the Connection > USB and Connection > Bluetooth panes. The table in the upper-left corner of the JavaScript pane contains groups of JavaScript functions. Use this table to navigate to the

JavaScript function you want to edit. For example, reveal the contents of “USB functions” and select On OBEX Connection. The Run column in this table displays Yes if the JavaScript function is enabled, and No if it is disabled.

Figure 2-19 JavaScript pane



The Description table in the upper-right corner of the JavaScript pane displays a brief description of the JavaScript function. The description states what the JavaScript function does and when it is executed.

The text box at the bottom of the JavaScript pane displays the selected JavaScript function. Use this text box to edit the JavaScript function. The behavior of this editor is similar to that of the TextEdit application. Just click anywhere in the text box to begin typing. Read *iSync JavaScript Reference* for how to write iSync JavaScript functions.

Click the Revert to Default button at the bottom of the pane if you want to revert to the system default settings—this action deletes your changes. Click the Check Syntax button to correct any syntactical errors in your JavaScript code.

Modem Script

A modem script is used to communicate with and control the device as a modem for the purpose of connecting to the Internet. Modem scripts are written using the Communication Command Language (CCL) scripting language. Use the Modem Script pane shown in Figure 2-20 to configure modem options and write a CCL script. Table 2-23 and Table 2-24 describe the various settings on this pane to configure the connection and carrier. Table 2-25 describes how to import and edit a modem script.

Read *CCL Modem Scripting Guide* for details on CCL.

Figure 2-20 Modem Script pane

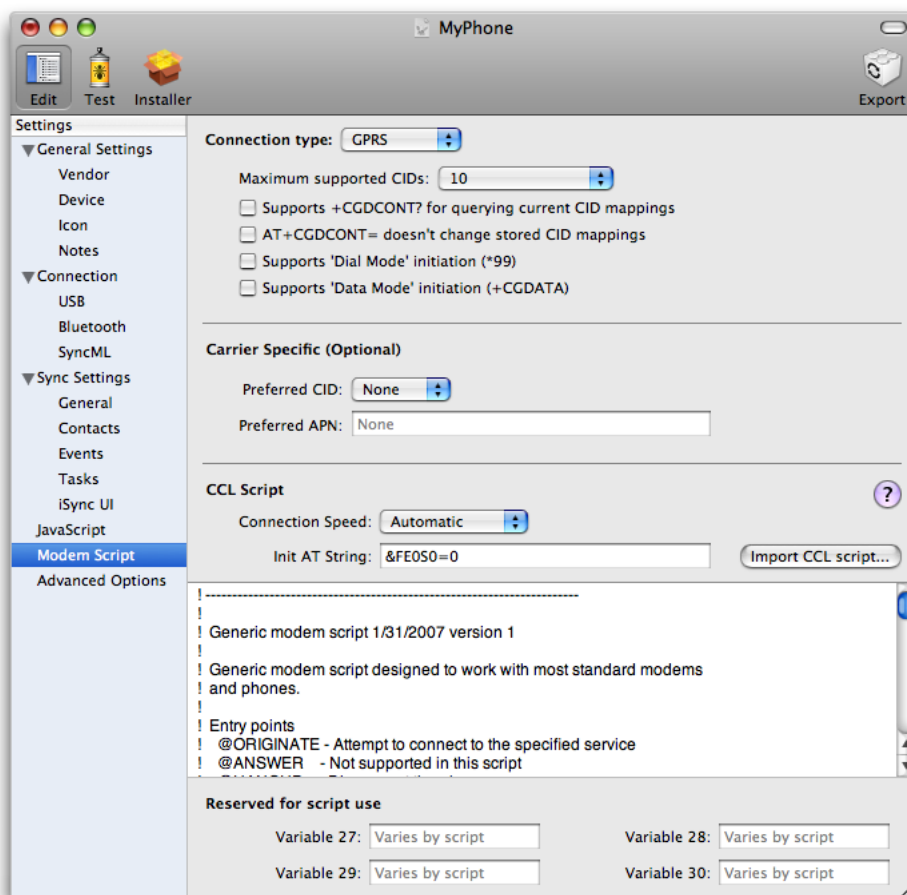


Table 2-23 Modem Script > Connection settings

| Property | Description |
|-----------------|--|
| Connection type | Choose either Dialup or GPRS from the “Connection type” pop-up menu. If you choose Dialup, the user supplies a phone number to the script. If you choose GPRS, the user supplies an APN and CID to the script. If this information is known in advance, a GPRS modem script bundle can store a default APN and CID so the user doesn't have to provide them. |

| Property | Description |
|--|---|
| Maximum supported CIDs | Choose the maximum number of context identifiers (CIDs) supported by the device from the “Maximum supported CIDs” pop-up menu. |
| Supports +CGDCONT? for querying current CID mappings | Select this option if the device supports the +CGDCONT? AT command for querying CID mappings. |
| AT+CGDCONT= doesn't change stored CID mappings | Select this option if the +CGDCONT= AT command doesn't change stored CID mappings. Some GPRS devices overwrite internal CID mappings when a GPRS connection is configured. The use of arbitrary CIDs with such devices may overwrite important APN information stored in the device. |
| Supports 'Dial Mode' initiation (*99) | Select this option if the device allows GPRS connections to be initiated using the escape sequence *99, followed by a CID identifier or # for the default CID configuration. |
| Supports 'Data Mode' initiation (+CGDATA) | Select this option if the device allows GPRS connections to be initiated using the +CGDATA AT command. |

Table 2-24 Modem Script > Carrier Specific (Optional)

| Property | Description |
|---------------|--|
| Preferred CID | If the service plan is known and APN information for Internet connectivity is stored in the device, accessible by a particular CID, specify that CID here. This setting is also useful for devices that overwrite stored CID information. In this case, a CID that is likely to be "empty" can be specified to prevent overwriting APN information in the device. The preferred CID is the default CID in the user interface for this script, although the user may change it. |
| Preferred APN | If the service plan is known in advance, enter the APN string used by a computer connecting to the Internet through the modem device. |

