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ADOBE® PHOTOSHOP® CS4



# ADOBE PHOTOSHOP CS4

## VBSCRIPT SCRIPTING REFERENCE



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Adobe® Creative Suite® 4 Photoshop® VBScript Scripting Reference for Windows®.

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# Contents

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<b>1</b>	<b>Introduction .....</b>	<b>5</b>
	Changes Since Earlier Versions.....	5
<b>2</b>	<b>VBScript Interface .....</b>	<b>6</b>
	Working with the Properties Tables .....	6
	Working with the Methods Tables .....	6
	ActionDescriptor .....	8
	ActionList.....	11
	ActionReference .....	14
	Application .....	16
	ArtLayer.....	23
	ArtLayers.....	35
	BatchOptions .....	36
	BitmapConversionOptions .....	38
	BMPSaveOptions .....	39
	CameraRAWOpenOptions .....	40
	Channel.....	42
	Channels.....	43
	CMYKColor.....	49
	ColorSampler .....	50
	ColorSamplers .....	51
	ContactSheetOptions .....	52
	CountItem.....	54
	CountItems .....	55
	DCS1_SaveOptions.....	56
	DCS2_SaveOptions.....	57
	DICOMOpenOptions .....	58
	Document .....	59
	DocumentInfo .....	68
	Documents .....	71
	EPSOpenOptions .....	72
	EPSSaveOptions.....	73
	ExportOptionsIllustrator .....	74
	ExportOptionsSaveForWeb .....	75
	GalleryBannerOptions .....	77
	GalleryCustomColorOptions .....	78
	GalleryImagesOptions .....	79
	GalleryOptions.....	81
	GallerySecurityOptions .....	83
	GalleryThumbnailOptions.....	84
	GIFSaveOptions.....	85
	GrayColor.....	87
	HistoryState .....	88
	HistoryStates .....	89
	HSBColor.....	90
	IndexedConversionOptions .....	91

JPEGSaveOptions .....	93
LabColor .....	94
LayerComp.....	95
LayerComps.....	96
Layers.....	97
LayerSet .....	98
LayerSets .....	100
MeasurementLog .....	102
MeasurementScale .....	103
NoColor.....	104
Notifier.....	105
Notifiers.....	106
PathItem .....	108
PathItems .....	112
PathPoint.....	113
PathPointInfo.....	114
PathPoints.....	115
PDFOpenOptions .....	116
PDFSaveOptions .....	117
PhotoCDOpenOptions .....	120
PhotoshopSaveOptions.....	121
PICTFileSaveOptions .....	122
PicturePackageOptions.....	123
PixarSaveOptions .....	124
PNGSaveOptions .....	125
Preferences .....	126
PresentationOptions.....	131
RawFormatOpenOptions .....	132
RawSaveOptions.....	133
RGBColor.....	134
Selection .....	135
SGIRGBSaveOptions .....	140
SolidColor.....	141
SubPathInfo.....	142
SubPathItem.....	143
SubPathItems.....	144
TargaSaveOptions.....	145
TextFont.....	146
TextFonts.....	147
TextItem.....	148
TiffSaveOptions.....	154
XMPMetadata .....	156
<b>3 Scripting Constants .....</b>	<b>157</b>
<b>Appendix A: Event ID Codes .....</b>	<b>174</b>
<b>Index .....</b>	<b>182</b>

This reference describes the objects and commands in the Adobe® Photoshop® CS® 4 VBScript dictionary. A companion document, *Photoshop CS4 Scripting Guide*, describes basic scripting concepts and the Photoshop object model. This document provides reference details of the Photoshop object model, and additional information on VBScript-specific features.

This book contains the following sections:

- This introduction, which describes scripting support in Adobe Photoshop CS4, and lists changes to the VBScript interface since the previous release.
- [“VBScript Interface” on page 6](#), which describes the objects of the VBScript type library for Adobe Photoshop CS4.
- [“Scripting Constants” on page 157](#), which describes the enumerated values defined for use with Adobe Photoshop CS4 VBScript properties and methods.

## Changes Since Earlier Versions

The following changes have been made to the VBScript object model and language support in Adobe Photoshop CS4:

- New properties:
  - `Build` added to the `Application` object.
  - `SystemInformation` added to the `Application` object.
- Modified enumerations:
  - `psBlackAndWhiteLayer` (22) has been added to the `psLayerKind` enumeration.
  - `psVibrance` (23) has been added to the `psLayerKind` enumeration.
  - `psLighterColor` (27) has been added to the `psColorBlendMode` enumeration.
  - `psDarkerColor` (28) has been added to the `psColorBlendMode` enumeration.
- Modified properties:
  - `size` has been modified for the `TextItem` property to be of type `unit value` instead of number (Double).

# 2

## VBScript Interface

The objects of the VBScript type library for Adobe Photoshop CS4 are presented alphabetically and in tabular format in this chapter.

Object properties and methods are described in separate tables for each object. See ['Working with the Properties Tables' on page 6](#) and ['Working with the Methods Tables' on page 6](#) for information on how to use these tables.

Sample code for several object model classes is given to help illustrate the syntax as well as usage of the object class.

### Working with the Properties Tables

The Properties table for an object lists the following:

- The properties you can use with the object
- The value type for each property

When the value type is a constant or another object, the value is a hypertext link to the constant's or object's listing, as in the following Properties table sample.

- The property's input status: Read-only or Read-write.
- A description that explains what the property is

Descriptions are omitted for self-explanatory properties.

Property	Value Type	What it is
DisplayDialogs	<a href="#">PsDialogModes</a>	Read-write. Controls whether or not Adobe Photoshop CS4 displays dialog boxes.

### Working with the Methods Tables

The Methods table for an object lists the following:

- The method name
- Parameter(s)

When a parameter type or return value is a constant or another object, the value is a hypertext link to the constant's or object's listing. In the following Methods table sample, the parameter type `ActionDescriptor` is an object; the parameter type `DialogModes` is a constant; the return value `ActionDescriptor` is also an object.

Parameters can be required or optional. Optional parameters are indicated in the table by square brackets ([ ]). See ['Working with Method Parameters' on page 7](#) for information on using parameters.

- Return value type(s)
- A description, if applicable

Method	Parameter Type	Returns	What it does
<b>ExecuteAction</b> (EventID [, Descriptor] [, DisplayDialogs])	Number (Long) <a href="#">ActionDescriptor</a> <a href="#">PsDialogModes</a>	<a href="#">ActionDescriptor</a>	Plays an ActionManager event.

## Working with Method Parameters

Optional parameters are surrounded by square brackets ([ ]). In the following Methods table sample, the parameters `Descriptor` and `DisplayDialogs` are optional and the parameter `EventID` is not. See

Therefore, if you use the `ExecuteAction()` method for the object associated with the sample Methods table above, you *must* include an `EventID` value in the Parentheses following the method name. The `EventID` value must be a number, as indicated by the `Number (Long)` in the table's Parameter Type column.

If you use an optional parameter, you must separate the parameters with a comma, as indicated by the comma that precedes each optional parameter in the table.

Also, if you use an optional parameter, you must enter the values in the order they are listed in the table so that the JavaScript compiler knows which value you are entering. To skip an optional parameter, insert an extra comma to act as a placeholder.

The following sample provides values for an `EventID` and a `DisplayDialog`, but skips the `Descriptor` parameter (represented by the empty value between two commas). The statement executes action #4233 and allows only error type dialog boxes to be displayed.

```
appRef.ExecuteAction(4233,,Error)
```

## ActionDescriptor

A record of key-value pairs for actions, such as those included on the Adobe Photoshop CS4 Actions menu.

**Note:** The `ActionDescriptor` class is part of the Action Manager functionality. See the *Photoshop CS4 Scripting Guide*.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of keys contained in the descriptor.
<b>typename</b>	String	Read-only. The class name of the referenced <code>ActionDescriptor</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>Clear</b> ( )			Clears the descriptor.
<b>Erase</b> (Key)	Number (Long)		Erases a key from the descriptor.
<b>GetBoolean</b> (Key)	Number (Long)	Boolean	Gets the value of a key of type boolean.
<b>GetClass</b> (Key)	Number (Long)	Number (Long)	Gets the value of a key of type class.
<b>GetDouble</b> (Key)	Number (Long)	Number (Double)	Gets the value of a key of type double.
<b>GetEnumerationType</b> (Key)	Number (Long)	Number (Long)	Gets the enumeration type of a key.
<b>GetEnumerationValue</b> (Key)	Number (Long)	Number (Long)	Gets the enumeration value of a key.
<b>GetInteger</b> (Key)	Number (Long)	Number (Long)	Gets the value of a key of type integer.
<b>GetKey</b> (Index)	Number (Long)	Number (Long)	Gets the ID of the <i>N</i> th key.
<b>GetList</b> (Key)	Number (Long)	<a href="#">ActionList</a>	Gets the value of a key of type list.
<b>GetObjectType</b> (Key)	Number (Long)	Number (Long)	Gets the class ID of an object in a key of type object.



Method	Parameter Type	Returns	What it does (Continued)
<b>GetObjectValue</b> (Key)	Number (Long)	<a href="#">ActionDescriptor</a>	Gets the value of a key of type object.
<b>GetPath</b> (Key)	Number (Long)	String	Gets the value of a key of type Alias. Returns a <code>String</code> that represents a file path.
<b>GetReference</b> (Key)	Number (Long)	<a href="#">ActionReference</a>	Gets the value of a key of type <a href="#">ActionReference</a> .
<b>GetString</b> (Key)	Number (Long)	String	Gets the value of a key of type String.
<b>GetType</b> (Key)	Number (Long)	<a href="#">PsDescValueType</a>	Gets the type of a key.
<b>GetUnitDoubleType</b> (Key)	Number (Long)	Number (Long)	Gets the unit type of a key of type UnitDouble.
<b>GetUnitDoubleValue</b> (Key)	Number (Long)	Number (Double)	Gets the value of a key of type UnitDouble.
<b>HasKey</b> (Key)	Number (Long)	Boolean	Checks whether the descriptor contains the provided key.
<b>IsEqual</b> (otherDesc)	<a href="#">ActionDescriptor</a>	Boolean	Determines whether the descriptor is the same as another descriptor.
<b>PutBoolean</b> (Key, Value)	Number (Long) Boolean		Sets the value for a key whose type is Boolean.
<b>PutClass</b> (Key, Value)	Number (Long) Number (Long)		Sets the value for a key whose type is class.
<b>PutDouble</b> (Key, Value)	Number (Long) Number (Double)		Sets the value for a key whose type is double.
<b>PutEnumerated</b> (Key, EnumType, Value)	Number (Long) Number (Long) Number (Long)		Sets the enumeration type and value for a key.
<b>PutInteger</b> (Key, Value)	Number (Long) Number (Long)		Sets the value for a key whose type is integer.
<b>PutList</b> (Key, Value)	Number (Long) <a href="#">ActionList</a>		Sets the value for a key whose type is an <code>ActionList</code> object.

Method	Parameter Type	Returns	What it does (Continued)
<b>PutObject</b> (Key, ClassID, Value)	Number (Long) Number (Long) <a href="#">ActionDescriptor</a>		Sets the value for a key whose type is an Action Descriptor.
<b>PutPath</b> (Key, Value)	Number (Long) String		Sets the value for a key whose type is path.  The Value argument takes a String that represents a file path.
<b>PutReference</b> (Key, Value)	Number (Long) <a href="#">ActionReference</a>		Sets the value for a key whose type is an object reference.
<b>PutString</b> (Key, Value)	Number (Long) String		Sets the value for a key whose type is String.
<b>PutUnitDouble</b> (Key, UnitID, Value)	Number (Long) Number (Long) Number (Double)		Sets the value for a key whose type is a unit value formatted as a double.

## ActionList

This object provides an array-style mechanism for storing data. It can be used for low-level access into Photoshop.

This object is ideal when storing data of the same type. All items in the list must be the same type.

You can use the "put" methods, such as `putBoolean()`, to append new elements, and can clear the entire list using `clear()`, but cannot otherwise modify the list.

**Note:** The `actionList` object is part of the Action Manager functionality. For details on using the Action Manager, see the *Photoshop CS4 Scripting Guide*.

## Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of commands that comprise the action.
<b>typename</b>	String	Read-only. The class name of the referenced <code>actionList</code> object.

## Methods

With the exception of the `Clear()` method, you use the methods of this object to either get the value of a specific type of data in the list or set (put) the value type.

Method	Parameter Type	Returns	What it does
<b>Clear</b> ( )			Clears the list.
<b>GetBoolean</b> (Index)	Number (Long)	Boolean	Gets the value of a list item of type boolean.
<b>GetClass</b> (Index)	Number (Long)	Number (Long)	Gets the value of a list item of type class.
<b>GetDouble</b> (Index)	Number (Long)	Number (Double)	Gets the value of a list item of type double.
<b>GetEnumerationType</b> (Index)	Number (Long)	Number (Long)	Gets the enumeration type of a list item.
<b>GetEnumerationValue</b> (Index)	Number (Long)	Number (Long)	Gets the enumeration value of a list item.
<b>GetInteger</b> (Index)	Number (Long)	Number (Long)	Gets the value of a list item of type integer.
<b>GetList</b> (Index)	Number (Long)	<a href="#">ActionList</a>	Gets the value of a list item of type list.

Method	Parameter Type	Returns	What it does (Continued)
<b>GetObjectType</b> (Index)	Number (Long)	Number (Long)	Gets the class ID of a list item of type object.
<b>GetObjectValue</b> (Index)	Number (Long)	<a href="#">ActionDescriptor</a>	Gets the value of a list item of type object.
<b>GetPath</b> (Index)	Number (Long)	String	Gets the value of a list item of type Alias.  Returns a <code>String</code> that represents a file path.
<b>GetReference</b> (Index)	Number (Long)	<a href="#">ActionReference</a>	Gets the value of a list item of type <a href="#">ActionReference</a> .
<b>GetString</b> (Index)	Number (Long)	String	Gets the value of a list item of type <code>String</code> .
<b>GetType</b> (Index)	Number (Long)	<a href="#">PsDescValueType</a>	Gets the type of a list item.
<b>GetUnitDoubleType</b> (Index)	Number (Long)	Number (Long)	Gets the unit value type of a list item of type <code>Double</code> .
<b>GetUnitDoubleValue</b> (Index)	Number (Long)	Number (Double)	Gets the unit value of a list item of type <code>double</code> .
<b>PutBoolean</b> (Value)	Boolean		Sets the value to either true or false.
<b>PutClass</b> (Value)	Number (Long)		Sets the class or data type.
<b>PutDouble</b> (Value)	Number (Double)		Sets the value type as a double.
<b>PutEnumerated</b> (EnumType, Value)	Number (Long) Number (Long)		Sets the value type as an enumerated, or constant, value.
<b>PutInteger</b> (Value)	Number (Long)		Sets the value of a list item of type integer.
<b>PutList</b> (Value)	<a href="#">ActionList</a>		Sets the value of a list item of type list or array.
<b>PutObject</b> (ClassID, Value)	Number (Long) <a href="#">ActionDescriptor</a>		Sets the value of a list item of type object.
<b>PutPath</b> (Value)	String		Sets the value of a list item of type path.  The <code>Value</code> parameter takes a <code>String</code> that represents a file path.

