
Settings Application Schema Reference

Data Management: Preference Settings



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Introduction

Preferences for iPhone applications are displayed by the Settings system application. A settings bundle, included in your application's bundle directory, contains the information needed by the Settings application to display your preferences and make it possible for the user to modify them. It then saves any configured values in the defaults database so that your application can retrieve them at runtime.

This document describes the elements that comprise the schema files you include in a settings bundle. All bundles must have the root content. The inclusion of other elements is based on your needs and the preferences you plan to display. For information about creating a settings bundle, see *Application Preferences* in *iOS Application Programming Guide*.

Organization of This Document

Each article in this document describes the keys associated with a particular element of a preferences schema file:

- [“Schema File Root Content”](#) (page 9) describes the keys found at the root level of the schema file.
- [“Group Element”](#) (page 11) describes the keys found in a `PSGroupSpecifier` element.
- [“Child Pane Element”](#) (page 13) describes the keys found in a `PSChildPaneSpecifier` element.
- [“Toggle Switch Element”](#) (page 15) describes the keys found in a `PSToggleSwitchSpecifier` element.
- [“Slider Element”](#) (page 17) describes the keys found in a `PSSliderSpecifier` element.
- [“Title Element”](#) (page 19) describes the keys found in a `PSTitleValueSpecifier` element.
- [“Text Field Element”](#) (page 21) describes the keys found in a `PSTextFieldSpecifier` element.
- [“Multi Value Element”](#) (page 23) describes the keys found in a `PSMultiValueSpecifier` element.

Schema File Root Content

Each distinct settings screen is represented by a property-list file. At a minimum, a Settings bundle must have at least one root screen, represented by the `Root.plist` file. Additional screens may be added using child pane elements, but each distinct screen must have its own associated property list file. For each of those files, Table 1 lists the keys that can appear at the root level of each file.

Table 1 Root-level keys of a preferences schema

Key	Type	Value
<code>PreferenceSpecifiers</code> (required)	Array	The value for this key is an array of dictionaries, with each dictionary containing the information for a single preference element. These keys must be listed in the order you want them to appear on the preferences page.
<code>StringsTable</code>	String	The name of the strings file associated with this schema file. A copy of this file (with appropriate localized strings) should be located in each of your bundle's language-specific project directories. If you do not include this key, the strings in this schema file are not localized. For information on creating strings files, see <i>Internationalization Programming Topics</i> .

The title string that appears at the top of each settings screen is derived from an external source. In the case of your application's root settings screen, the title string is the application name itself. For child settings screens, the title is taken from the Title key of the child pane element used to display that screen. For more information about this key, see "[Child Pane Element](#)" (page 13).

Each dictionary in the `PreferenceSpecifiers` key contains the keys associated with a preferences element. Table 2 lists the element types that are supported.

Table 2 Element types contained in the `PreferenceSpecifiers` key

Element Type	Description
<code>PSTextFieldSpecifier</code>	A text field preference. This element displays an optional title and an editable text field. You can use this type for preferences that require the user to specify a custom string value. For more information, see " Text Field Element " (page 21).
<code>PSTitleValueSpecifier</code>	A read-only string preference. You can use this type to display preference values as formatted strings. For more information, see " Title Element " (page 19).

Element Type	Description
PSToggleSwitchSpecifier	A toggle switch preference. You can use this type to configure a preference that can have only one of two values. Although you typically use this type to represent preferences containing Boolean values, you can also use it with preferences containing non-Boolean values. For more information, see “Toggle Switch Element” (page 15) .
PSSliderSpecifier	A slider preference. You can use this type for a preference that represents a range of values. The value for this type is a real number whose minimum and maximum you specify. For more information, see “Slider Element” (page 17).
PSMultiValueSpecifier	A multi-value preference. You can use this type for a preference that supports a set of mutually exclusive values. For more information, see “Multi Value Element” (page 23) .
PSGroupSpecifier	A group item preference. The group type is a way for you to organize groups of preferences on a single page. The group type does not represent a configurable preference. For more information, see “Group Element” (page 11) .
PSChildPaneSpecifier	A child pane preference. You can use this type to link to a new page of preferences. For more information, see “Child Pane Element” (page 13).

Group Element

Table 1 lists the keys that may be placed in a dictionary that is associated with the `PSGroupSpecifier` type. This type defines a group element, which is a way to visually group preferences on a page. This element should be placed in front of the preferences associated with the group. You can assign a title to the group or omit the key to display a gap between preferences.