Table 2-25 Modem Script > CCL Script

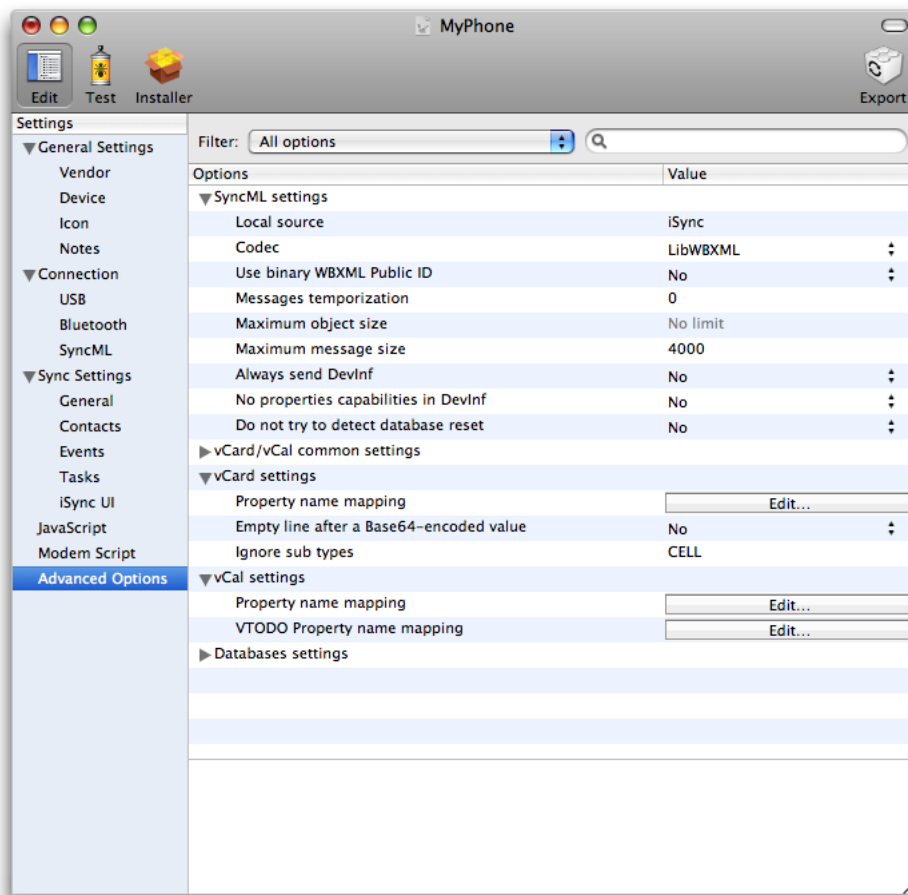
| Property | Description |
|-------------------------|---|
| Connection Speed | Select Automatic or a connection speed from the Connection Speed pop-up menu. This string may be used by the script to control the speed of the connection. |
| Init AT String | Enter an AT command to initialize the device. |
| Import CCL script | Click “Import CCL script” to import and edit a CCL script in the text view below. Changes you make in the text view are saved with the plug-in, not the imported file. See <i>CCL Modem Scripting Guide</i> for details on writing this script. |
| Reserved for script use | Enter the values of the variables used by the CCL script into these text fields. Look for comments at the top of the script for which variables it uses, if any. How these variables are used depends of the script. Using the variables is optional. |

Advanced Options

The Advanced Options pane, shown in Figure 2-21, contains additional options that are infrequently used. Use this pane to configure device-specific options. For example, use this pane to specify how a record is reformatted from an Apple record to a vCard or vCal property field used by the device. Use this pane if your device uses different vCard or vCal properties than the defaults.

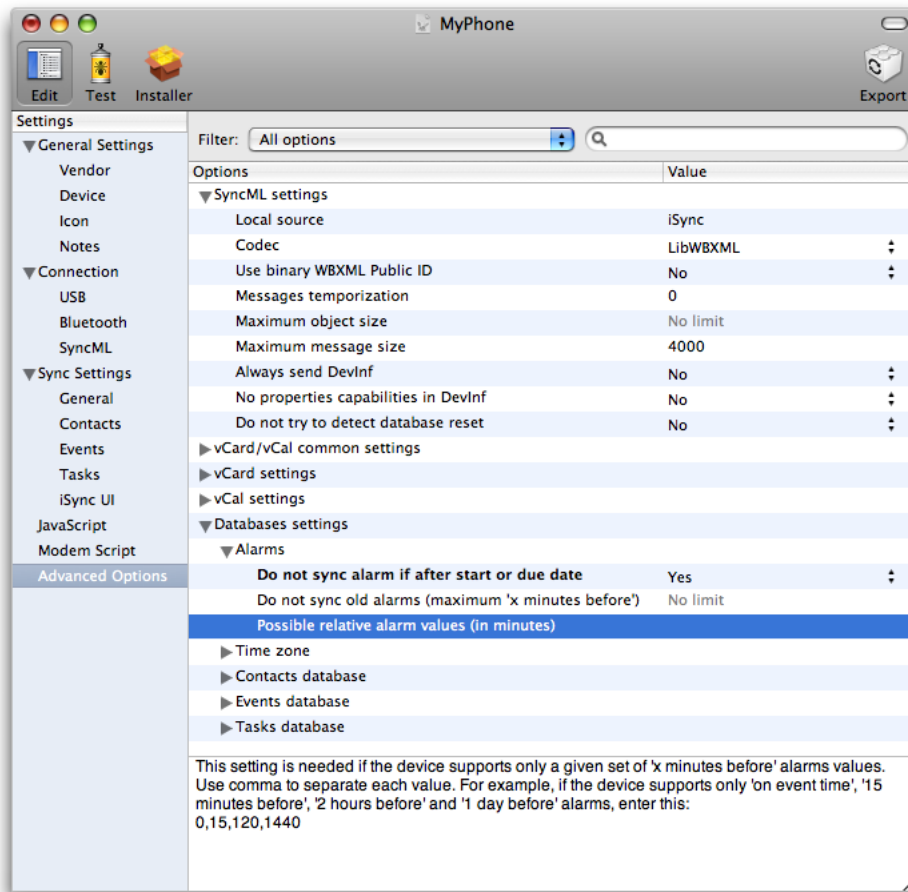
The options in this pane are displayed in a table and organized in a way that is similar to key-value pairs in a property list. The property/option is listed in the Options column and the value is listed in the Value column. Use the Filter pop-up menu located above the table to filter the options by category. Use the search field to the right of the Filter menu to search for a specific option by name.