<b>Method</b>	<b>Parameter Type</b>	<b>Returns</b>	<b>What it does (Continued)</b>
<b>PutReference</b> (Value)	<a href="#">ActionReference</a>		Sets the value of a list item whose type a reference to an object created in the script.
<b>PutString</b> (Value)	String		Sets the value of a list item of type String.
<b>PutUnitDouble</b> (UnitID, Value)	Number (Long) Number (Double)		Sets the value of a list item of type unit value represented as a double.

## ActionReference

A reference object that contains the data describing the object you are referring to.

**Note:** The `actionReference` object is part of the Action Manager functionality. See the *Photoshop CS4 Scripting Guide*.

### Properties

Property	Value type	What it does
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<code>typename</code>	String	Read-only. The class name of the referenced Action object.

### Methods

Method	Parameter Type	Returns	What it does
<code>GetContainer</code> ( )		<a href="#">ActionReference</a>	Gets a reference contained in this reference.  Container references provide additional pieces to the reference. This looks like another reference, but it is actually part of the same reference.
<code>GetDesiredClass</code> ( )		Number (Long)	Gets a number representing the class of the object.
<code>GetEnumeratedType</code> ( )		Number (Long)	Gets the enumeration type.
<code>GetEnumeratedValue</code> ( )		Number (Long)	Gets the enumeration value.
<code>GetForm</code> ( )		<a href="#">PsReferenceFormType</a>	Gets the form of an <a href="#">ActionReference</a> .
<code>GetIdentifier</code> ( )		Number (Long)	Gets the identifier value for a reference whose form is identifier.
<code>GetIndex</code> ( )		Number (Long)	Gets the index value for a reference in a list or array.
<code>GetName</code> ( )		String	Gets the name of a reference.
<code>GetOffset</code> ( )		Number (Long)	Gets the offset of the object's index value.

<b>Method</b>	<b>Parameter Type</b>	<b>Returns</b>	<b>What it does (Continued)</b>
<b>GetProperty</b> ( )		Number (Long)	Gets the property ID value.
<b>PutClass</b> (DesiredClass)	Number (Long)		Puts a new class form and class type into the reference.
<b>PutEnumerated</b> (DesiredClass, EnumType, Value)	Number (Long) Number (Long) Number (Long)		Puts an enumeration type and ID into a reference along with the desired class for the reference.
<b>PutIdentifier</b> (DesiredClass, Value)	Number (Long) Number (Long)		Puts a new identifier and value into the reference..
<b>PutIndex</b> (DesiredClass, Value)	Number (Long) Number (Long)		Puts a new index and value into the reference.
<b>PutName</b> (DesiredClass, Value)	Number (Long) String		Puts a new name and value into the reference.
<b>PutOffset</b> (DesiredClass, Value)	Number (Long) Number (Long)		Puts a new offset and value into the reference.
<b>PutProperty</b> (DesiredClass, Value)	Number (Long) Number (Long)		Puts a new property and value into the reference.

## Application

The Adobe Adobe Photoshop CS4 application object. The `Application` object contains all other Adobe Photoshop CS4 objects.

### Properties

Property	Value Type	What it is
<b>ActiveDocument</b>	<a href="#">Document</a>	Read-write. The foremost document. (Setting this property is equivalent to clicking an open document in the Adobe Photoshop CS4 application to bring it to the front of the screen.)
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>BackgroundColor</b>	<a href="#">SolidColor</a>	Read-write. The color mode for the document's background color.
<b>Build</b>	string	Read-only. The build number of the application.
<b>ColorSettings</b>	String	Read-write. The name of selected color setting's set.
<b>DisplayDialogs</b>	<a href="#">PsDialogModes</a>	Read-write. The dialog mode for the document, which indicates whether or not Adobe Photoshop CS4 displays dialogs when the script runs.
<b>Documents</b>	<a href="#">Documents</a>	Read-only. The collection of open documents.
<b>Fonts</b>	<a href="#">TextFonts</a>	Read-only. The fonts installed on this system.
<b>ForegroundColor</b>	<a href="#">SolidColor</a>	Read-write. The default foreground color (used to paint, fill, and stroke selections).
<b>FreeMemory</b>	Number (Double)	Read-only. The amount of unused memory available to Adobe Photoshop CS4.
<b>Locale</b>	String	Read-only. The language location of the application.
<b>MacintoshFileTypes</b>	Array of String	Read-only. A list of file image types Adobe Photoshop CS4 can open.
<b>MeasurementLog</b>	<a href="#">MeasurementLog</a>	Read-only. The log of measurements taken.
<b>Name</b>	String	Read-only. The application's name.
<b>Notifiers</b>	<a href="#">Notifiers</a>	Read-only. The collection of notifiers currently configured (in the Scripts Events Manager menu in the Adobe Photoshop CS4 application).
<b>NotifiersEnabled</b>	Boolean	Read-write. Indicates whether all notifiers are enabled or disabled.
<b>Path</b>	String	Read-only. The full path (as a <code>String</code> ) to the location of the Adobe Photoshop CS4 application.



<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>Preferences</b>	<a href="#">Preferences</a>	Read-only. The application preference settings (equivalent to selecting Edit > Preferences in the Adobe Photoshop CS4 application in Windows® or Photoshop > Preferences in Mac OS®).
<b>PreferencesFolder</b>	String	Read-only. The full path to the Preferences folder.
<b>RecentFiles</b>	Array of String	Read-only. Files (as an Array of String) in the Recent Files list.
<b>ScriptingBuildDate</b>	String	Read-only. The build date of the Scripting interface.
<b>ScriptingVersion</b>	String	Read-only. The version of the Scripting interface.
<b>SystemInformation</b>	string	Read-only. The system information for the applicaiton and the system.
<b>typename</b>	String	Read-only. The class name of the referenced Application object.
<b>Version</b>	String	Read-only. The version of Adobe Photoshop application you are running.
<b>Visible</b>	Boolean	Read-write. Indicates whether the Adobe Photoshop CS4 application is the front-most/active application.
<b>WinColorSettings</b>	String	Read-only. Color settings.
<b>WindowsFileTypes</b>	Array of String	Read-only. A list of file image extensions Adobe Photoshop CS4 can open.

## Methods

Method	Parameter Type	Returns	What it does
<b>Batch</b> (InputFiles, Action, From [, Options])	Array of String String String <a href="#">BatchOptions</a>	String	Runs the batch automation routine (similar to the Batch command, or File > Automate > Batch in the Adobe Photoshop CS4 application).  <b>Note:</b> The <code>inputFiles</code> parameter specifies the source for the files (as an array of <code>String</code> ) to be manipulated by the Batch command.
<b>ChangeColorSettings</b> ([Name] [, File])	String String	None	Sets Color Settings to a named set or to the contents of a settings file.  The <code>File</code> parameter represents the path to the file as a <code>String</code> .
<b>CharIDToTypeID</b> (CharID)	String	Number (Long)	Converts from a four character code (character ID) to a runtime ID.
<b>DoAction</b> (Action, From)	String String	none	Plays an action from the Actions palette.
<b>DoJavaScript</b> (JavaScriptCode, [, Arguments] [, ExecutionMode]))	String Array <a href="#">PsJavaScriptExecutionMode</a>	String	Executes the specified JavaScript code.
<b>DoJavaScriptFile</b> (JavaScriptFile, [, Arguments] [, ExecutionMode]))	String Array <a href="#">PsJavaScriptExecutionMode</a>	String	Executes the specified JavaScript code, from the file specified by argument <code>JavaScriptFile</code> .
<b>ExecuteAction</b> (EventID [, Descriptor] [, DisplayDialogs])	Number (Long) <a href="#">ActionDescriptor</a> <a href="#">PsDialogModes</a>	<a href="#">ActionDescriptor</a>	Plays an ActionManager event.

Method	Parameter Type	Returns	What it does
<b>ExecuteActionGet</b> (Reference)	<a href="#">ActionReference</a>	<a href="#">ActionDescriptor</a>	Obtains an ActionDescriptor.
<b>FeatureEnabled</b> (Name )	String	Boolean	Determines whether the feature specified by Name is enabled.  The following features are supported as values for Name:  "photoshop/extended" "photoshop/standard" "photoshop/trial"
<b>Load</b> (Document)	String		Loads a support document from the specified file path location.
<b>MakeContactSheet</b> (InputFiles [, Options])	Array of String <a href="#">ContactSheetOptions</a>	String	Creates a contact sheet from the specified files.
<b>MakePDFPresentation</b> (InputFiles OutputFiles [, Options])	Array of String String <a href="#">PresentationOptions</a>	String	Creates a PDF presentation file from the specified input files.  <b>Note:</b> The return string contains the path to the PDF file.
<b>MakePhotoGallery</b> (InputFolder OutputFolder [, Options])	String String <a href="#">GalleryOptions</a>	String	Creates a Web photo gallery from the files in the specified input folder.
<b>MakePhotomerge</b> (InputFiles)	Array of String	String	Deprecated for Adobe Photoshop CS4.  Merges multiple files into one; user interaction required.
<b>MakePicturePackage</b> (InputFiles [, Options])	Array of String <a href="#">PicturePackageOptions</a>	String	Creates a picture package from the specified input files.

Method	Parameter Type	Returns	What it does
<b>Open</b> (Document [, As] [, AsSmartObject] )	String object (open options) Boolean  <b>Note:</b> See open options for individual file types, such as <a href="#">CameraRAWOpenOptions</a> or <a href="#">EPSOpenOptions</a> , etc.	<a href="#">Document</a>	Opens the specified document as the optionally specified file type. Optional parameter <code>AsSmartObject</code> (default: false) indicates whether to create a smart object around the opened document.
<b>OpenDialog</b> ()		Array of String	Uses the Photoshop open dialog box to select files.  Returns an Array of String representing the files selected.
<b>Purge</b> (Target)	<a href="#">PsPurgeTarget</a>		Purges one or more caches.
<b>Quit</b> ()			Quits the Photoshop application.
<b>Refresh</b> ()			Pauses the script while the application refreshes.
<b>StringIDToTypeID</b> (StringID)	String	Number (Long)	Converts from a String ID to a runtime ID.
<b>TypeIDToCharID</b> (TypeID)	Number (Long)	String	Converts from a runtime ID to a character ID.
<b>TypeIDToStringID</b> (TypeID)	Number (Long)	String	Converts from a runtime ID to a String ID.

## First Sample Script

The following script displays a message box that contains the application version number, the path to the application, the amount of memory available, and the number of documents open.

When the user clicks OK, a second dialog asks whether they would like the foreground and background colors set.

A third dialog offers to open a sample file. If the user clicks OK, the script opens the file Fish.psd from the samples folder in the application directory.

**Application.vbs**

```
' Create a Welcome message
' Use the name and version properties of the application object to append the
' application's name and version to the Welcome message use vbCrLf to insert a
' carriage return

Dim appRef, message, documentsOpen, answer, sampleDocToOpen

Set appRef = CreateObject("Photoshop.Application")

message = "Welcome to " & appRef.Name
message = message & " version " & appRef.Version & vbCrLf & vbCrLf

' find out where Photoshop CS4 is installed and add the path to the message add
' the optional parameter fsName to the path property to display the file system
' name in the most common format
message = message & "I'm installed in " & appRef.Path & vbCrLf & vbCrLf

' see how much memory Photoshop CS4 has to play with
message = message & "You have this much memory available for Photoshop CS4: "
message = message & appRef.FreeMemory & vbCrLf & vbCrLf

' use the Count property of the Documents object to see how many are open
documentsOpen = appRef.Documents.Count
message = message & "You currently have " & documentsOpen & " documents open." & _
    vbCrLf & vbCrLf

'display the message to the user
MsgBox (message)

answer = MsgBox _
    ("Do you want me to set the foreground and background to my favorite colors?", _
    vbYesNo, "Change Colors?")
' set the colors
If answer = vbYes Then
    Randomize ' Initialize random-number generator.
    ' I don't have a favorite color. Why did I ask you may wonder?
    appRef.ForegroundColor.RGB.Red = Rnd() * 255
    appRef.ForegroundColor.RGB.Green = Rnd() * 255
    appRef.ForegroundColor.RGB.Blue = Rnd() * 255
    appRef.BackgroundColor.RGB.Red = Rnd() * 255
    appRef.BackgroundColor.RGB.Green = Rnd() * 255
    appRef.BackgroundColor.RGB.Blue = Rnd() * 255
End If

' Open a document
If documentsOpen = 0 Then
    ' use the application's path and the offset to the samples folder
    sampleDocToOpen = appRef.Path & "Samples\Fish.psd"
    ' compose a message with the name of the file
    message = "Would you like me to open a sample for you? ("
    message = message & sampleDocToOpen & ")"
    ' ask the user another question
    answer = MsgBox (message, vbYesNo, "Open Something?")
    ' open the document accordingly
    If answer = vbYes Then
        appRef.Open sampleDocToOpen
    End If
End If
```

## Second Sample Script

The following script presents a progression of images as a PDF slide show.

### PDFPresentation.vbs

```
' use all the files in the Samples folder
Dim appRef, inputFiles(), i, outputFile, options, objWshShell

Set appRef = CreateObject("Photoshop.Application")

' get all the files found in this folder
Set fsoRef = CreateObject("Scripting.FileSystemObject")
Set folderRef = fsoRef.GetFolder(appRef.Path & "Samples\")

ReDim inputFiles(folderRef.Files.Count-1)

i = 0
For Each f in folderRef.Files
    inputFiles(i) = f.Path
    i = i + 1
Next

' Get a shell object so we can point to the desktop
Set shellRef = WScript.CreateObject("Wscript.Shell")
outputFile = shellRef.SpecialFolders("Desktop") & "\VBSPresentation.pdf"

' there are defaults but I like to set the options myself
Set options = CreateObject("Photoshop.PresentationOptions")
options.Presentation = true
options.PDFFileOptions.Encoding = 2 'for PsPDFEncoding --> 2 (psPDFJPEG)
options.AutoAdvance = true
options.Interval = 5
options.Loop = false
options.Transition = 10 'for PsTransitionType --> 10 (psRandom)

' create the presentation
appRef.MakePDFPresentation inputFiles, outputFile, options

Set objWshShell = WScript.CreateObject("Wscript.Shell")
WScript.Echo "Presentation file saved in: " & _
    shellRef.SpecialFolders("Desktop") & "\VBSPresentation.pdf"
```

## ArtLayer

An object within a document that contains the visual elements of the image (equivalent to a layer in the Adobe Photoshop CS4 application).