Table 1 Keys for the `PSGroupSpecifier` dictionary

Key	Value type	Value
Type (required)	String	The value of this key is always set to <code>PSGroupSpecifier</code> . This key is required.
Title (localizable)	String	The title of the group. If you do not specify this key, a gap is inserted between preferences. The value of this key is localizable.
FooterText (localizable)	String	Additional text to display below the group box. Providing a footer is optional. The value of this key is localizable. This key is available in iOS 4.0 and later.

Child Pane Element

Table 1 lists the keys that may be placed in a dictionary that is associated with the `PSChildPaneSpecifier` type. This element displays a preferences row, that when tapped loads a new page of preferences. You can use this element type to build hierarchical pages of preferences.

Table 1 Keys for the `PSChildPaneSpecifier` dictionary

Key	Type	Value
Type (required)	String	The value of this key is always set to <code>PSChildPaneSpecifier</code> . This key is required.
Title (required, localized)	String	The title string displayed in the preference row. This is the string the user taps to display the next page. This string is also used as the title of the screen that is subsequently displayed. This key is required. The value of this key is localizable.
File (required)	String	The name of the schema file to load. (This file must be a property list file.) The string you specify for this key should not contain path information or the <code>.plist</code> filename extension of your schema file. The Settings application looks in the top-level of your settings bundle for a <code>.plist</code> file with the specified name. For example, if you had a <code>MyPrefs.plist</code> file, you would assign the value <code>MyPrefs</code> to this key. This key is required.

Toggle Switch Element

Table 1 lists the keys that may be placed in a dictionary that is associated with the `PSToggleSwitchSpecifier` type. This element displays an ON/OFF button that can be toggled by the user.

Table 1 Keys for the `PSToggleSwitchSpecifier` dictionary

Key	Value type	Value
Type (required)	String	The value of this key is always set to <code>PSToggleSwitchSpecifier</code> . This key is required.
Title (required, localizable)	String	The string displayed to the left of the switch. This key is required. The value of this key is localizable.
Key (required)	String	The preference key identifying the value. This is the string you use this to retrieve the preference value from the defaults database. This key is required.
DefaultValue (required)	Any	The default value for the preference key. This value is returned when the specified preferences key (represented by the <code>Key</code> entry) is not present in the defaults database. This key is required.
TrueValue	Any	The value associated with the preference when the toggle switch is in the ON position. The value type for this key can be any scalar type, including Boolean, String, Number, Date, or Data. If this key is not present, the default value type is a Boolean with the value Yes.
FalseValue	Any	The value associated with the preference when the toggle switch is in the OFF position. The value type for this key can be any scalar type, including Boolean, String, Number, Date, or Data. If this key is not present, the default value type is a Boolean with the value No.

Slider Element

Table 1 lists the keys that may be placed in a dictionary that is associated with the `PSSliderSpecifier` type. This element displays a slider that you can use to specify a continuous range of values for the user.

Table 1 Keys for the `PSSliderSpecifier` dictionary

Key	Value type	Value
Type	String	The value of this key is always set to <code>PSSliderSpecifier</code> . This key is required.
Key (required)	String	The preference key identifying the value. This is the string you use this to retrieve the preference value from the defaults database. This key is required.
DefaultValue (required)	Real	The default value for the preference key. This value is returned when the specified preferences key (represented by the <code>Key</code> entry) is not present in the preferences database. This key is required.
MinimumValue (required)	Real	The minimum value for the slider. This key is required.
MaximumValue (required)	Real	The maximum value for the slider. This key is required.
MinimumValueImage	String	The image to display on the side of the slider representing the minimum value. This image should be 21 by 21 pixels.
MaximumValueImage	String	The image to display on the side of the slider representing the maximum value. This image should be 21 by 21 pixels.

Title Element

Table 1 lists the keys that may be placed in a dictionary that is associated with the `PSTitleValueSpecifier` type. This element represents a read-only preference. You can use it to provide the user with information about your application's configuration.

Table 1 Keys for the `PSTitleValueSpecifier` type

Key	Value type	Description
Type (required)	String	The value of this key is always set to <code>PSTitleValueSpecifier</code> . This key is required.
Title (localized)	String	The string displayed to the left of the value. The value of this key is localizable.
Key (required)	String	The preference key identifying the value. This is the string you use this to retrieve the preference value from the defaults database. This key is required.
DefaultValue (required)	String	The default value for the preference key. This value is returned when the specified preferences key (represented by the <code>Key</code> entry) is not present in the preferences database. This key is required.
Values	Array	An array of the values that could be associated with the preference key (<code>Key</code> entry) in the defaults database. These values can be of any type. Each value should have a corresponding value in the <code>Titles</code> array.
Titles (localized)	Array	An array of strings that represent user-readable versions of the values in the <code>Values</code> array. The values in this array are localizable.