Figure 2-21 Advanced Options pane



Select a row in the table to display a description of the option in the view at the bottom of this pane, as shown in Figure 2-22.

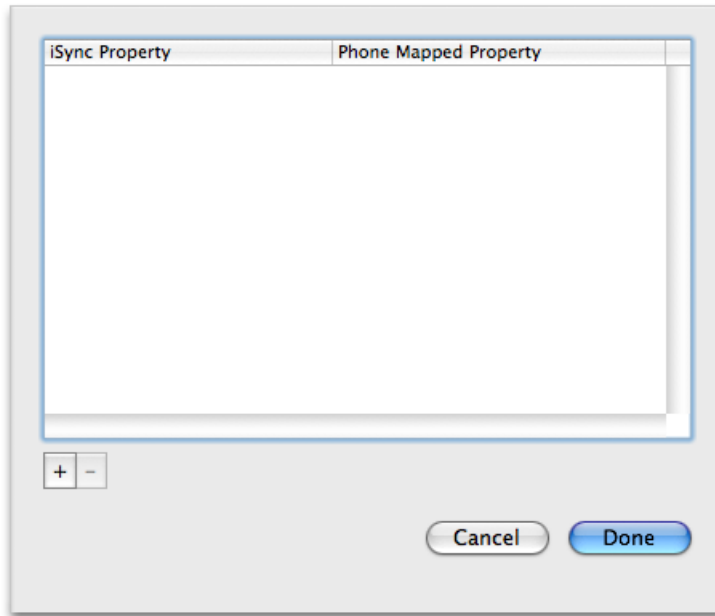
Figure 2-22 Advanced option descriptions



If a value is one of several options, select the appropriate option from the corresponding pop-up menu. Otherwise, double-click in a cell in the Value column and type in the value.

Some Value cells contain an Edit button. Click the Edit button to specify key-value pairs that map iSync property names to device property names. A sheet appears as shown in Figure 2-23. Click the plus button in the lower-left corner of sheet to add a key-value pair. Click in the “iSync property” column to enter the iSync property name that you are mapping. Click in the “Phone mapped property” column to enter the corresponding device property name.

Figure 2-23 Edit button sheet



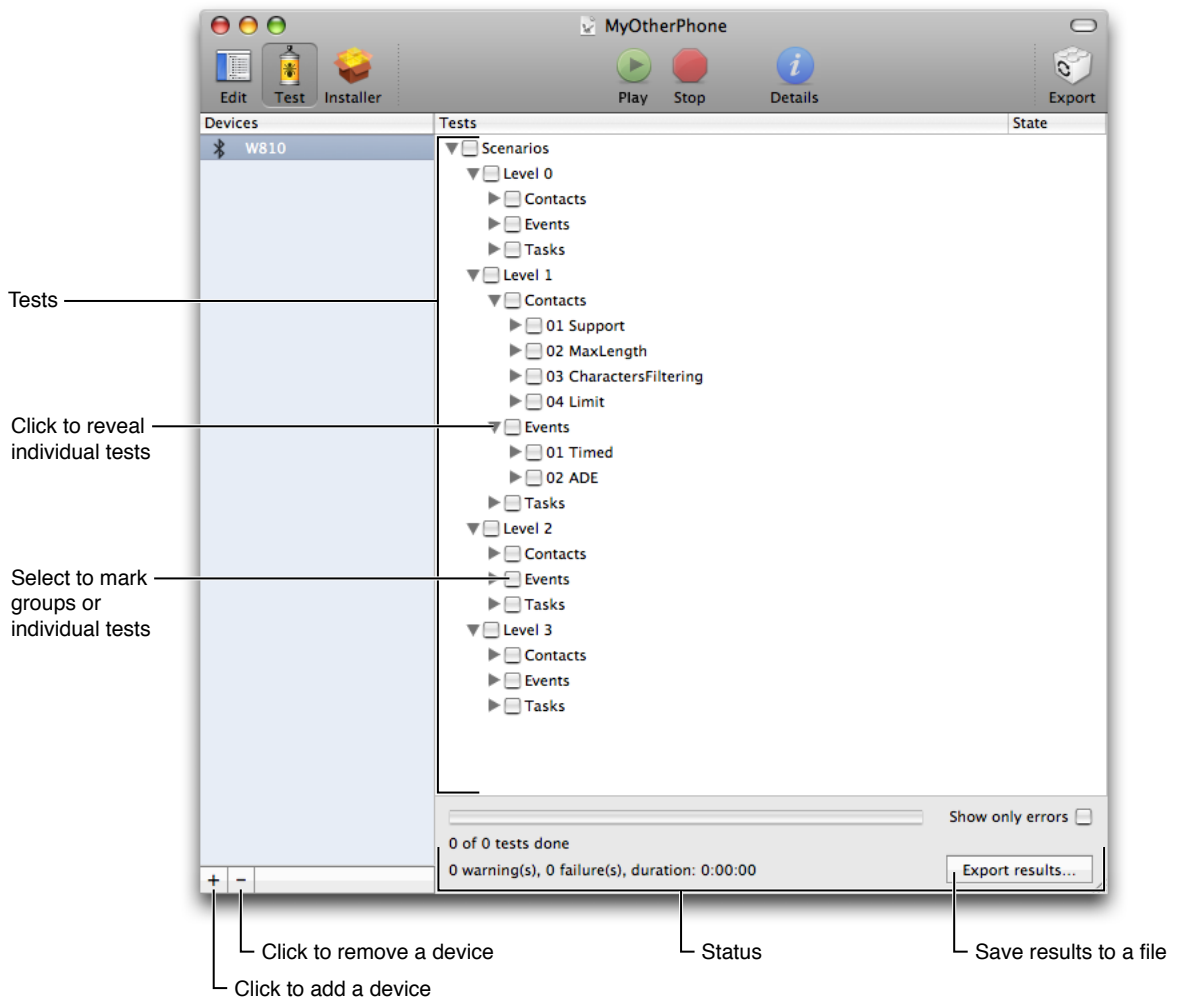
Testing Plug-ins

Click the Test button on the toolbar to begin testing the plug-in using the automated tests scenarios provided by iSync Plug-in Maker.