### Properties

Property	Value Type	What it is
<b>AllLocked</b>	Boolean	Read-write. Indicates whether to completely lock the layer's contents and settings.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that this art layer belongs to.
<b>BlendMode</b>	<a href="#">PsBlendMode</a>	Read-write. The layer's blending mode.
<b>Bounds</b>	Array	Read-only. An array of coordinates that describes the bounding rectangle of the ArtLayer.
<b>FillOpacity</b>	Number (Double)	Read-write. The interior opacity of the layer (0.0 - 100.0).
<b>Grouped</b>	Boolean	Read-write. Indicates whether to group this layer with the layer beneath it.
<b>IsBackgroundLayer</b>	Boolean	Read-write. Indicates whether the layer is a background layer or normal layer.  <b>Note:</b> A document can have only one background layer.
<b>Kind</b>	<a href="#">PsLayerKind</a>	Read-write. Sets the layer's kind (such as 'text layer') for an empty layer.  <b>Note:</b> Valid only when the layer is empty and when <code>IsBackgroundLayer</code> is false. See <a href="#">IsBackgroundLayer</a> .  <b>Note:</b> You can use the <code>kind</code> property to make a background layer a normal layer; however, to make a layer a background layer, you must set <code>IsBackgroundLayer</code> to true.
<b>LinkedLayers</b>	Array of <a href="#">ArtLayer</a> and/or <a href="#">LayerSet</a>	Read-only. The layers linked to this layer.  <b>Note:</b> See <a href="#">Link</a> .
<b>Name</b>	String	Read-write. The layer's name.
<b>Opacity</b>	Number (Double)	Read-write. The master opacity of the layer (0.0 - 100.0).
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The object's container.

Property	Value Type	What it is (Continued)
<b>PixelsLocked</b>	Boolean	Read-write. Indicates whether the pixels in the layer's image can be edited using the paintbrush tool.
<b>PositionLocked</b>	Boolean	Read-write. Indicates whether the pixels in the layer's image can be moved within the layer.
<b>TextItem</b>	<a href="#">TextItem</a>	Read-only. The text item that is associated with the layer.  <b>Note:</b> Valid only when <code>Kind = 2</code> . See <a href="#">Kind</a> .
<b>TransparentPixelsLocked</b>	Boolean	Read-write. Indicates whether editing is confined to the opaque portions of the layer.
<b>typename</b>	String	Read-only. The class name of the referenced <code>ArtLayer</code> object.
<b>Visible</b>	Boolean	Read-write. Indicates whether the layer is visible.
<b>XMPMetadata</b>	Object ( <a href="#">XMPMetadata</a> )	Read-only. XMP data for the layer.

## Methods

Method	Parameter Type	Returns	What it does
<b>AdjustBrightnessContrast</b> (Brightness, Contrast)	Number (Long) Number (Long)		Adjusts the brightness (-100 - 100) and contrast (-100 - 100).
<b>AdjustColorBalance</b> ([Shadows] [, Midtones] [, Highlights] [, PreserveLuminosity])	Array of Number Array of Number Array of Number Boolean		Adjusts the color balance of the layer's component channels. For <code>Shadows</code> , <code>Midtones</code> , and <code>Highlights</code> , the array must include three values (-100 - 100), which represent cyan or red, magenta or green, and yellow or blue, when the document mode is CMYK or RGB.  <b>Note:</b> See <code>mode</code> in the Properties table of the <a href="#">Document</a> object.
<b>AdjustCurves</b> (CurveShape)	Array of points (Array (Array(x, y)))		Adjusts the tonal range of the selected channel using up to fourteen points.



Method	Parameter Type	Returns	What it does (Continued)
<b>AdjustLevels</b> (InputRangeStart, InputRangeEnd, InputRangeGamma, OutputRangeStart, OutputRangeEnd)	Number (Long) Number (Long) Number (Double) Number (Long) Number (Long)		Adjusts the levels of the selected channels (InputRangeStart: 0 - 253; InputRangeEnd: (InputRangeStart + 2) - 255; InputRangeGamma: 0.10 - 9.99; OutputRangeStart: 0 - 253; OutputRangeEnd: (OutputRangeStart + 2) - 255).
<b>ApplyAddNoise</b> (Amount, Distribution, Monochromatic)	Number (Double) <a href="#">PsNoiseDistribution</a> Boolean		Applies the Add Noise filter (Amount: 0.1 - 400, as a percentage).
<b>ApplyAverage</b> ( )			Applies the Average filter.
<b>ApplyBlur</b> ( )			Applies the Blur filter.
<b>ApplyBlurMore</b> ( )			Applies the Blur More filter.
<b>ApplyClouds</b> ( )			Applies the Clouds filter.
<b>ApplyCustomFilter</b> (Characteristics, Scale, Offset)	Array of twenty-five Numbers (Long) Number (Long) Number (Long)		Applies a custom filter.  <b>Note:</b> Required parameter values define the filter. Refer to Adobe Photoshop CS4 Help for specific instructions.
<b>ApplyDeInterlace</b> (EliminateFields, CreateFields)	<a href="#">PsEliminateFields</a> <a href="#">PsCreateFields</a>		Applies the De-Interlace filter.
<b>ApplyDespeckle</b> ( )			Applies the Despeckle filter.
<b>ApplyDifferenceClouds</b> ( )			Applies the Difference Clouds filter.
<b>ApplyDiffuseGlow</b> (Graininess, GlowAmount, ClearAmount)	Number (Long) Number (Long) Number (Long)		Applies the Diffuse Glow filter (Graininess: 0 - 10; GlowAmount: 0 - 20; ClearAmount: 0 - 20).
<b>ApplyDisplace</b> (HorizontalScale, VerticalScale, DisplacementType, UndefinedAreas, DisplacementMapFiles)	Number (Long) Number (Long) <a href="#">PsDisplacementMapType</a> <a href="#">PsUndefinedAreas</a> String		Applies the Displace filter using the specified horizontal and vertical scale (-999 - 999), mapping type, treatment of undistorted areas, and path to the distortion image map.

Method	Parameter Type	Returns	What it does (Continued)
<b>ApplyDustAndScratches</b> (Radius, Threshold)	Number (Long) Number (Long)		Applies the Dust & Scratches filter (Radius: 1 - 100; Threshold: 0 - 255).
<b>ApplyGaussianBlur</b> (Radius)	Number (Double)		Applies the Gaussian Blur filter within the specified radius (in pixels) (0.1 - 250.0).
<b>ApplyGlassEffect</b> (Distortion, Smoothness, Scaling [, Invert] [, Texture] [, TextureFile])	Number (Long) Number (Long) Number (Long) Boolean <a href="#">PsTextureType</a> String		Applies the Glass filter (Distortion: 0 - 20; Smoothness: 1 - 15; Scaling (in percent): 50 - 200).  <b>Note:</b> The TextureFile parameter represents the path to a texture file as a String.
<b>ApplyHighPass</b> (Radius)	Number (Double)		Applies the High Pass filter within the specified radius (in pixels) (0.1 - 250.0).

Method	Parameter Type	Returns	What it does (Continued)
<p><b>ApplyLensBlur</b>                      ([Source]                      [, FocalDistance]                      [, InvertDepthMap]                      [, Shape]                      [, Radius]                      [, BladeCurvature]                      [, Rotation]                      [, Brightness]                      [, Threshold]                      [, Amount]                      [, Distribution]                      [, Monochromatic]                      )</p>	<p><a href="#">PsDepthMapSource</a>                      Number (Long)                      Boolean  <a href="#">PsGeometry</a>                      Number (Long)                      Number (Long)                      Number (Long)                      Number (Long)                      Number (Long)                      Number (Long)  <a href="#">PsNoiseDistribution</a>                      Boolean</p>		<p>Applies the Lens Blur filter.</p> <p><b>source:</b> the source for the depth map. Default: 1 (psNoSource).</p> <p><b>focalDistance:</b> the blur focal distance for the depth map (default: 0).</p> <p><b>invertDepthMask:</b> whether the depth map is inverted (default: false).</p> <p><b>shape:</b> The shape of the iris. Default: 2 (psHexagon).</p> <p><b>radius:</b> The radius of the iris (default: 15).</p> <p><b>bladeCurvature:</b> The blade curvature of the iris (default: 0).</p> <p><b>rotation:</b> The rotation of the iris (default: 0)</p> <p><b>brightness:</b> The brightness for the specular highlights (default: 0).</p> <p><b>threshold:</b> The threshold for the specular highlights (default: 0).</p> <p><b>amount:</b> The amount of noise (default: 0)</p> <p><b>distribution:</b> The distribution value for the noise. Default: 1 (psUniformNoise).</p> <p><b>monochromatic:</b> Indicates whether the noise is monochromatic (default: false).</p>
<p><b>ApplyLensFlare</b>                      (Brightness,                      FlareCenter,                      LensType)</p>	<p>Number (Long)                      Array (Double)  <a href="#">PsLensType</a></p>		<p>Applies the Lens Flare filter with the specified brightness (0 - 300, as a percentage), the x and y coordinates (unit value) of the flare center, and the lens type.</p>
<p><b>ApplyMaximum</b>                      (Radius)</p>	<p>Number (Double)</p>		<p>Applies the Maximum filter within the specified radius (in pixels) (1 - 100).</p>
<p><b>ApplyMedianNoise</b>                      (Radius)</p>	<p>Number (Double)</p>		<p>Applies the Median Noise filter within the specified radius (in pixels) (1 - 100).</p>

Method	Parameter Type	Returns	What it does (Continued)
<b>ApplyMinimum</b> (Radius)	Number (Double)		Applies the Minimum filter within the specified radius (in pixels) (1 - 100).
<b>ApplyMotionBlur</b> (Angle, Radius)	Number (Long) Number (Double)		Applies the Motion Blur filter (Angle: -360 - 360; Radius: 1 - 999).
<b>ApplyNTSC</b> ( )			Applies the NTSC colors filter.
<b>ApplyOceanRipple</b> (Size, Magnitude)	Number (Long) Number (Long)		Applies the Ocean Ripple filter in the specified size (1 - 15) and magnitude (0 - 20).
<b>ApplyOffset</b> (Horizontal, Vertical, UndefinedAreas)	Number (Double) Number (Double) <a href="#">PsOffsetUndefinedAreas</a>		Moves the layer the specified amount horizontally and vertically (min/max amounts depend on layer size), leaving an undefined area at the layer's original location.
<b>ApplyPinch</b> (Amount)	Number (Long)		Applies the Pinch filter in the specified amount (as a percentage) (-100 - 100).
<b>ApplyPolarCoordinates</b> (Conversion)	<a href="#">PsPolarConversionType</a>		Applies the Polar Coordinates filter.
<b>ApplyRadialBlur</b> (Amount, BlurMethod, BlurQuality)	Number (Long) <a href="#">PsRadialBlurMethod</a> <a href="#">PsRadialBlurQuality</a>		Applies the Radial Blur filter in the specified amount (1 - 100) using either a spin or zoom effect and the specified quality.
<b>ApplyRipple</b> (Amount, Size)	Number (Long) <a href="#">PsRippleSize</a>		Applies the Ripple filter in the specified amount (-999 to 999) throughout the image and in the specified size.
<b>ApplySharpen</b> ( )			Applies the Sharpen filter.
<b>ApplySharpenEdges</b> ( )			Applies the Sharpen Edges filter.
<b>ApplySharpenMore</b> ( )			Applies the Sharpen More filter.
<b>ApplyShear</b> (Curve, UndefinedAreas)	Array of points (Array (Array(x, y))) <a href="#">PsUndefinedAreas</a>		Applies the Shear filter (curve: 2 - 255 points).  <b>Note:</b> You must define at least two points in the Curve parameter.

Method	Parameter Type	Returns	What it does (Continued)
<b>ApplySmartBlur</b> (Radius, Threshold, BlurQuality, Mode)	Number (Double) Number (Double) <a href="#">PsSmartBlurQuality</a> <a href="#">PsSmartBlurMode</a>		Applies the smart blur filter (Radius: 0.1 - 100.0; Threshold: 0.1 - 100.0).
<b>ApplySpherize</b> (Amount, Mode)	Number (Long) <a href="#">PsSpherizeMode</a>		Applies the Spherize filter in the specified amount (as percentage) (-100 - 100).
<b>ApplyStyle</b> (StyleName)	String		Applies the specified style to the layer.  <b>Note:</b> You must use a style from the Styles list in the Layer Style dialog.
<b>ApplyTextureFill</b> (TextureFile)	String		Applies the Texture Fill filter.
<b>ApplyTwirl</b> (Angle)	Number (Long)		Applies the Twirl filter at the specified angle (-999 - 999).
<b>ApplyUnSharpMask</b> (Amount, Radius, Threshold)	Number (Double) Number (Double) Number (Long)		Applies the Unsharp Mask filter (Amount: 1 - 500 as percent; Radius: 0.1 - 250.00; Threshold: 0 - 255).
<b>ApplyWave</b> (GeneratorNumber, MinimumWavelength, MaximumWavelength, MinimumAmplitude, MaximumAmplitude, HorizontalScale, VerticalScale, WaveType, UndefinedAreas, RandomSeed)	Number (Long) Number (Long) Number (Long) Number (Long) Number (Long) Number (Long) <a href="#">PsWaveType</a> <a href="#">PsUndefinedAreas</a> Number (Long)		Applies the Wave filter (GeneratorNumber: <b>1 - 999</b> ; MinimumWavelength: <b>1 - 998</b> ; MaximumWavelength: <b>2 - MinimumWavelength + 1</b> ; MinimumAmplitude: <b>1 - 998</b> ; MaximumAmplitude: <b>2 - MinimumAmplitude + 1</b> ; AmountScale: <b>1 - 100</b> , as a percentage; VerticalScale: <b>1 - 100</b> , as a percentage).
<b>ApplyZigZag</b> (Amount, Ridges, Style)	Number (Long) Number (Long) <a href="#">PsZigZagType</a>		Applies the Zigzag filter (Amount: -100 - 100; Ridges: 0 - 20).
<b>AutoContrast</b> ( )			Adjusts the contrast of the selected channels automatically.
<b>AutoLevels</b> ( )			Adjusts the levels of the selected channels using the auto levels option.
<b>Clear</b> ( )			Cuts the layer without moving it to the clipboard.