The `Values` and `Titles` keys let you associate human-readable strings with values in the defaults database that might otherwise be considered cryptic. The number of entries in both arrays must be equal. When a value at a given index is associated with the preference key, the string at the same index in the `Titles` array is displayed for the preference by the Settings application.

Text Field Element

Table 1 lists the keys that may be placed in a dictionary that is associated with the `PSTextFieldSpecifier` type.

Table 1 Keys for the `PSTextFieldSpecifier` dictionary

Key	Value type	Value
Type (required)	String	The value of this key is always set to <code>PSTextFieldSpecifier</code> . This key is required.
Title (localizable)	String	The string displayed to the left of the text field's value. This string is drawn left aligned and in bold face. If you omit this key, the editable text field spans the width of the row. The value of this key is localizable.
Key (required)	String	The preference key with which to associate the value. This is the string you use this to retrieve the preference value in your code. This key is required.
DefaultValue	String	The default value for the preference key. This value is returned when the specified preferences key (represented by the <code>Key</code> entry) is not present in the preferences database. If this key is not present, an empty string is associated with the key.
IsSecure	Boolean	If <code>Yes</code> , the text field is a password-entry text field, which replaces the typed text with bullet characters. If <code>No</code> , the text field is a standard text field that displays the typed text. If this key is not present, the default is <code>No</code> .
KeyboardType	String	The type of keyboard to display to the user. This value must contain one of the following strings: <code>Alphabet</code> , <code>NumbersAndPunctuation</code> , <code>NumberPad</code> , <code>URL</code> , <code>EmailAddress</code> . If this key is not present, the default value is <code>Alphabet</code> .
Autocapitalization-Type	String	The auto-capitalization style to apply to typed text. This value must contain one of the following strings: <code>None</code> , <code>Sentences</code> , <code>Words</code> , <code>AllCharacters</code> . If this key is not present, the default value is <code>None</code> .
AutocorrectionType	String	The auto-correction style to apply when typing. This value must contain one of the following strings: <code>Default</code> , <code>No</code> , <code>Yes</code> . If this key is not present, the default value is <code>Default</code> .

For more information about the keyboards, auto-capitalization, and auto-correction options used by text fields, see the constants defined in *UITextInputTraits Protocol Reference*.

Multi Value Element

Table 1 lists the keys that may be placed in a dictionary that is associated with the `PSTitleValueSpecifier` type. When the user taps a preference containing a multi-value element, the Settings application displays a new page with the possible values to choose from. Upon selecting a value, the user is returned to the previous page, and the selected value is displayed in the preference row.

Table 1 Keys for the `PSMultiValueSpecifier` dictionary

Key	Value type	Description
Type (required)	String	The value of this key is always set to <code>PSMultiValueSpecifier</code> . This key is required.
Title (required, localizable)	String	The user-readable string identifying the preference. This key is required. The value of this key is localizable.
Key (required)	String	The preference key with which to associate the value. This is the string you use this to retrieve the preference value in your code. This key is required.
DefaultValue (required)	Any	The default value for the preference key. This value is returned when the specified preferences key (represented by the <code>Key</code> entry) is not present in the preferences database. This key is required.
Values (required)	Array	An array of the values that could be associated with the preference key (<code>Key</code> entry) in the defaults database. These values can be of any type. Each value should have a corresponding value in the <code>Titles</code> array.
Titles (required)	Array	An array of strings that represent user-readable versions of the values in the <code>Values</code> array. These are the strings that are actually displayed on the selection page. When a string is selected, the value at the matching index is stored in the defaults database. The values in this array are localizable.

The `Values` and `Titles` keys let you associate human-readable strings with values in the defaults database that might otherwise be considered cryptic. The number of entries in both arrays must be equal. When a value at a given index is associated with the preference key, the string at the same index in the `Titles` array is displayed for the preference by the Settings application.

Document Revision History

This table describes the changes to *Settings Application Schema Reference*.

Date	Notes
2010-04-27	Added the FooterText key to the group element.
2008-06-02	New document that describes the schema information for the Settings application.