If this is the first time you are using the device with the computer, you need to hook up the device to the computer for USB devices, or pair the device with the computer for Bluetooth devices now. Follow the instructions in “Adding Devices” to add a device to iSync Plug-in Maker before running the tests.

Once a device is added to iSync Plug-in Maker, the window changes to the testing mode, as shown in Figure 3-1. The column on the left of the window displays the added devices. The column on the right displays an outline view of the test scenarios. Note that you can return to the testing mode at any time during the process of developing your plug-in. For example, return to this mode after modifying a plug-in and before exporting.

Figure 3-1 Test mode



Important: If the plug-in contains a modem script, you should also test the modem script by connecting to the Internet using the device. Run this test using different carriers. This test is not automated.

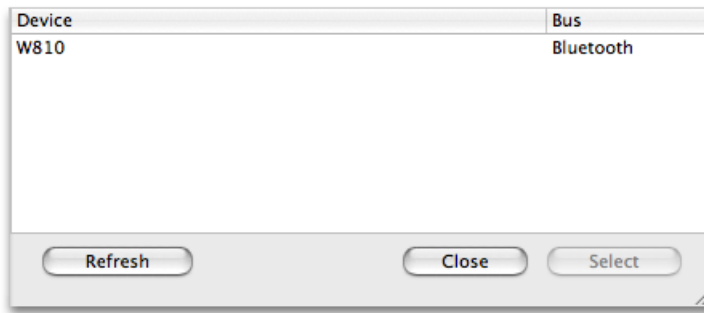
Adding Devices

The first time you test a phone, you need to add the device to iSync Plug-in Maker as follows:

1. Click the plus button in the lower-left corner below the list of devices.

A sheet appears with a list of devices that iSync Plug-in Maker detects, as show in Figure 3-2.

Figure 3-2 Adding a device



2. Select the device from the list and click the Select button.

The device should appear selected in the Devices column.

Note: iSync Plug-in Maker pairs the device with the computer before adding it to the list. Therefore, the first time you communicate with a Bluetooth device, a panel may appear prompting for a passkey. To add a Bluetooth device, enter a passkey on the device when prompted and enter the same passkey in the panel that appears on your computer.

Testing

After adding the device, select it in the Devices list and select the scenario you want to run from the Tests outline view. Click a triangle to reveal the contents and select a test or groups of tests you want to run. For example, select Scenarios > Level 0 > Contacts to run the first-level tests using the Contacts database.

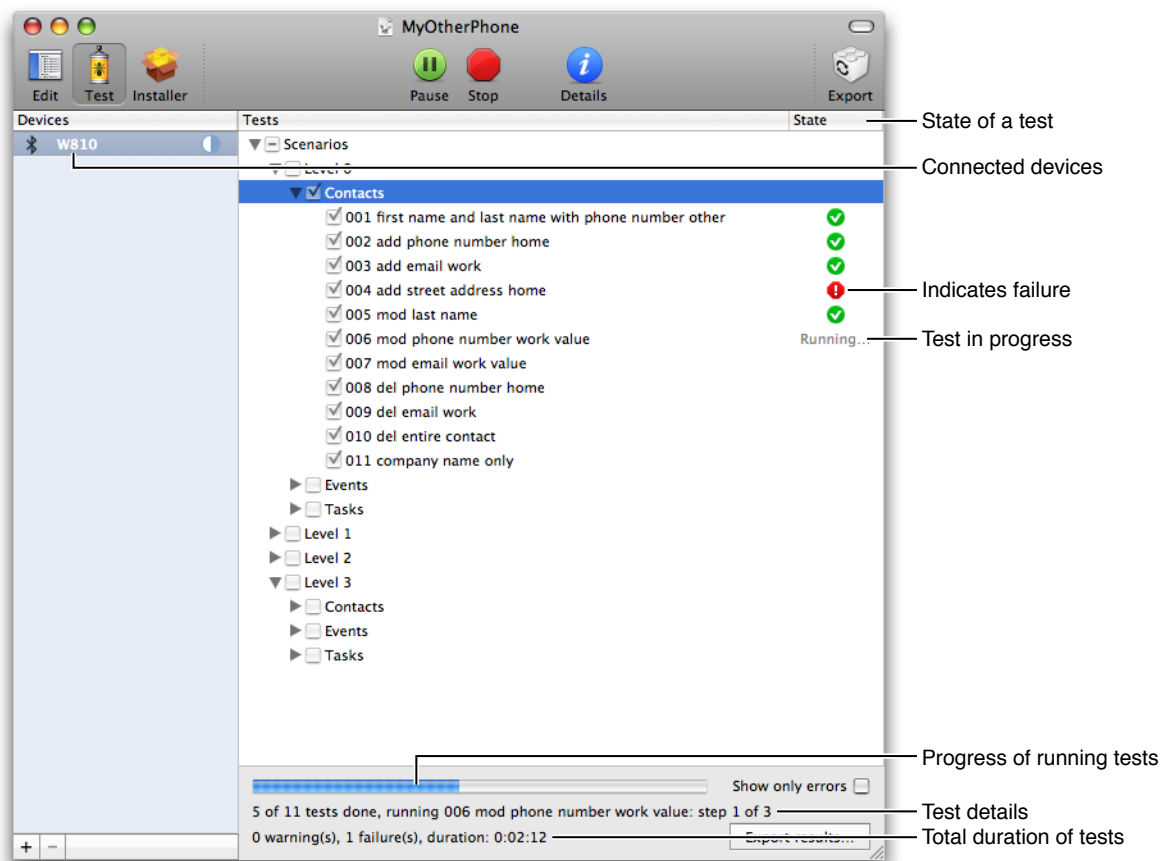
Follow these steps to run the tests:

1. Select the test or tests from the Tests outline view.
2. Click the Start button in the toolbar.

A progress indicator appears below the Tests outline view as shown in Figure 3-3. The status message below the progress indicator displays the test number and the total number of tests that will be run. It also displays the name of the test that is running.