Method	Parameter Type	Returns	What it does (Continued)
<b>Copy</b> ( [Merge] )	Boolean		Copies the layer to the clipboard. When the optional argument is set to <code>true</code> , a merged copy is performed (that is, all visible layers are copied to the clipboard).
<b>Cut</b> ( )			Cuts the layer to the clipboard.
<b>Desaturate</b> ( )			Converts a color image to a grayscale image in the current color mode by assigning equal values of each component color to each pixel.
<b>Duplicate</b> ( [RelativeObject] [, InsertionLocation] )	Object ( <a href="#">ArtLayer</a> or <a href="#">LayerSet</a> ) <a href="#">PsElementPlacement</a>	<a href="#">ArtLayer</a>	Creates a duplicate of the object on the screen.
<b>Equalize</b> ( )			Redistributes the brightness values of pixels in an image to more evenly represent the entire range of brightness levels within the image.
<b>Invert</b> ( )			Inverts the colors in the layer by converting the brightness value of each pixel in the channels to the inverse value on the 256-step color-values scale.
<b>Link</b> (With)	Object ( <a href="#">ArtLayer</a> or <a href="#">LayerSet</a> )		Links the layer with the specified layer.
<b>Merge</b> ( )		<a href="#">ArtLayer</a>	Merges the layer down, removing the layer from the document; returns a reference to the art layer that this layer is merged into.

Method	Parameter Type	Returns	What it does (Continued)
<b>MixChannels</b> (OutputChannels [, Monochrome])	Array of Array of Number (Double) Boolean		Modifies a targeted (output) color channel using a mix of the existing color channels in the image. (OutputChannels = An array of channel specifications. For each component channel, specify a list of adjustment values (-200 - 200) followed by a 'constant' value (-200 - 200).)  <b>Note:</b> When Monochrome = true, the maximum number of channel value specifications is 1.  <b>Note:</b> Valid only when Document.Mode = 2 or Document.Mode = 3.  <b>Note:</b> RGB arrays must include four doubles. CMYK arrays must include five doubles.
<b>Move</b> (ApplicationObject, InsertionLocation)	Object (ArtLayer or LayerSet) <a href="#">PsElementPlacement</a>		Moves the layer relative to the object specified in parameters.  <b>Note:</b> For art layers, only the constant values 3 and 4 are valid.  For layer sets, only the constant values 3 and 0 are valid.
<b>PhotoFilter</b> ([FillColor] [, Density] [, PreserveLuminosity])	<a href="#">SolidColor</a> Number (Long) Boolean		Adjust the layer's color balance and temperature as if a color filter had been applied (Density: 1 - 100, as a percentage).
<b>Posterize</b> (Levels)	Number (Long)		Specifies the number of tonal levels (2 - 255) for each channel and then maps pixels to the closest matching level.
<b>Rasterize</b> (Target)	<a href="#">PsRasterizeType</a>		Converts the targeted contents in the layer into a flat, raster image.
<b>Resize</b> ([Horizontal] [, Vertical] [, Anchor])	Number (Double) Number (Double) <a href="#">PsAnchorPosition</a>		Resizes the layer to the specified dimensions (as a percentage of its current size) and places it in the specified position.

Method	Parameter Type	Returns	What it does (Continued)
<b>Rotate</b> (Angle [, Anchor])	Number (Double) <a href="#">PsAnchorPosition</a>		Rotates the layer around the specified anchor point.
<b>SelectiveColor</b> (SelectionMethod [, Reds] [, Yellows] [, Greens] [, Cyans] [, Blues] [, Magentas] [, Whites] [, Neutrals] [, Blacks])	<a href="#">PsAdjustmentReference</a> Array of Number (Long) Array of Number (Long) Array of Number (Long) Array of Number (Long) Array of Number (Long) Array of Number (Long) Array of Number (Long) Array of Number (Long) Array of Number (Long)		Modifies the amount of a process color in a specified primary color without affecting the other primary colors.  <b>Note:</b> Each color array must have four components.
<b>ShadowHighlight</b> ([ShadowAmount] [, ShadowWidth] [, ShadowRadius] [, HighlightAmount] [, HighlightWidth] [, HighlightRadius] [, ColorCorrection] [, MidtoneContrast] [, BlackClip] [, WhiteClip])	Number (Long) Number (Long) Number (Long) Number (Long) Number (Long) Number (Long) Number (Long) Number (Double) Number (Double)		Adjusts the range of tones in the image's Shadows and highlights (ShadowAmount: 0 - 100 as percent; ShadowWidth: 0 - 100 as percent; ShadowRadius: 0 - 2500 in pixels; HighlightAmount: 0 - 100 as percent; HighlightWidth: 0 - 100 as percent; HighlightRadius: 0 - 2500 in pixels; ColorCorrection: -100 - 100; MidtoneContrast: -100 - 100; BlackClip: 0.000 - 50.000; WhiteClip: 0.000 - 50.000).
<b>Threshold</b> (Level)	Number (Long)		Converts grayscale or color images to high-contrast, B/W images by converting pixels lighter than the specified threshold to white and pixels darker than the threshold to black (level: 1 - 255).
<b>Translate</b> ([DeltaX] [, DeltaY])	Number (Double) Number (Double)		Moves the layer the specified amount (in pixels) relative to its current position.
<b>Unlink</b> ( )			Unlinks the layer.

## Sample Script

The following script closes any open documents (files), then opens each file in the Samples folder, creating an art layer for each image and using the image's file name as the layer name.

### ArtLayer.vbs

```
Dim appRef, startRulerUnits, startTypeUnits, startDisplayDialogs, mergedDoc
Dim fsoRef, folderRef, topLeftH, topLeftV, docH, docV, docName, selRegion
```



```
Dim x, y, layer1, layer2

Set appRef = CreateObject("Photoshop.Application")

' Save the current preferences
startRulerUnits = appRef.Preferences.RulerUnits
startTypeUnits = appRef.Preferences.TypeUnits
startDisplayDialogs = appRef.DisplayDialogs

' Set Photoshop CS4 to use pixels and display no dialogs
appRef.Preferences.RulerUnits = 1 'for PsUnits --> 1 (psPixels)
appRef.Preferences.TypeUnits = 1 'for PsTypeUnits --> 1 (psPixels)
appRef.DisplayDialogs = 3 'for PsDialogModes --> 3 (psDisplayNoDialogs)

' Close all the open documents
Do While appRef.Documents.Count
    appRef.ActiveDocument.Close()
Loop

' Create a new document to merge all the samples into
Set mergedDoc = appRef.Documents.Add(1000, 1000, 72, "Merged Samples", 2, 3, 1)
'enumerated values 2 = PsNewDocumentMode --> 2 (PsNewRGB) and
'3 = PsDocumentFill --> 3 (psTransparent)

' get all the files found in this folder
Set fsoRef = CreateObject( "Scripting.FileSystemObject" )
Set folderRef = fsoRef.GetFolder( appRef.Path & "Samples\" )

Randomize

' open each file
For Each f in folderRef.Files
    appRef.Open f.Path

    ' use the document name for the layer name in the merged document
    docName = appRef.ActiveDocument.Name

    ' flatten the document so we get everything and then copy
    appRef.ActiveDocument.flatten()
    appRef.ActiveDocument.Selection.SelectAll()
    appRef.ActiveDocument.Selection.Copy()

    ' don't save anything we did
    appRef.ActiveDocument.Close(2)
    'the enumerated value Close(2) = PsSaveOptions >2 (psDoNotSaveChanges)

    ' make a random selection on the document to paste into
    ' by dividing the document up in 4 quadrants and pasting
    ' into one of them by selecting that area
    topLeftH = Int(Rnd() * 2)
    topLeftV = Int(Rnd() * 2)
    ' MsgBox topLeftH & ":" & topLeftV
    docH = appRef.ActiveDocument.Width / 2
    docV = appRef.ActiveDocument.Height / 2
    selRegion = Array( Array( topLeftH * docH, topLeftV * docV), _
        Array( topLeftH * docH + docH, topLeftV * docV), _
        Array( topLeftH * docH + docH, topLeftV * docV + docV), _
        Array( topLeftH * docH, topLeftV * docV + docV), _
        Array( topLeftH * docH, topLeftV * docV) )
    appRef.ActiveDocument.Selection.Select(selRegion)
```

```
appRef.ActiveDocument.Paste()

' change the layer name and opacity
appRef.ActiveDocument.ActiveLayer.Name = docName
appRef.ActiveDocument.ActiveLayer.FillOpacity = 50
Next

' sort the layers by name
x = 0
y = 0
for x = 1 To appRef.ActiveDocument.Layers.Count
    for y = 1 To appRef.ActiveDocument.Layers.Count - 1
        Set layer1 = appRef.ActiveDocument.Layers(y)
        Set layer2 = appRef.ActiveDocument.Layers(y + 1)
        If layer1.Name > layer2.Name Then
            layer1.move layer2, 4
        End If
    Next
Next

' Reset the application preferences
appRef.Preferences.RulerUnits = startRulerUnits
appRef.Preferences.TypeUnits = startTypeUnits
appRef.DisplayDialogs = startDisplayDialogs
```

## ArtLayers

The collection of `ArtLayer` objects in the document.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of elements in the <code>ArtLayers</code> collection.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>ArtLayers</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>Add</b> ( )		<a href="#">ArtLayer</a>	Creates a new <code>ArtLayer</code> in the document.
<b>Index</b> (ItemPtr)	Object ( <a href="#">ArtLayer</a> )	Number (long)	Gets the index of the <code>ArtLayer</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">ArtLayer</a>	Gets an element from the <code>ArtLayers</code> collection.
<b>RemoveAll</b> ( )		Nothing	Removes all elements from the <code>ArtLayers</code> collection.

## BatchOptions

Options to specify when running a Batch command.

### Properties

Property	Value type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Destination</b>	<a href="#">PsBatchDestinationType</a>	Read-write. The type of destination for the processed files. Default: 1 (psNoDestination).
<b>DestinationFolder</b>	String	Read-write. The folder location for the processed files.  <b>Note:</b> Valid only when <code>Destination = 3</code> (psFolder). See <a href="#">Destination</a> .
<b>ErrorFile</b>	String	Read-write. The file in which to log errors encountered.  <b>Note:</b> To display errors on the screen (and stop batch processing when errors occur) leave blank.
<b>FileNaming</b>	Array of ( <a href="#">PsFileNamingType</a> options)	Read-write. A list of file naming options (maximum: 6).  <b>Note:</b> Valid only when <code>Destination = 3</code> (psFolder). See <a href="#">Destination</a> .
<b>MacintoshCompatible</b>	Boolean	Read-write. Indicates whether to make the final file names Macintosh compatible. Default: true.  <b>Note:</b> Valid only when <code>Destination = 3</code> (psFolder). See <a href="#">Destination</a> .
<b>OverrideOpen</b>	Boolean	Read-write. Indicates whether to override action open commands. Default: false.
<b>OverrideSave</b>	Boolean	Read-write. Indicates whether to override save as action steps with the specified destination. Default: false.  <b>Note:</b> Valid only when <code>Destination = 3</code> (psFolder). Or <code>Destination = 2</code> (psSaveAndClose). See <a href="#">Destination</a> .
<b>StartingSerial</b>	Number (Long)	Read-write. The starting serial number to use in naming files. Default: 1.  <b>Note:</b> Valid only when <code>Destination = 3</code> (psFolder). See <a href="#">Destination</a> .

Property	Value type	What it is (Continued)
<code>SuppressOpen</code>	Boolean	Read-write. Indicates whether to suppress the file open options dialogs. Default: <code>false</code> .
<code>SuppressProfile</code>	Boolean	Read-write. Indicates whether to suppress the color profile warnings. Default: <code>false</code> .
<code>typename</code>	String	Read-only. The class name of the referenced <code>BatchOptions</code> object.
<code>UnixCompatible</code>	Boolean	Read-write. Indicates whether to make the final file name Unix <sup>®</sup> compatible. Default: <code>true</code> .  <b>Note:</b> Valid only when <code>Destination = 3</code> ( <code>psFolder</code> ). See <a href="#">Destination</a> .
<code>WindowsCompatible</code>	Boolean	Read-write. Indicates whether to make the final file names Windows compatible. Default: <code>true</code> .  <b>Note:</b> Valid only when <code>Destination = 3</code> ( <code>psFolder</code> ). See <a href="#">Destination</a> .

## BitmapConversionOptions

Options to specify when converting an image to Bitmap mode.

**Note:** Convert color images to grayscale before converting the image to bitmap mode. See [‘Desaturate’ on page 30](#) (in the Properties table of the `ArtLayer` object).

### Properties

Property	Value Type	What it is
<b>Angle</b>	Number (Double)	Read-write. The angle (in degrees) at which to orient individual dots (-180 - 180). See <a href="#">Shape</a> . <b>Note:</b> Valid only when <code>Method</code> = 4. See <a href="#">Method</a> .
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Frequency</b>	Number (Double)	Read-write. The number of printer dots (per inch) to use (1.0 - 999.99). <b>Note:</b> Valid only when <code>Method</code> = 4. See <a href="#">Method</a> .
<b>Method</b>	<a href="#">PsBitmapConversionType</a>	Read-write. The conversion method to use. Default: 3.
<b>PatternName</b>	String	Read-write. The name of the pattern to use. <b>Note:</b> Valid only when <code>Method</code> = 5. See <a href="#">Method</a> .
<b>Resolution</b>	Number (Double)	Read-write. The output resolution in pixels per inch. Default: 72.0.
<b>Shape</b>	<a href="#">PsBitmapHalfToneType</a>	Read-write. The dot shape to use. <b>Note:</b> Valid only when <code>Method</code> = 1. See <a href="#">Method</a> .
<b>typename</b>	String	Read-only. The class name of the referenced <code>BitmapConversionOptions</code> object.

## BMPSaveOptions

Options that can be specified when saving a document in BMP format.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Depth</b>	<a href="#">PsBMPDepthType</a>	Read-write. The number of bits per channel.
<b>FlipRowOrder</b>	Boolean	Read-write. Indicates whether to write the image from top to bottom. Default: <code>false</code> .  <b>Note:</b> Available only when <code>OSType = 2</code> . See <a href="#">OSType</a> .
<b>OSType</b>	<a href="#">PsOperatingSystem</a>	Read-write. The target OS. Default: 2.
<b>RLECompression</b>	Boolean	Read-write. Indicates whether to use RLE compression.  <b>Note:</b> Available only when <code>OSType = 2</code> . See <a href="#">OSType</a> .
<b>typename</b>	String	Read-only. The class name of the referenced <code>BMPSaveOptions</code> object.

## CameraRAWOpenOptions

Options that can be specified when opening a document in Camera Raw format.

### Properties

Property	Value type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>BitsPerChannel</b>	<a href="#">PsBitsPerChannelType</a>	Read-write. The number of bits per channel.
<b>BlueHue</b>	Number (Long)	Read-write. The blue hue of the shot (-100 - 100).
<b>BlueSaturation</b>	Number (Long)	Read-write. The blue saturation of the shot (-100 - 100).
<b>Brightness</b>	Number (Long)	Read-write. The brightness of the shot (0 - 150).
<b>ChromaticAberrationBY</b>	Number (Long)	Read-write. The chromatic aberration B/Y of the shot (-100 - 100).
<b>ChromaticAberrationRC</b>	Number (Long)	Read-write. The chromatic aberration R/C of the shot (-100 - 100).
<b>ColorNoiseReduction</b>	Number (Long)	Read-write. The color noise reduction of the shot (0 - 100).
<b>ColorSpace</b>	<a href="#">PsColorSpaceType</a>	Read-write. The colorspace for the image.
<b>Contrast</b>	Number (Long)	Read-write. The contrast of the shot (-50 - 100).
<b>Exposure</b>	Number (Double)	Read-write. The exposure of the shot (4.0 - 4.0).
<b>GreenHue</b>	Number (Long)	Read-write. The green hue of the shot (-100 - 100).
<b>GreenSaturation</b>	Number (Long)	Read-write. The green saturation of the shot (-100 - 100).
<b>LuminanceSmoothing</b>	Number (Long)	Read-write. The luminance smoothing of the shot (0 - 100).
<b>RedHue</b>	Number (Long)	Read-write. The red hue of the shot (-100 - 100).
<b>RedSaturation</b>	Number (Long)	Read-write. The red saturation of the shot (-100 - 100).
<b>Resolution</b>	Number (Double)	Read-write. The resolution of the document in pixels per inch (1 - 999).



<b>Property</b>	<b>Value type</b>	<b>What it is (Continued)</b>
<b>Saturation</b>	Number (Long)	Read-write. The saturation of the shot (-100 - 100).
<b>Settings</b>	<a href="#">PsCameraRAWSettingsType</a>	Read-write. The global settings for all Camera RAW options. Default: 0 (psCameraDefault).
<b>Shadows</b>	Number (Long)	Read-write. The shadows of the shot (0 - 100).
<b>ShadowTint</b>	Number (Long)	Read-write. The shadow tint of the shot (-100 - 100).
<b>Sharpness</b>	Number (Long)	Read-write. The sharpness of the shot (0 - 100).
<b>Size</b>	<a href="#">PsCameraRAWSize</a>	Read-write. The size of the new document.
<b>Temperature</b>	Number (Long)	Read-write. The temperature of the shot (2000 - 50000).
<b>Tint</b>	Number (Long)	Read-write. The tint of the shot (-150 - 150).
<b>typename</b>	String	Read-only. The class name of the referenced CameraRAWOpenOptions object.
<b>VignettingAmount</b>	Number (Long)	Read-write. The vignetting amount of the shot (-100 - 100).
<b>VignettingMidpoint</b>	Number (Long)	Read-write. The vignetting mid point of the shot (-100 - 100).
<b>WhiteBalance</b>	<a href="#">PsWhiteBalanceType</a>	Read-write. The white balance options for the image.

## Channel

Object that stores information about a color element in the image, analogous to a plate in the printing process that applies a single color. The document's color mode determines the number of default channels; for example, an RGB document has four default channels:

- A composite channel: RGB
- Three component channels: red, green, blue

A channel can also be an alpha channel, which stores selections as masks, or a spot channel, which stores spot colors.

## Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Color</b>	Object ( <a href="#">SolidColor</a> )	Read-write. The color of the channel.  <b>Note:</b> Not valid when <code>Type = 1</code> .
<b>Histogram</b>	Array of 256 Numbers (Long)	Read-only. A histogram of the color of the channel.  <b>Note:</b> Not valid when <code>Type = 1</code> . For component channel histogram values, use the <code>Histogram</code> property of the <a href="#">Document</a> object instead. See <a href="#">Histogram</a> .
<b>Kind</b>	<a href="#">PsChannelType</a>	Read-write. The channel type.
<b>Name</b>	String	Read-write. The channel's name.
<b>Opacity</b>	Number (Double)	Read-write. The opacity to use for alpha channels or the solidity to use for spot channels (0 - 100).  <b>Note:</b> Valid only when <code>Type = 2</code> or <code>Type = 3</code> .
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>Channel</code> object.
<b>Visible</b>	Boolean	Read-write. Indicates whether the channel is visible.

## Methods

Method	Parameter Type	Returns	What it does
<b>Delete</b> ( )			Deletes the channel.
<b>Duplicate</b> ( [TargetDocument] )	<a href="#">Document</a>	<a href="#">Channel</a>	Duplicates the channel.
<b>Merge</b> ( )			Merges a spot channel into the component channels.

## Channels

The collection of `Channel` objects in the document. See ['Channel' on page 42](#).

### Properties

Property	Value Type	What it is
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<code>Count</code>	Number (Long)	Read-only. The number of elements in the <code>Channels</code> collection.
<code>Parent</code>	Object ( <a href="#">Document</a> )	Read-only. The object's container.
<code>typename</code>	String	Read-only. The class name of the referenced <code>Channels</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<code>Add</code> ( )		<a href="#">Channel</a>	Creates a new <code>Channel</code> object.
<code>Index</code> (ItemPtr)	Object ( <a href="#">Channel</a> )	Number (Long)	Gets the index of the specified <code>Channel</code> object.
<code>Item</code> (ItemKey)	Number (Long)	<a href="#">Channel</a>	Gets an element from the <code>Channels</code> collection.
<code>RemoveAll</code> ( )			Removes all <code>Channel</code> objects from the <code>Channels</code> collection.

### Sample Script

The following script checks for any open documents (files); if no documents are open, it opens `fish.psd` in the Samples folder.

The script then creates the histogram for each channel in the document and creates a log file named `Histogram.log` on your Desktop. The file maps out the histogram for each channel and includes the following information:

- Total pixel count
- Mean pixel count per row
- Standard deviation of pixels per row
- Median pixels per row
- Pixel count row by row, represented in rows of Xs, produces a strobe effect, as a progression of dialogs display.

#### Histogram.vbs

```
Dim appRef, startRulerUnits, startTypeUnits, startDisplayDialogs, docRef
```

```

Dim totalCount, channelIndex, activeChannels, myChannels, secondaryIndex
Dim largestCount, histogramIndex, pixelsPerX, outputX, a, visibleChannelCount
Dim aChannelArray(), aChannelIndex, oFileSys, fileOut, hist, objWshShell

Set appRef = CreateObject("Photoshop.Application")

' Save the current preferences
startRulerUnits = appRef.Preferences.RulerUnits
startTypeUnits = appRef.Preferences.TypeUnits
startDisplayDialogs = appRef.DisplayDialogs

' Set Photoshop CS4 to use pixels and display no dialogs
appRef.Preferences.RulerUnits = 1 'for PsUnits --> 1 (psPixels)
appRef.Preferences.TypeUnits = 1 'for PsTypeUnits --> 1 (psPixels)
appRef.DisplayDialogs = 3 'for PsDialogModes --> 3 (psDisplayNoDialogs)

' if there are no documents open then try to open a sample file
If appRef.Documents.Count = 0 Then
    appRef.Open(appRef.Path + "/Samples/Fish.psd")
End If

Set docRef = appRef.ActiveDocument

' Get a shell object so we can point to the desktop
Set objWshShell = WScript.CreateObject("Wscript.Shell")

' create the output file
Set oFileSys = CreateObject("Scripting.FileSystemObject")
Set fileOut = oFileSys.CreateTextFile(objWshShell.SpecialFolders("Desktop") & _
    "\Histogram.log")

' write out a header
fileOut.Write "Histogram report for " & docRef.Name

' find out how many pixels I have
totalCount = docRef.Width * docRef.Height

' more info to the out file
fileOut.WriteLine " with a total pixel count of " & totalCount

' remember which channels are currently active
activeChannels = appRef.ActiveDocument.ActiveChannels

' document histogram only works in these modes
If docRef.Mode = 2 Or docRef.Mode = 3 Or docRef.Mode = 6 Then
    'enumerated values = PsDocumentMode --> 2 (psRGB), 3 (psCMYK), 6 (psIndexedColor)

    ' activate the main channels so we can get the document's histogram
    ' using the TurnOnDocumentHistogramChannels function
    Call TurnOnDocumentHistogramChannels(docRef)

    ' Output the documents histogram
    Call OutputHistogram(docRef.Histogram, "Luminosity", fileOut)
End If

' local reference to work from
Set myChannels = docRef.Channels

' loop through each channel and output the histogram
For channelIndex = 1 To myChannels.Count

```

```
' the channel has to be visible to get a histogram
myChannels(channelIndex).Visible = true

' turn off all the other channels
for secondaryIndex = 1 to myChannels.Count
    If Not channelIndex = secondaryIndex Then
        myChannels(secondaryIndex).Visible = false
    End If
Next

' Use the function to dump the histogram
Call OutputHistogram(myChannels(channelIndex).Histogram, _
                    myChannels(channelIndex).Name, fileOut)
Next

' close down the output file
fileOut.Close

WScript.Echo "Histogram File saved in: " & _
            objWshShell.SpecialFolders("Desktop") & "\Histogram.log"

' reset the active channels
docRef.ActiveChannels = activeChannels

' Reset the application preferences
appRef.Preferences.RulerUnits = startRulerUnits
appRef.Preferences.TypeUnits = startTypeUnits
appRef.DisplayDialogs = startDisplayDialogs

' Utility function that takes a histogram and name
' and dumps to the output file
Private Function OutputHistogram (inHistogram, inHistogramName, inOutFile)
    ' find out which count has the largest number
    ' I scale everything to this number for the output
    largestCount = 0

    ' a simple indexer I can reuse
    histogramIndex = 0

    ' search through all and find the largest single item
    For Each hist In inHistogram
        histogramCount = histogramCount + CLng(hist)
        If CLng(hist) > largestCount Then
            largestCount = CLng(hist)
        End If
    Next

    'These should match
    If Not histogramCount = totalCount Then
        MsgBox "Something bad is happening!"
    End If

    inOutFile.WriteLine "This histogram has a pixel count of " & histogramCount
    inOutFile.WriteLine

    'see how much each "X" is going to count as
    pixelsPerX = largestCount / 100

    'output this data to the file
```

```
inOutFile.WriteLine "One X = " & pixelsPerX & " pixels."

'output the name of this histogram
inOutFile.WriteLine inHistogramName

inOutFile.WriteLine "Mean Pixels: " & AverageHistogram(inHistogram)
inOutFile.WriteLine "Mean Pixels: " & AverageHistogram(inHistogram)
inOutFile.WriteLine "Std. Dev. Pixels: " & _
    StandardDeviationHistogram(inHistogram)
inOutFile.WriteLine "Median Pixels: " & _
    MedianHistogram(inHistogram, histogramCount)

' loop through all the items and output in the following format
' 001
' 002
' For histogramIndex = 0 To (inHistogram.Count - 1)
histogramIndex = 0
For Each hist in inHistogram
    ' I need an extra "0" for this line item to keep everything in line
    If histogramIndex < 10 Then
        inOutFile.Write "0"
    End If

    ' I need an extra "0" for this line item to keep everything in line
    If histogramIndex < 100 Then
        inOutFile.Write "0"
    End If

    ' output the index to file
    inOutFile.Write histogramIndex

    ' some spacing to make it look nice
    inOutFile.Write " "

    'figure out how many X's I need
    outputX = CDBl(hist) / largestCount * 100

    'output the X's
    For a = 0 to outputX ' (outputX - 1)
        inOutFile.Write "X"
    Next

    inOutFile.WriteLine

    histogramIndex = histogramIndex + 1

Next

inOutFile.WriteLine

End Function

' Function to active all the channels according to the document's mode
' Takes a document reference for input
Private Function TurnOnDocumentHistogramChannels (inDocument)
    ' see how many channels we need to activate
    visibleChannelCount = 0

    'based on the mode of the document
    Select Case inDocument.Mode
```

```

        Case 1
            visibleChannelCount = 1
        Case 5
            visibleChannelCount = 1
        Case 6
            visibleChannelCount = 1
        Case 8
            visibleChannelCount = 2
        Case 2
            visibleChannelCount = 3
        Case 4
            visibleChannelCount = 3
        Case 3
            visibleChannelCount = 4
        Case 8
            visibleChannelCount = 4
        Case 7
            visibleChannelCount = (inDocument.Channels.Count + 1)
        Case Else
            visibleChannelCount = (inDocument.Channels.Count + 1)
    End Select

    ' now get the channels to activate into a local array
    ReDim aChannelArray(visibleChannelCount)

    ' index for the active channels array
    aChannelIndex = 1
    For channelIndex = 1 to inDocument.channels.Count
        If channelIndex <= visibleChannelCount Then
            Set aChannelArray(aChannelIndex) = inDocument.Channels(channelIndex)
            aChannelIndex = aChannelIndex + 1
        End If
    Next

End Function

Private Function StandardDeviationHistogram(inputArray)
    Dim numPixels, sum1, sum2, x, gray

    numPixels = 0
    sum1 = 0.0
    sum2 = 0.0

    ' Compute totals for the various statistics
    For gray = 0 To 255
        x = inputArray(gray)
        numPixels = numPixels + x
        sum1 = sum1 + x * gray
        sum2 = sum2 + x * (gray * gray)
    Next

    StandardDeviationHistogram = _
        Sqr((sum2 - (sum1 * sum1) / numPixels) / (numPixels - 1))

End Function

Private Function AverageHistogram(inputArray)
    Dim numPixels, sum1, sum2, x, gray

```

```
numPixels = 0
sum1 = 0.0
sum2 = 0.0

' Compute totals for the various statistics
For gray = 0 To 255
    x = inputArray(gray)
    numPixels = numPixels + x
    sum1 = sum1 + x * gray
    sum2 = sum2 + x * (gray * gray)
Next

AverageHistogram = sum1 / numPixels

End Function

Private Function MedianHistogram(inputArray, numPixels)
    Dim gray, total, mid

    gray = 0
    total = inputArray(0)
    mid = (numPixels + 1) / 2

    Do While (total < mid)
        gray = gray + 1
        total = total + inputArray(gray)
    Loop

    MedianHistogram = gray

End Function
```



## CMYKColor

The definition of a CMYK color.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Black</b>	Number (Double)	Read-write. The black color value (as percent) (0.0 - 100.0).
<b>Cyan</b>	Number (Double)	Read-write. The cyan color value (as percent) (0.0 - 100.0).
<b>Magenta</b>	Number (Double)	Read-write. The magenta color value (as percent) (0.0 - 100.0).
<b>typename</b>	String	Read-only. The class name of the referenced <code>CMYKColor</code> object.
<b>Yellow</b>	Number (Double)	Read-write. The yellow color value (as percent) (0.0 - 100.0).

## ColorSampler

A color sampler for the document.