When the tests are done, the status message displays the number of bounces and failures, and the total duration of the tests.

Figure 3-3 Running tests



3. If you want to temporarily stop a running test, click the Pause button.
4. Click the Resume button to continue a test that is paused.
5. If you want to stop all the selected tests from running, click the Stop button.

The Tests outline view also displays the status of individual tests in the State column. When a test is executing tests the word "Running" appears in the column. Other symbols may appear in this column indicating the success or failure of individual, and groups of tests as shown in Figure 3-4. For example, a green checkmark indicates success and a red exclamation mark indicates failure. Hold the mouse over a state icon to display a tooltip with more details. For example, a tooltip might explain where a test failed. Refer to Table 3-1 for the meaning of the icons that appear in this column.

Color is also used throughout the iSync Plug-in Maker user interface to indicate state. In general, green indicates success, yellow indicates warning, and red indicates failure. In some cases, black and white icons indicate a stall or old state. For example, if a test is successful and you modify the plug-in, the icon changes from green to black and white to indicate that the test needs to be rerun with the updated plug-in.

If you want to show just the errors in the Tests outline view, select the “Show only errors” option at the bottom of the outline view. Click the “Export results” button if you want to save the test results to a file.

Read “[Troubleshooting](#)” (page 47) for information on debugging failed tests.

 **Warning:** The tests performed by iSync Plug-in Maker are automated. You invalidate test results if you manually modify records on the device while running a test.

Figure 3-4 Example of test states

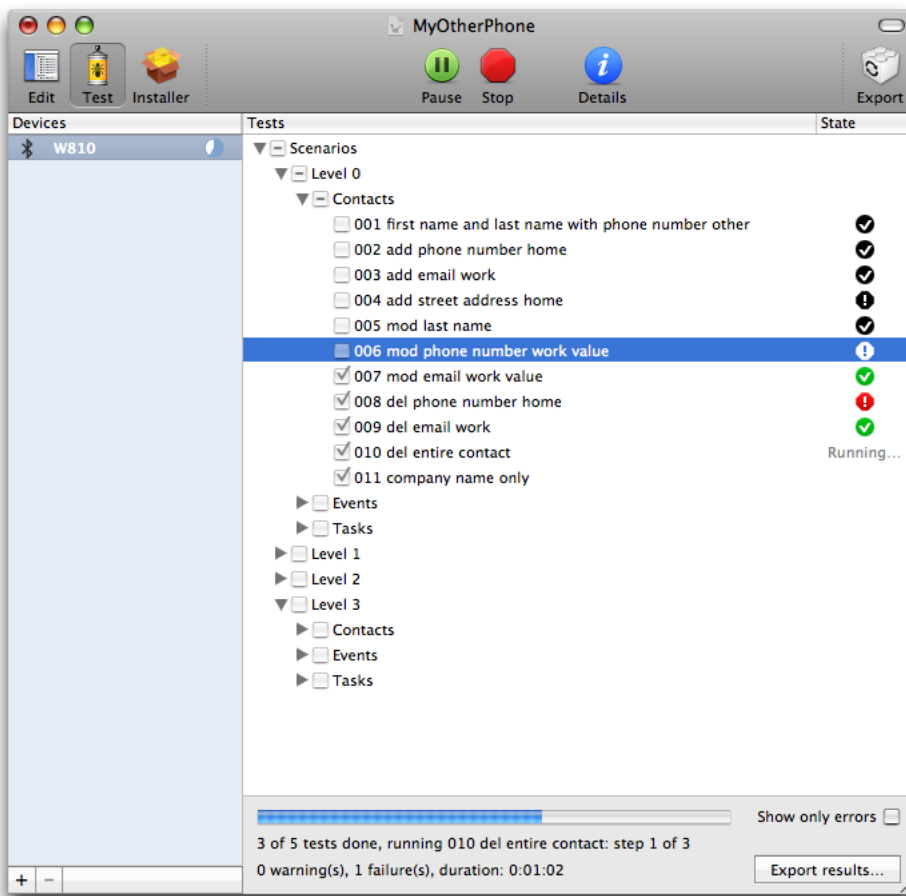














Table 3-1 Test states

| Text/Icon | Description |
|-----------|--------------------------|
| Running | The test is in progress. |

| Text/Icon | Description |
|---|---|
|  | The test is successful. |
|  | The test is successful—ran without any errors—but the device requested a slow sync during one of the sync sessions. Read “Troubleshooting” for how to diagnose problems. |
|  | The test completed but with some errors—for example, records were bounced, forgotten, or refused. Read “Troubleshooting” for how to diagnose problems. |
|  | The test failed. Read “Troubleshooting” for how to diagnose problems. |
|  | Same as  except the test was run using an earlier version of the iSync Plug-in Maker document. Rerun this test before exporting the plug-in. |
|  | Same as  except the test was run using an earlier version of the iSync Plug-in Maker document. Rerun this test before exporting the plug-in. |
|  | Same as  except the test was run using an earlier version of the iSync Plug-in Maker document. Rerun this test before exporting the plug-in. |
|  | Same as  except the test was run using an earlier version of the iSync Plug-in Maker document. Rerun this test before exporting the plug-in. |