**Note:** For additional information about color samplers, see Adobe Photoshop CS4 help on the Color SamplerTool.

### Properties

Property	Value type	What it is
<b>Color</b>	<a href="#">SolidColor</a>	Read-only. The color of the color sampler.
<b>Position</b>	Array of Number (Double)	Read-only. The position of the color sampler in the document.
<b>Parent</b>	object ( <a href="#">Document</a> )	Read-only. The <code>ColorSampler</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>ColorSampler</code> object.

### Methods

Method	Parameter type	Returns	What it does
<b>Move</b> (position)	Array of Number (Double)		Moves the color sampler to a new location in the document.  The <code>position</code> parameter (x,y) represents the new horizontal and vertical locations, respectively, of the moved color sampler.
<b>Delete</b> ( )			Deletes the <code>ColorSampler</code> object.

## ColorSamplers

The collection of `ColorSampler` objects in the document. See [ColorSampler](#).

### Properties

Property	Value Type	What it is
<code>Length</code>	number (Long)	Read-only. The number of elements in the <code>ColorSamplers</code> collection.
<code>Parent</code>	object ( <a href="#">Document</a> )	Read-only. The <code>ColorSamplers</code> object's container.
<code>typename</code>	string	Read-only. The class name of the referenced <code>ColorSamplers</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<code>Add</code> ( <code>position</code> )	Array of Number (Double)	<a href="#">ColorSampler</a>	Creates a new <code>ColorSampler</code> object. The <code>position</code> parameter (x,y) represents the horizontal and vertical locations, respectively, of the new color sampler.
<code>Index</code> ( <code>ItemPtr</code> )	object ( <a href="#">ColorSampler</a> )	Number (Long)	Gets the index of the <code>ColorSampler</code> into the collection.
<code>Item</code> ( <code>ItemKey</code> )	number	<a href="#">ColorSampler</a>	Gets an element from the <code>ColorSamplers</code> collection.
<code>RemoveAll</code> ( )			Removes all <code>ColorSampler</code> objects from the <code>ColorSamplers</code> collection.

## ContactSheetOptions

Options that can be specified for a contact sheet.

### Properties

Property	Value Type	What it is
<b>AcrossFirst</b>	Boolean	Read-write. Indicates whether to place the images horizontally (left to right, then top to bottom) first. Default: <code>true</code> .
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>BestFit</b>	Boolean	Read-write. Indicates whether to rotate images for the best fit. Default: <code>false</code> .
<b>Caption</b>	Boolean	Read-write. Indicates whether to use the filename as a caption for the image. Default: <code>true</code> .
<b>ColumnCount</b>	Number (Long)	Read-write. The number of columns to include (1 - 100; default: 5).
<b>Flatten</b>	Boolean	Read-write. Indicates whether to flatten all layers in the final document. Default: <code>true</code> .
<b>Font</b>	<a href="#">PsGalleryFontType</a>	Read-write. The font used for the caption. Default: 1.
<b>FontSize</b>	Number (Long)	Read-write. The font size to use for the caption. Default: 12.
<b>Height</b>	Number (Long)	Read-write. The height (in pixels) of the resulting document (100 - 2900; default: 720).
<b>Horizontal</b>	Number (Long)	Read-write. The horizontal spacing (in pixels) between images (0 - 29000; default: 1).
<b>Mode</b>	<a href="#">PsNewDocumentMode</a>	Read-write. The document color mode. Default: 2 ( <code>psNewRGB</code> ).
<b>Resolution</b>	Number (Double)	Read-write. The resolution of the document in pixels per inch (35 - 1200; default: 72.0).
<b>RowCount</b>	Number (Long)	Read-write. The number of rows to use (1 - 100; default: 6).
<b>typename</b>	String	Read-only. The class name of the referenced <code>ContactSheetOptions</code> object.
<b>UseAutoSpacing</b>	Boolean	Read-write. Indicates whether to auto space the images. Default: <code>true</code> .

Property	Value Type	What it is (Continued)
<b>Vertical</b>	Number (Long)	Read-write. The vertical spacing (in pixels) between images (0 - 29000; default: 1).  <b>Note:</b> Valid only when <code>UseAutoSpacing = false</code> .
<b>Width</b>	Number (Long)	Read-write. The width (in pixels) of the resulting document (100 - 2900; default: 576).

## CountItem

A counted item in the document. Also see the method [AutoCount](#), defined on [Document](#).

**Note:** `CountItem` is available in the Extended Version only.

For additional information about count items, see Adobe Photoshop CS4 help on the Count Tool.

### Properties

Property	Value type	What it is
<b>Position</b>	Array of Number (Double)	Read-only. The position of the count item in the document. The array (x,y) represents the horizontal and vertical location of the count item.
<b>Parent</b>	object ( <a href="#">Document</a> )	Read-only. The <code>CountItem</code> object's container.
<b>typename</b>	string	Read-only. The class name of the referenced <code>CountItem</code> object.

### Methods

Method	Parameter type	Returns	What it does
<b>Delete</b> ( )			Deletes the <code>CountItem</code> object.

## CountItems

The collection of `CountItems` objects in the document. See [CountItem](#).

**Note:** `CountItems` is available in the Extended Version only.

### Properties

Property	Value Type	What it is
<b>Length</b>	Number (Long)	Read-only. The number of elements in the <code>CountItems</code> collection.
<b>Parent</b>	object ( <a href="#">Document</a> )	Read-only. The <code>CountItems</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>CountItems</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>Add</b> (position)	Array of Number (Double)	<a href="#">CountItem</a>	Creates a new <code>CountItem</code> object. Parameter <code>position (x,y)</code> represents the horizontal and vertical positions, respectively, of the new <code>CountItem</code> object.
<b>Index</b> (ItemPtr)	object ( <a href="#">CountItem</a> )	Number (Long)	Gets the index of the <code>CountItem</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">Document</a>	Gets an element from the <code>CountItem</code> collection.
<b>RemoveAll</b> ( )			Removes all <code>CountItem</code> objects from the <code>CountItem</code> collection.

## DCS1\_SaveOptions

Options that can be specified when saving a CMYK document in DCS1 format.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>DCS</b>	<a href="#">PsDCSType</a>	Read-write. Default: 3.
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in the document
<b>Encoding</b>	<a href="#">PsSaveEncoding</a>	Read-write. The type of encoding to use for document. Default: 1.
<b>HalftoneScreen</b>	Boolean	Read-write. Indicates whether to include halftone screen. Default: <code>false</code> .
<b>Interpolation</b>	Boolean	Read-write. Indicates whether to use image interpolation. Default: <code>false</code> )
<b>Preview</b>	<a href="#">PsPreviewType</a>	Read-write. The type of preview. Default: 3.
<b>TransferFunction</b>	Boolean	Read-write. Indicates whether to include the Transfer functions to compensate for dot gain between the image and film. Default: <code>false</code> .
<b>typename</b>	String	Read-only. The class name of the referenced DCS1_SaveOptions object.
<b>VectorData</b>	Boolean	Read-write. Indicates whether to include vector data.  <b>Note:</b> Valid only if the document includes vector data (un-rasterized text).



## DCS2\_SaveOptions

Options that can be specified when saving a CMYK document in DCS2 format.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>DCS</b>	<a href="#">PsDCSType</a>	Read-write. The type of composite file to create. Default: 1.
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in the document.
<b>Encoding</b>	<a href="#">PsSaveEncoding</a>	Read-write. The type of encoding to use. Default: 1.
<b>HalftoneScreen</b>	Boolean	Read-write. Indicates whether to include the halftone screen. Default: <i>false</i> .
<b>Interpolation</b>	Boolean	Read-write. Indicates whether to use image interpolation. Default: <i>false</i> .
<b>MultiFileDCS</b>	Boolean	Read-write. Indicates whether to save color channels as multiple files or a single file. Default: <i>false</i> .
<b>Preview</b>	<a href="#">PsPreviewType</a>	Read-write. The preview type. Default: 3.
<b>SpotColors</b>	Boolean	Read-write. Indicates whether to save spot colors.
<b>TransferFunction</b>	Boolean	Read-write. Indicates whether to include the Transfer functions to compensate for dot gain between the image and film. Default: <i>false</i> .
<b>typename</b>	String	Read-only. The class name of the referenced DCS2_SaveOptions object.
<b>VectorData</b>	Boolean	Read-write. Indicates whether to include vector data.  <b>Note:</b> Valid only if the document includes vector data (un-rasterized text).

## DICOMOpenOptions

Options that can be specified when opening a DICOM format document.

**Note:** `DICOMOpenOptions` is available in the Extended Version only.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Anonymize</b>	Boolean	Read-write. Indicates whether to make the patient information anonymous.
<b>Columns</b>	Number (Long)	Read-write. Number of columns in n-up configuration.
<b>Reverse</b>	Boolean	Read-write. Indicates whether to reverse (invert) the image.
<b>Rows</b>	Number (Long)	Read-write. The number of rows in n-up configuration.
<b>ShowOverlays</b>	Boolean	Read-write. Indicates whether to show overlays.
<b>typename</b>	String	Read-only. The class name of the referenced <code>DICOMOpenOptions</code> object.
<b>WindowLevel</b>	Number (Long)	Read-write. The contrast of the image in Hounsfield units.
<b>WindowWidth</b>	Number (Long)	Read-write. The brightness of the image in Hounsfield units.

## Document

The active containment object for layers and all most objects in the script; the basic canvas for the file.

**Note:** In Adobe Photoshop CS4, a document can also be referred to as an image or a canvas.

- The term *image* refers to the entire document and its contents. You can trim or crop an image. You resize an image using the `ResizeImage()` method.
- The term *canvas* refers to the space in which the document sits on the screen. You can rotate or flip the canvas. You resize the canvas using the `ResizeCanvas()` method.

## Properties

Property	Value Type	What it is
<b>ActiveChannels</b>	Array ( <a href="#">Channel</a> objects)	Read-write. The selected channels.
<b>ActiveHistoryBrushSource</b>	Object ( <a href="#">HistoryState</a> )	Read-write. The history state to use with the history brush.
<b>ActiveHistoryState</b>	Object ( <a href="#">HistoryState</a> )	Read-write. The selected <code>HistoryState</code> object.
<b>ActiveLayer</b>	Object ( <a href="#">ArtLayer</a> or <a href="#">LayerSet</a> )	Read-write. The selected layer.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>ArtLayers</b>	Object ( <a href="#">ArtLayers</a> )	Read-only. The <code>ArtLayers</code> collection.
<b>BackgroundLayer</b>	Object ( <a href="#">ArtLayer</a> )	Read-only. The background layer of the document.
<b>BitsPerChannel</b>	<a href="#">PsBitsPerChannelType</a>	Read-write. The number of bits per channel.
<b>Channels</b>	Object ( <a href="#">Channels</a> )	Read-only. The <code>Channels</code> collection.
<b>ColorProfileName</b>	String	Read-write. The name of the color profile.  <b>Note:</b> Valid only when <code>ColorProfileType = 3</code> or <code>ColorProfileType = 2</code> . See <a href="#">ColorProfileType</a> .
<b>ColorProfileType</b>	<a href="#">PsColorProfileType</a>	Read-write. The type of color model that defines the document's working space.
<b>ColorSamplers</b>	<a href="#">ColorSamplers</a>	Read-only. The current color samplers associated with this document.
<b>ComponentChannels</b>	Array ( <a href="#">Channel</a> objects)	Read-only. A list of the component color channels.

Property	Value Type	What it is (Continued)
<b>CountItems</b>	CountItems	Read-only. The current count items.  <b>Note:</b> For additional information about count items, see Adobe Photoshop CS4 help on the Coun Tool.
<b>FullName</b>	String	Read-only. The full path name of the document.
<b>Height</b>	Number (Double)	Read-only. The height of the document (unit value).
<b>Histogram</b>	Array of 256 Numbers (Long)	Read-only. A histogram showing the number of pixels at each color intensity level for the composite channel.  <b>Note:</b> Valid only when <code>Mode = 2; Mode = 3; OR Mode = 6</code> . See <a href="#">Mode</a> .
<b>HistoryStates</b>	Object ( <a href="#">HistoryStates</a> )	Read-only. The <code>HistoryStates</code> collection.
<b>Info</b>	Object ( <a href="#">DocumentInfo</a> )	Read-only. Metadata about the document.
<b>LayerComps</b>	Object ( <a href="#">LayerComps</a> )	Read-only. The <code>LayerComps</code> collection.
<b>Layers</b>	Object ( <a href="#">Layers</a> )	Read-only. The <code>Layers</code> collection.
<b>LayerSets</b>	Object ( <a href="#">LayerSets</a> )	Read-only. The <code>LayerSets</code> collection.
<b>Managed</b>	Boolean	Read-only. Indicates whether the document a is workgroup document.
<b>MeasurementScale</b>	<a href="#">MeasurementScale</a>	Read-only. The measurement scale for the document.  <b>Note:</b> This feature is available in the Extended Version only.
<b>Mode</b>	<a href="#">PsDocumentMode</a>	Read-only. The color profile.
<b>Name</b>	String	Read-only. The document's name.
<b>Parent</b>	Object ( <a href="#">Application</a> )	Read-only. The <code>Document</code> object's container.
<b>Path</b>	String	Read-only. The path to the document.
<b>PathItems</b>	Object ( <a href="#">PathItems</a> )	Read-only. The <code>PathItems</code> collection.
<b>PixelAspectRatio</b>	Number (Double)	Read-write. The (custom) pixel aspect ratio to use (0.100 - 10.000).
<b>QuickMaskMode</b>	Boolean	Read-write. Indicates whether the document is in Quick Mask mode.

<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>Resolution</b>	Number (Double)	Read-only. The document's resolution (in pixels per inch).
<b>Saved</b>	Boolean	Read-only. Indicates whether the document has been saved since the last change.
<b>Selection</b>	Object ( <a href="#">Selection</a> )	Read-only. The selected area of the document.
<b>typename</b>	String	Read-only. The class name of the Document object.
<b>Width</b>	Number (Double)	Read-only. The width of the document (unit value).
<b>XMPMetadata</b>	Object ( <a href="#">XMPMetadata</a> )	Read-only. XMP data for the image. Camera Raw settings are contained here.

## Methods

Method	Parameter Type	Returns	What it does
<b>AutoCount</b> (channel, threshold)	<a href="#">Channel</a> Number (Long)		Counts the number of objects in a document. Creates a <a href="#">CountItem</a> object for each object counted.  <b>Note:</b> The <code>AutoCount</code> feature is available in the Extended Version only.  For additional information about how to set up objects to count, please see the Count Tool in the Adobe Photoshop CS4 Help
<b>ChangeMode</b> (DestinationMode [, Options])	<a href="#">PsChangeMode</a> object ( <a href="#">BitmapConversionOptions</a> or <a href="#">IndexedConversionOptions</a> )		Changes the color profile.
<b>Close</b> ([Saving])	<a href="#">PsSaveOptions</a>		Closes the document. If any changes have been made, the script presents an alert with three options: save, do not save, prompt to save. The optional parameter specifies a selection in the alert box. Default: 3 ( <code>psPromptToSaveChanges</code> ).