Troubleshooting

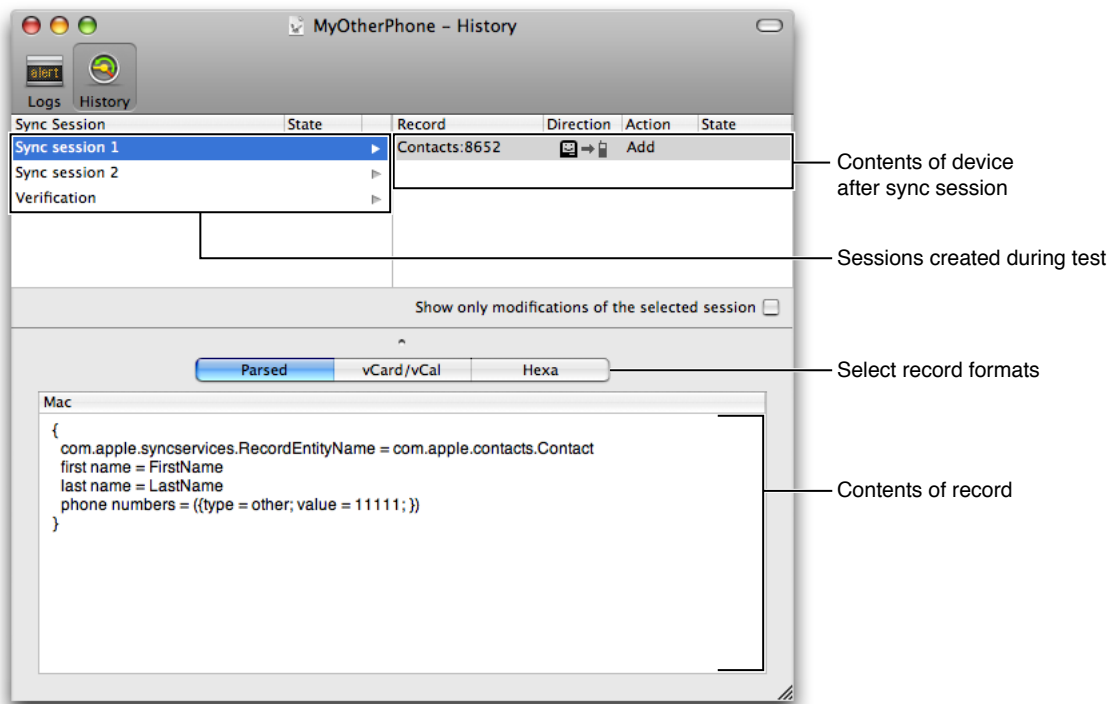
iSync Plug-in Maker provides extensive debugging support when tests fail. You can see the details of each test run by examining individual sync sessions or by displaying a log of every message sent to and from the device.

Select a test and click the Details button in the toolbar to open the Details window (or click an icon in the State column). The Details window contains a toolbar allowing you to switch between the History and Logs panes. Which pane is most useful depends on the state of the test. If the state of a test is pass or bounce, then use the History pane to help locate the problem. If the state of the test is failed, then use the Logs pane to display the sequence of messages.

History Pane

Click the History button in the toolbar of the Details window to display information about each sync session that was created when running the tests, as shown in Figure 3-5.

Figure 3-5 History pane



Sync Session Table




Each test may involve several sync sessions, which are listed in a table located in the upper left of the History pane. The Sync Session column contains the names of the sync sessions. Typically, the first sync session deletes all records on the device before sending modifications. The following sessions add, modify, or delete records, and the last session verifies all records on the device. The last sync session is called Verification and appears at the end of the table.

Note: iSync Plug-in Maker deletes all records on a device so the device is in a clean and known state before running a test. However, these deletes do not appear in the History or Logs panes so you can focus on the modifications and transactions that pertain to the test, not the setup.

The State column displays an icon that indicates a problem during the sync session. It is considered a problem if a device requests a slow sync because it is much slower than a fast sync. The value in the State column is blank if no problems occur. For example, a warning icon is displayed if the sync is refused, forgotten, or bounced, and a slow icon is displayed if the device slow synced. Table 3-2 describes the different states that might appear in this column.

Select a session in the sync session table to see the modifications pushed to the device from the beginning of the test to the end of the selected session. The modifications are displayed in a table located in the upper right of the History pane. Select the "Show only modifications of the selected session" option if you want to see just the modifications during the selected session.

Table 3-2 Sync session states



| Icon | Description |
|---|---|
|  | The sync session finished without errors but the device requested a slow sync. Display the tooltip for more details. Read “Logs Pane” for how to diagnose this problem—specifically, examine the sequence of SyncML messages. |
|  | The sync session finished with some errors—for example, records were bounced, forgotten, or refused. Display the tooltip for more details. Read “Logs Pane” for how to diagnose this problem. |
|  | The device requested all the records for no reason or cancelled the sync session. This typically indicates that records on the device are corrupted. Read “Logs Pane” for how to diagnose this problem. |

Record Table

The table on the right displays all the records in the selected sync session. The Record column in this table displays the record identifier—for example, the schema name followed by a colon and a unique number for a record.

The Direction column indicates whether the modification was pushed or pulled. Table 3-3 describes the meaning of the different icons that might appear in this column.

Table 3-3 Record Directions

| Icon | Description |
|---|------------------------------------|
|  | Record was pushed to the device. |
|  | Record was pulled from the device. |

The Action column indicates the type of change—for example, Add, Modify, or Delete.

The State column displays the state of the modification on the device—for example, Refused, Forgotten, Bounced, or Resent, as described in Table 3-4. The value in the State column is blank if the modification is accepted.

Table 3-4 Record states

| Text | Description |
|-----------|---|
| Refused | A record modification is refused if the device refuses it through an appropriate SyncML status. This indicates that the record cannot be stored on the device—for example, it might contain unsupported properties. Change the sync settings to avoid generating unsupported records. |
| Forgotten | A record modification is forgotten if the device does not acknowledge it. This usually indicates that the device cannot handle a record and should have refused it. |