Method	Parameter Type	Returns	What it does (Continued)
<b>ConvertProfile</b> (DestinationProfile, Intent [, BlackPointCompensation] [, Dither])	String <a href="#">PsIntent</a> Boolean Boolean		Changes the color profile.  <b>Note:</b> The DestinationProfile parameter must be either a string that names the color mode or Working RGB, Working CMYK, Working Gray, Lab Color (meaning one of the working color spaces or Lab color)
<b>Crop</b> (Bounds [, Angle] [, Width] [, Height])	Array (Double) Number (Double) Number (Double) Number (Double)		Crops the document. The first parameter is an array of four coordinates that mark the portion remaining after cropping, in the following order: left, top, right, bottom.
<b>Duplicate</b> ([Name ] [, MergeLayersOnly] )	string boolean	<a href="#">Document</a>	Creates a duplicate of the Document object.  The optional parameter Name provides the name for the duplicated document.  The optional parameter MergeLayersOnly indicates whether to only duplicate merged layers.
<b>ExportDocument</b> (ExportIn [, ExportAs] [, Options])	String <a href="#">PsExportType</a> <a href="#">ExportOptionsIllustrator</a> or <a href="#">ExportOptionsSaveForWeb</a>		Exports the document.  <b>Note:</b> The ExportIn parameter represents the path to a file as String.
<b>Flatten</b> ()			Flattens all layers.
<b>FlipCanvas</b> (Direction)	<a href="#">PsDirection</a>		Flips the image within the canvas in the specified direction.
<b>ImportAnnotations</b> (File)	String		Imports annotations into the document.

Method	Parameter Type	Returns	What it does (Continued)
<b>MergeVisibleLayers</b> ( )			Flattens all visible layers in the document.
<b>Paste</b> ( [IntoSelection] )	Boolean	<a href="#">ArtLayer</a>	Pastes the contents of the clipboard into the document. If the optional argument is set to <code>true</code> and a selection is active, the contents are pasted into the selection.
<b>PrintOut</b> ( [PostScriptEncoding] [, SourceSpace] [, PrintSpace] [, Intent] [BlackPointCompensation] )	<a href="#">PsPrintEncoding</a> <a href="#">PsSourceSpaceType</a> String <a href="#">PsIntent</a> Boolean		Prints the document.  <b>Note:</b> <code>PrintSpace</code> specifies the color space for the printer. Valid values are <code>nothing</code> (that is, the same as the source); or <code>Working RGB</code> , <code>Working CMYK</code> , <code>Working Gray</code> , <code>Lab Color</code> (meaning one of the working color spaces or Lab color); or a string specifying a specific colorspace. Default: <i>nothing</i> .
<b>RasterizeAllLayers</b> ( )			Rasterizes all layers.
<b>RecordMeasurements</b> ( [Source] [, DataPoints] )	<a href="#">PsMeasurementSource</a> array of strings		Record measurements of document.
<b>ResizeCanvas</b> ( [Width] [, Height] [, Anchor] )	Number (Double) Number (Double) <a href="#">PsAnchorPosition</a>		Changes the size of the canvas to display more or less of the image but does not change the image size. See <a href="#">ResizeImage</a> .
<b>ResizeImage</b> ( [Width] [, Height] [, Resolution] [, ResampleMethod] )	Number (Double) Number (Double) Number (Double) <a href="#">PsResampleMethod</a>		Changes the size of the image.
<b>RevealAll</b> ( )			Expands the document to show clipped sections.



Method	Parameter Type	Returns	What it does (Continued)
<b>RotateCanvas</b> (Angle)	Number (Double)		Rotates the canvas (including the image) in clockwise direction.
<b>Save</b> ( )			Saves the document.
<b>SaveAs</b> (SaveIn [, Options]  [, AsCopy] [, ExtensionType])	String object (corresponding SaveOptions object*) Boolean <a href="#">PsExtensionType</a>  * Examples: <a href="#">BMPSaveOptions</a> <a href="#">DCS2 SaveOptions</a> <a href="#">JPEGSaveOptions</a> <a href="#">TiffSaveOptions</a> etc.		Saves the document with specified save options.  <b>Note:</b> The Options parameter's value can be a value from the <a href="#">PsSaveDocumentType</a> constant list, or any of the "SaveOptions" objects in the current chapter such as <a href="#">BMPSaveOptions</a> , <a href="#">EPSSaveOptions</a> , <a href="#">JPEGSaveOptions</a> , and so on.  <b>Note:</b> The SaveIn parameter represents the path to the file to save in as String.
<b>SplitChannels</b> ( )		Array ( <a href="#">Document</a> objects)	Splits the document channels into separate images.
<b>Trap</b> (Width)	Number (Long)		Applies trapping to a CMYK document.  <b>Note:</b> Valid only when Mode = 3. See <a href="#">Mode</a> .
<b>Trim</b> ([Type] [, Top] [, Left] [, Bottom] [, Right])	<a href="#">PsTrimType</a> Boolean Boolean Boolean Boolean		Trims the transparent area around the image on the specified sides of the canvas.  <b>Note:</b> Default is true for all Boolean values.

## Sample Script

The following script creates a document that contains two images (a flower and a duck) obtained from the Adobe Photoshop CS4 Samples folder and employs the following steps:

1. Determine which image is larger.
2. Resize the smaller image to match the larger image.
3. Create a merged document twice as high as either image in order to hold both images.
4. Select part of the document and paste the flower into the selection. T
5. Invert the selection and paste the duck into the lower part of the document.
6. Position the flower over the duck.

### Document.vbs

```
Dim appRef, startRulerUnits, startTypeUnits, startDisplayDialogs, flowerDoc
Dim duckDoc, mergedDoc, selRegion

Set appRef = CreateObject("Photoshop.Application")

' Save the current preferences
startRulerUnits = appRef.Preferences.RulerUnits
startTypeUnits = appRef.Preferences.TypeUnits
startDisplayDialogs = appRef.DisplayDialogs

' Set Photoshop CS2 to use pixels and display no dialogs
appRef.Preferences.RulerUnits = 1 'for PsUnits --> 1 (psPixels)
appRef.Preferences.TypeUnits = 1 'for PsTypeUnits --> 1 (psPixels)
appRef.DisplayDialogs = 3 'for PsDialogModes --> 3 (psDisplayNoDialogs)

' first close all the open documents
Do While appRef.Documents.Count
    appRef.ActiveDocument.Close
Loop

' Open the flower and duck files from the samples folder
Set flowerDoc = appRef.Open(appRef.Path + "/Samples/sunflower.psd")
Set duckDoc = appRef.Open(appRef.Path + "/Samples/Ducky.tif")

' Find out which document is larger
' Resize the smaller document the to the larger document's size
' The resize requires the document be the active/front document
If (flowerDoc.Width * flowerDoc.Height) > (duckDoc.Width * duckDoc.Height) Then
    appRef.ActiveDocument = duckDoc
    duckDoc.Resize flowerDoc.Width, flowerDoc.Height
Else
    appRef.ActiveDocument = flowerDoc
    flowerDoc.ResizeImage duckDoc.Width, duckDoc.Height
End If

' Create a new document twice as high as two files
Set mergedDoc = appRef.Documents.Add(duckDoc.Width, duckDoc.Height * 2, _
    duckDoc.Resolution, "flowerOverDuck")

' Copy the flower to the top; make it the active document so we can manipulate it
appRef.ActiveDocument = flowerDoc
```

```
flowerDoc.ActiveLayer.Copy

'Paste the flower to the merged document, making the merged document active
appRef.ActiveDocument = mergedDoc

' Select a square area at the top of the new document
selRegion = Array(Array(0, 0), _
                  Array(mergedDoc.Width, 0), _
                  Array(mergedDoc.Width, mergedDoc.Height / 2), _
                  Array(0, mergedDoc.Height / 2), _
                  Array(0, 0))

' Create the selection
mergedDoc.Selection.Select(selRegion)

'Paste in the flower
mergedDoc.Paste

' do the same thing for the duck
appRef.ActiveDocument = duckDoc
duckDoc.ActiveLayer.Copy
appRef.ActiveDocument = mergedDoc
mergedDoc.Selection.Select(selRegion)

' Inverting the selection so the bottom of the document is now selected
mergedDoc.Selection.Invert

' Paste the duck
mergedDoc.Paste

' get rid of our originals without modifying them
duckDoc.Close( 2) 'for PsSaveOptions --> 2 (psDoNotSaveChanges)
flowerDoc.Close( 2)

' Reset the application preferences
appRef.Preferences.RulerUnits = startRulerUnits
appRef.Preferences.TypeUnits = startTypeUnits
appRef.DisplayDialogs = startDisplayDialogs
```

## DocumentInfo

Metadata about a `Document` object. These values can be set by choosing `File > File Info` in the Adobe Photoshop CS4 application.

**Note:** The `DocumentInfo` object corresponds to the `Info` property of the `Application` object. You use the property name `Info`, rather than the object name, `DocumentInfo`, in a script, as in the following sample, which sets the `Author`, `Caption`, and `Copyrighted` properties:

```
Dim docRef
docRef = Open(fileList[i])
' set the file info
docRef.Info.Author = "Mr. Adobe Programmer"
docRef.Info.Caption = "Adobe photo shoot"
docRef.Info.Copyrighted = 1
```

The following sample uses the `DocumentInfo` object incorrectly:

```
docRef.DocumentInfo.Author = "Mr. Adobe Programmer"
docRef.DocumentInfo.Caption = "Adobe photo shoot"
docRef.DocumentInfo.Copyrighted = 1
```

## Properties

Property	Value Type	What it is
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<code>Author</code>	String	Read-write.
<code>authorPosition</code>	String	Read-write.
<code>Caption</code>	String	Read-write.
<code>CaptionWriter</code>	String	Read-write.
<code>Category</code>	String	Read-write.
<code>City</code>	String	Read-write.
<code>Copyrighted</code>	<a href="#">PsCopyrightedType</a>	Read-write. The copyrighted status.
<code>CopyrightNotice</code>	String	Read-write.
<code>Country</code>	String	Read-write.
<code>CreationDate</code>	String	Read-write.
<code>Credit</code>	String	Read-write.
<code>EXIF</code>	Array of Arrays: Array(Array (tag, tag data)), ...)	Read-only. Camera data that includes camera settings used when the image was taken. Sample array values are: tag = "camera"; tag value = "Cannon".
<code>Headline</code>	String	Read-write.
<code>Instructions</code>	String	Read-write.

Property	Value Type	What it is (Continued)
<b>JobName</b>	String	Read-write.
<b>Keywords</b>	Array (Strings)	Read-write. A list of keywords that can identify the document or its contents.
<b>OwnerUrl</b>	String	Read-write.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The <code>Info</code> object's container.
<b>ProvinceState</b>	String	Read-write.
<b>Source</b>	String	Read-write.
<b>SupplementalCategories</b>	Array (Strings)	Read-write.
<b>Title</b>	String	Read-write.
<b>TransmissionReference</b>	String	Read-write.
<b>typename</b>	String	Read-only. The class name of the referenced <code>Info</code> object.
<b>Urgency</b>	<a href="#">PsUrgency</a>	Read-write.

## Sample Script

The following script checks to see if any documents are open. If none are open, it opens the sample file `fish.psd`.

The script then sets the following document info (metadata):

- Author: Mr. Adobe programmer
- Caption: Adobe Photo shoot
- CaptionWriter: Mr. Adobe programmer
- City: San Jose
- CopyrightNotice: Copyright (c) Adobe Programmer Photography
- Copyrighted status: Copyrighted Work
- Country: USA
- State: CA

**Note:** After the script finishes running, choose File > File Info to display the metadata set by the script.

### DocumentInfo.vbs

```
Dim appRef, startRulerUnits, startTypeUnits, startDisplayDialogs, docRef

Set appRef = CreateObject("Photoshop.Application")

' Save the current preferences
startRulerUnits = appRef.Preferences.RulerUnits
startTypeUnits = appRef.Preferences.TypeUnits
startDisplayDialogs = appRef.DisplayDialogs

' Set Photoshop CS4 to use pixels and display no dialogs
```

```
appRef.Preferences.RulerUnits = 1 'for PsUnits --> 1 (psPixels)
appRef.Preferences.TypeUnits = 1 'for PsTypeUnits --> 1 (psPixels)
appRef.DisplayDialogs = 3 'for PsDialogModes --> 3 (psDisplayNoDialogs)

' if there are no documents open then try to open a sample file
If appRef.Documents.Count = 0 Then
    appRef.Open(appRef.Path + "/Samples/Fish.psd")
End If

Set docRef = appRef.ActiveDocument

' tag all of the documents with photo shoot information
docRef.Info.Author = "Mr. Adobe Programmer"
docRef.Info.Caption = "Adobe Photo shoot"
docRef.Info.captionWriter = "Mr. Adobe Programmer"
docRef.Info.city = "San Jose"
docRef.Info.CopyrightNotice = "Copyright (c) Adobe Programmer Photography"
docRef.Info.Copyrighted = 1 'for PsCopyrightedType --> 1 (psCopyrightedWork)
docRef.Info.country = "USA"
docRef.Info.provinceState = "CA"

' Reset the application preferences
appRef.DisplayDialogs = startDisplayDialogs
appRef.Preferences.RulerUnits = startRulerUnits
appRef.Preferences.TypeUnits = startTypeUnits
```

## Documents

The collection of open `Document` objects.

**Note:** See '[Document](#)' on page 59 for information on the `Document` object.

## Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of elements in the <code>Documents</code> collection.
<b>Parent</b>	Object ( <a href="#">Application</a> )	Read-only. The <code>Documents</code> objects' container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>Documents</code> object.

## Methods

Method	Parameter Type	Returns	What it does
<b>Add</b> ([Width] [, Height] [, Resolution] [, Name] [, Mode] [, InitialFill] [, PixelAspectRatio] [, BitsPerChannel] [, ColorProfileName])	Number (Double) Number (Double) Number (Double) String <a href="#">PsNewDocumentMode</a> <a href="#">PsDocumentFill</a> Number (Double) <a href="#">PsBitsPerChannelType</a> String	<a href="#">Document</a>	Adds a <code>Document</code> Object.  PixelAspectRatio: range from 0.100 - 10.00. Default 1.0 for a square aspect ratio.  BitsPerChannelType has a default value of 8 ( <code>psDocument8Bits</code> ).
<b>Index</b> (ItemPtr)	object ( <a href="#">Document</a> )	Number (Long)	Gets the index of the <code>Document</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">Document</a>	Gets an element from the <code>Documents</code> collection.