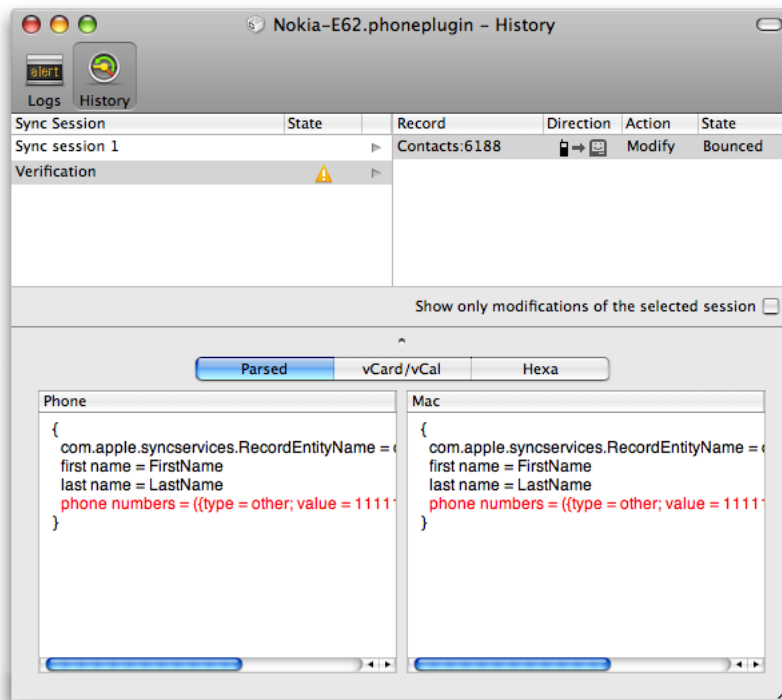
| Text | Description |
|---------|---|
| Bounced | <p>A record is bounced if a modification sent to the device alters the date on the computer. This is an error because records should not be modified by the device while running the automated tests.</p> <p>Typically, this happens if iSync sends a modification to the device with a string property value that exceeds the limits of the device. Consequently, the device truncates the string when storing the record. On a subsequent sync, the truncated version of the record is sent to iSync. Change the sync settings so that iSync reformats records appropriately.</p> |
| Resent | A record is resent if iSync pulls a record from the device that it doesn't expect. Typically, this occurs when you manually modify a record on the device while running a test. |

Record Details

When you select a record in the record table, the details are displayed in the pane below. Use the segmented control below the tables to see the record details as either a parsed Sync Services change object (displayed as a key-value dictionary), a vCard/vCal object, or a hexadecimal representation.

For example, Figure 3-6 shows two records that were bounced. If you select a bounced record, the record details show the contents of the record on the device as compared with the contents on the computer.

Figure 3-6 Bounced record



Color is used in the Parsed record view to indicate the type of action. For example, Figure 3-7 shows a modified record where blue text is used to indicate the fields that changed. Table 3-5 describes the meaning of the different colors used in the History pane.

Figure 3-7 Modified record

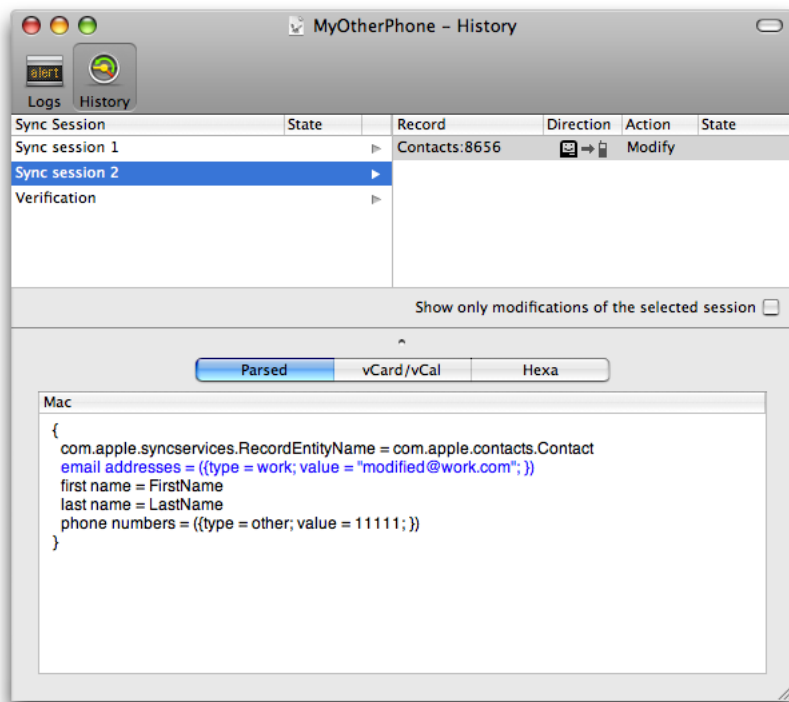


Table 3-5 Colored records and fields

| Color | Description |
|-------|---|
| Blue | Indicates properties of a record that changed |
| Red | Indicates a bounced record |
| Grey | Indicates a deleted record |

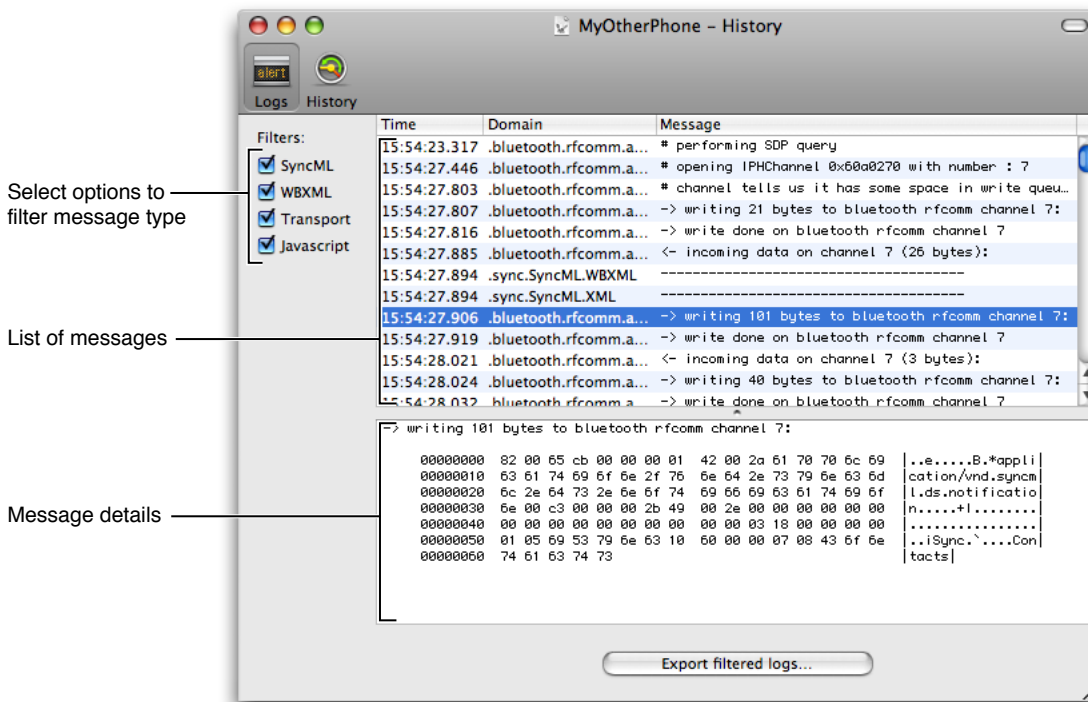
Logs Pane

Click the Logs button in the toolbar in the Details window to display every message sent to and from the device, as shown in Figure 3-8. Use the Filters checkboxes on the left to selectively turn on/off different types of messages. The types of messages are SyncML, WBXML, Transport, and JavaScript messages, where Transport includes both USB and Bluetooth messages.

A table appears on the right side of the Logs pane listing every message. The columns in this table display the time the message was sent, the domain or type of message, and part of the message content. Select a message in the table to see the complete message content displayed in the lower pane.

Click the “Export filtered logs” button at the bottom of the pane to save the selected messages to a file. For example, to save SyncML messages to a file, select only SyncML in the Filters pane, and click the “Export filtered logs” button.

Figure 3-8 Logs pane



Setting Preferences

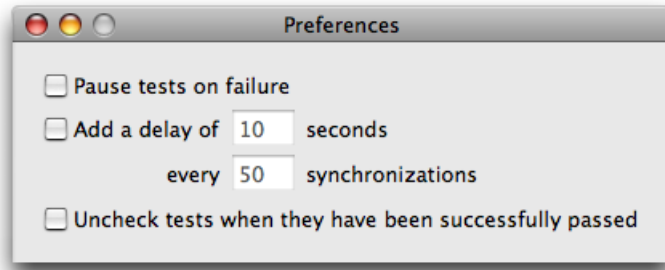
There are several application preferences you can set to change the behavior of the testing phase. Choose iSync Plug-in Maker > Preferences to open the Preferences window as shown in Figure 3-9.

Select "Pause tests on failure" if you want iSync Plug-in Maker to automatically pause when an error occurs. For example, choose this option if you need to reboot a device when an error occurs that corrupted the data on that device. After a test is paused, click the Resume button in the toolbar to continue running the test.

Select "Add a delay of" if you want to pause for a period of time between sync sessions. For example, if you want to pause for 10 seconds after every sync session, select "Add a delay of", enter 10 in the seconds text field, and enter 1 in the synchronizations text field.

Select the "Uncheck tests when they have been successfully passed" if you want to incrementally test the plug-in; otherwise, you need to deselect successful tests before selecting and running the next set of tests.

Figure 3-9 Testing preferences

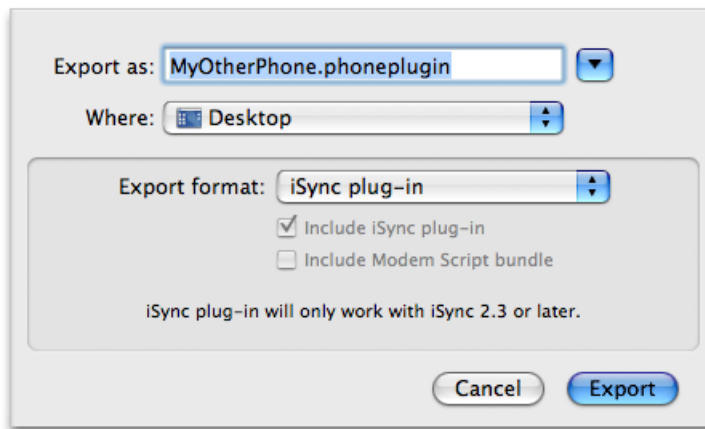


Exporting Plug-ins

When you are ready to export your plug-in or modem script, click the Export button in the toolbar. An alert panel appears asking if you have tested the plug-in. Click Yes if you completed the testing phase or Cancel if you want to continue testing the plug-in.

If you click Yes, a sheet appears allowing you to enter a filename and select an export format from a pop-up menu, as shown in Figure 4-1. Enter the filename, choose a format, and click Export.

Figure 4-1 Exporting sheet



Which format you choose depends on how you want to ship your plug-in and if you want to export the modem script separately. For example, if you want to ship the plug-in as a downloadable package, you might choose "Disk image with installer." If the plug-in is part of another product, then you might choose "iSync plug-in" and include the file in the product package. If you want to just export the modem script choose "Modem Script bundle." The possible export formats are described in Table 4-1.

Table 4-1 Export formats

| Format | Description |
|---------------|--|
| iSync plug-in | <p>Exports the plug-in in a bundle format that can be loaded by iSync. This bundle includes the iSync plug-in only, not the modem script bundle.</p> <p>For example, choose this format if you want to run some manual tests on your local computer. See <i>iSync Manual Test Suite Guide</i> for manual tests that you should run before shipping your plug-in.</p> <p>iSync looks in <code>~/Library/PhonePlugins</code> and then <code>/Library/PhonePlugins</code> for phone plug-in files. Move your phone plug-in file to one of these folders. Create the folder if it doesn't exist.</p> |

| Format | Description |
|---------------------------|--|
| Modem Script bundle | Exports the modem script as a bundle independent of the iSync plug-in. Choose this option if you are just adding CCL support for a device. |
| Installer package | Exports the plug-in as an installer package. Choose this format if you are releasing the plug-in separately. For example, choose this format if you make the plug-in available on a CD or DVD. Select the appropriate options below the “Export format” menu to include just the iSync plug-in, just the modem script, or both in the installer package. |
| Disk image with installer | Exports the plug-in as an installer in a convenient disk image that is ready for release. For example, choose this option if you want to make the plug-in downloadable. Select the appropriate options below the “Export format” menu to include just the iSync plug-in, just the modem script, or both in the disk image. |

Document Revision History

This table describes the changes to *iSync Plug-in Maker User Guide*.

| Date | Notes |
|------------|--|
| 2009-07-30 | Added information on supporting multiple devices with a single plug-in. |
| 2007-07-10 | New document that explains how to use iSync Plug-in Maker to create and test iSync phone plug-ins. |

REVISION HISTORY

Document Revision History