## EPSOpenOptions

Options that can be specified when opening an EPS format document.

### Properties

Property	Value Type	What it is
<b>AntiAlias</b>	Boolean	Read-write. Indicates whether to use antialias.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>ConstrainProportions</b>	Boolean	Read-write. Indicates whether to constrain the proportions of the image.
<b>Height</b>	Number (Double)	Read-write. The height of the image (unit value).
<b>Mode</b>	<a href="#">PsOpenDocumentMode</a>	Read-write. The color profile to use as the document mode.
<b>Resolution</b>	Number (Double)	Read-write. The resolution of the document in pixels per inch.
<b>typename</b>	String	Read-only. The class name of the referenced <code>EPSOpenOptions</code> object.
<b>Width</b>	Number (Double)	Read-write. The width of the image (unit value).



# EPSSaveOptions

Options that can be specified when saving a document in EPS format.

## Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in this document.
<b>Encoding</b>	<a href="#">PsSaveEncoding</a>	Read-write. The type of encoding to use. Default: 1.
<b>HalftoneScreen</b>	Boolean	Read-write. Indicates whether to include the halftone screen. Default: <code>false</code> .
<b>Interpolation</b>	Boolean	Read-write. Indicates whether to use image interpolation. Default: <code>false</code> .
<b>Preview</b>	<a href="#">PsPreviewType</a>	Read-write. The preview type.
<b>PsColorManagement</b>	Boolean	Read-write. Indicates whether to use Postscript color management. Default: <code>false</code> .
<b>TransferFunction</b>	Boolean	Read-write. Indicates whether to include the Transfer functions to compensate for dot gain between the image and film. Default: <code>false</code> .
<b>TransparentWhites</b>	Boolean	Read-write. Indicates whether to display white areas as transparent.  <b>Note:</b> Valid only when <code>Document.Mode = 5</code> . See <a href="#">'Mode' on page 60</a> (in the Properties table of the <code>Document</code> object) or <a href="#">'ChangeMode' on page 62</a> (in the Methods table of the <code>Document</code> object).
<b>typename</b>	String	Read-only. The class name of the referenced <code>EPSSaveOptions</code> object.
<b>VectorData</b>	Boolean	Read-write. Indicates whether to include vector data.  <b>Note:</b> Valid only if the document includes vector data (text).

## ExportOptionsIllustrator

Options that can be specified when exporting a [PathItem](#) object to an Adobe Illustrator® file.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Path</b>	<a href="#">PsIllustratorPathType</a>	Read-write. The type of path to export. Default: 1.
<b>PathName</b>	String	Read-write. The name of the path to export. <b>Note:</b> Valid only when <code>Path = 3</code> . See <a href="#">Path</a> .
<b>typename</b>	String	Read-only. The class name of the referenced <code>ExportOptionsIllustrator</code> object.

## ExportOptionsSaveForWeb

Options that can be specified when optimizing a document for the Web, or for devices.

### Properties

Property	Value type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Blur</b>	Number (Double)	Read-write. Applies blur to the image to reduce artifacts. Default: 0.0.
<b>ColorReduction</b>	<a href="#">PsColorReductionType</a>	Read-write. The color reduction algorithm. Default: 1 (psSelective).
<b>Colors</b>	Number (Long)	Read-write. The number of colors in the palette. Default: 256.
<b>Dither</b>	<a href="#">PsDitherType</a>	Read-write. The type of dither. Default: 2 (psDiffusion).
<b>DitherAmount</b>	Number (Long)	Read-write. The amount of dither. Default: 100. <b>Note:</b> Valid only when <code>Dither = 2</code> . See <a href="#">Dither</a> .
<b>Format</b>	<a href="#">PsSaveDocumentType</a>	Read-write. The file format to use. Default: 3 (psCompuServeGIFSave).
<b>IncludeProfile</b>	Boolean	Read-write. Indicates whether to include the document's embedded color profile. Default: false.
<b>Interlaced</b>	Boolean	Read-write. Indicates whether to download in multiple passes; progressive. Default: false.
<b>Lossy</b>	Number (Long)	Read-write. The amount of lossiness allowed. Default: 0.
<b>MatteColor</b>	<a href="#">RGBColor</a>	Read-write. The colors to blend transparent pixels against.
<b>Optimized</b>	Boolean	Read-write. Indicates whether to create smaller but less compatible files. Default: true. <b>Note:</b> Valid only when <code>format = 6</code> (psJPEGSave). See <a href="#">Format</a> .
<b>PNG8</b>	Boolean	Read-write. Indicates the number of bits; true = 8, false = 24. Default: true. <b>Note:</b> Valid only when <code>format = 13</code> (psPNGSave). See <a href="#">Format</a> .
<b>Quality</b>	Number (Long)	Read-write. The quality of the produced image (0 - 100 as percentage; default: 60).

Property	Value type	What it is (Continued)
<b>Transparency</b>	Boolean	Read-write. Indicates transparent areas of the image should be included in the saved image. Default: <code>true</code> .
<b>TransparencyAmount</b>	Number (Long)	Read-write. The amount of transparency dither. Default: 100.  <b>Note:</b> Valid only if <code>Transparency = true</code> . See <a href="#">Transparency</a> .
<b>TransparencyDither</b>	<a href="#">PsDitherType</a>	Read-write. The transparency dither algorithm. Default: 1.
<b>typename</b>	String	Read-only. The class name of the referenced <code>ExportOptionsSaveForWeb</code> object.
<b>WebSnap</b>	Number (Long)	Read-write. The tolerance amount within which to snap close colors to Web palette colors. Default: 0.

## GalleryBannerOptions

Options that define the `BannerOptions` property of the `GalleryOptions` object. See ['GalleryOptions' on page 81](#).

**Tip:** You can preserve default values for many `GalleryBannerOptions` properties by setting the `GalleryOptions` property `PreserveAllMetadata` to `true` or by choosing **File > Automate > Web Photo Gallery**, and then choosing **Preserve all metadata** on the Options area of the Web Photo Gallery dialog.

### Properties

Property	Value Type	What it is
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<code>ContactInfo</code>	String	Read-write. The Web photo gallery contact info.
<code>Date</code>	String	Read-write. The Web photo gallery date. Default: current date.
<code>Font</code>	<a href="#">PsGalleryFontType</a>	Read-write. The font setting for the banner text. Default: 1.
<code>FontSize</code>	Number (Long)	Read-write. The font size for the banner text (1 - 7; default: 3).
<code>Photographer</code>	String	Read-write. The Web photo gallery photographer.
<code>SiteName</code>	String	Read-write. The Web photo gallery site name. Default: Adobe Web Photo Gallery.
<code>typename</code>	String	Read-only. The class name of the referenced <code>GalleryBannerOptions</code> object.

## GalleryCustomColorOptions

Options that define the `customColorOptions` property of the `GalleryOptions` object. See ['GalleryOptions' on page 81](#).

**Tip:** You can preserve default values for many `GalleryCustomColorOptions` properties by setting the `GalleryOptions` property `PreserveAllMetadata` to `true` or by choosing **File > Automate > Web Photo Gallery**, and then choosing **Preserve all metadata** on the Options area of the Web Photo Gallery dialog.

### Properties

Property	Value Type	What it is
<code>ActiveLinkColor</code>	Object ( <a href="#">RGBColor</a> )	Read-write. The color to use to indicate an active link.
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<code>BackgroundColor</code>	Object ( <a href="#">RGBColor</a> )	Read-write. The background color.
<code>BannerColor</code>	Object ( <a href="#">RGBColor</a> )	Read-write. The banner color.
<code>LinkColor</code>	Object ( <a href="#">RGBColor</a> )	Read-write. The color to use to indicate a link.
<code>TextColor</code>	Object ( <a href="#">RGBColor</a> )	Read-write. The text color.
<code>typename</code>	String	Read-only. The class name of the referenced <code>GalleryCustomColorOptions</code> object.
<code>VisitedLinkColor</code>	Object ( <a href="#">RGBColor</a> )	Read-write. The color to use to indicate a visited link.

## GalleryImagesOptions

Options that define the `ImagesOptions` property of the `GalleryOptions` object. See ['GalleryOptions' on page 81](#).

**Tip:** You can preserve default values for many `GalleryImagesOptions` properties by setting the `GalleryOptions` property `PreserveAllMetadata` to `true` or by choosing **File > Automate > Web Photo Gallery**, and then choosing **Preserve all metadata** on the Options area of the Web Photo Gallery dialog.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Border</b>	Number (Long)	Read-write. The size (in pixels) of the border that separates images (0 - 99; default: 0).
<b>Caption</b>	Boolean	Read-write. Indication of whether to generate image captions. Default: <code>false</code> .
<b>Dimension</b>	Number (Long)	Read-write. The resized image dimensions in pixels. Default: 350.  <b>Note:</b> Valid only when <code>ResizeImages = true</code> . See <a href="#">ResizImages</a> .
<b>Font</b>	<a href="#">PsGalleryFontType</a>	Read-write. The font to use for image captions. Default: 1.
<b>FontSize</b>	Number (Long)	Read-write. The font size for image captions (1 - 7; default: 3).  <b>Note:</b> Valid only when <code>Caption = true</code> . See <a href="#">Caption</a> .
<b>ImageQuality</b>	Number (Long)	Read-write. The quality setting for a JPEG image (0 - 12; default: 5).
<b>IncludeCopyright</b>	Boolean	Read-write. Indication of whether to include copyright information in captions. Default: <code>false</code> .  <b>Note:</b> Valid only when <code>Caption = true</code> . See <a href="#">Caption</a> .
<b>IncludeCredits</b>	Boolean	Read-write. Indication of whether to include the credits in image captions. Default: <code>false</code> .  <b>Note:</b> Valid only when <code>Caption = true</code> . See <a href="#">Caption</a> .

Property	Value Type	What it is (Continued)
<b>IncludeFilename</b>	Boolean	Read-write. Indication of whether to include the file name in image captions. Default: <code>true</code> .  <b>Note:</b> Valid only when <code>Caption = true</code> . See <a href="#">Caption</a> .
<b>IncludeTitle</b>	Boolean	Read-write. Indication of whether to include the title in image captions. Default: <code>false</code> .  <b>Note:</b> Valid only when <code>Caption = true</code> . See <a href="#">Caption</a> .
<b>NumericLinks</b>	Boolean	Read-write. Indication of whether to add numeric links. Default: <code>true</code> .
<b>ResizeConstraint</b>	<a href="#">PsGalleryConstrainType</a>	Read-write. The image dimensions to constrain in the gallery image. Default: <code>3</code> .  <b>Note:</b> Valid only when <code>ResizeImages = true</code> . See <a href="#">ResizeImages</a> .
<b>ResizeImages</b>	Boolean	Read-write. Indication of whether to automatically resize images for placement on the gallery pages. Default: <code>true</code> .
<b>typename</b>	String	Read-only. The class name of the referenced <code>GalleryImagesOptions</code> object.



## GalleryOptions

Options that can be specified for a Web photo gallery.

**Tip:** You can preserve default values for many `GalleryOptions` properties by choosing **File > Automate > Web Photo Gallery**, and then choosing **Preserve all metadata** on the Options area of the Web Photo Gallery dialog.

### Properties

Property	Value Type	What it is
<code>AddSizeAttributes</code>	Boolean	Read-write. Indicates whether width and height attributes for images will be added. Default: <code>true</code> .
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<code>BannerOptions</code>	Object ( <a href="#">GalleryBannerOptions</a> )	Read-write. The options related to banner settings.
<code>CustomColorOptions</code>	Object ( <a href="#">GalleryCustomColorOptions</a> )	Read-write. The options related to custom color settings.
<code>EmailAddress</code>	String	Read-write. The email address to show on the Web page.
<code>ImagesOptions</code>	Object ( <a href="#">GalleryImagesOptions</a> )	Read-write. The options related to images settings.
<code>IncludeSubFolders</code>	Boolean	Read-write. Indication of whether to include all files found in sub folders of the input folder. Default: <code>true</code> .
<code>LayoutStyle</code>	String	Read-write. The style to use for laying out the Web page. Default: <code>Centered Frame 1 - Basic</code> .
<code>PreserveAllMetadata</code>	Boolean	Read-write. Indicates whether to save metadata. Default: <code>false</code> .
<code>SecurityOptions</code>	Object ( <a href="#">GallerySecurityOptions</a> )	Read-write. The options related to security settings.
<code>ThumbnailOptions</code>	Object ( <a href="#">GalleryThumbnailOptions</a> )	Read-write. The options related to thumbnail image settings.
<code>typename</code>	String	Read-only. The class name of the referenced <code>GalleryOptions</code> object.

<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>UseShortExtension</b>	Boolean	Read-write. Indicates whether the short Web page extension <code>.htm</code> or Number (Long) Web page extension <code>.html</code> will be used. Default: <code>true</code> .
<b>UseUTF8Encoding</b>	Boolean	Read-write. Indicates whether the Web page should use UTF-8 encoding. Default: <code>false</code> .

## GallerySecurityOptions

Options that define the `SecurityOptions` property of the `GalleryOptions` object. See ['GalleryOptions' on page 81](#).

**Tip:** You can preserve default values for many `GallerySecurityOptions` properties by setting the `GalleryOptions` property `PreserveAllMetadata` to `true` or by choosing **File > Automate > Web Photo Gallery**, and then choosing **Preserve all metadata** on the Options area of the Web Photo Gallery dialog.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Content</b>	<a href="#">PsGallerySecurityType</a>	Read-write. The Web photo gallery security content. Default: 1.
<b>Font</b>	<a href="#">PsGalleryFontType</a>	Read-write. The Web photo gallery security font. Default: 1.
<b>FontSize</b>	Number (Long)	Read-write. The Web photo gallery security font size (1 - 72; default: 3).
<b>Opacity</b>	Number (Long)	Read-write. The Web page security opacity as a percent. Default: 100.
<b>Text</b>	String	Read-write. The Web photo gallery security custom text.
<b>TextColor</b>	Object ( <a href="#">RGBColor</a> )	Read-write. The Web page security text color.
<b>TextPosition</b>	<a href="#">PsGallerySecurityTextPositionType</a>	Read-write. The Web photo gallery security text position. Default: 1.
<b>TextRotate</b>	<a href="#">PsGallerySecurityTextRotateType</a>	Read-write. The Web photo gallery security text orientation to use. Default: 1.
<b>typename</b>	String	Read-only. The class name of the referenced <code>GallerySecurityOptions</code> object.

## GalleryThumbnailOptions

Options that define the `thumbnailOptions` property of the `GalleryOptions` object. See ['GalleryOptions'](#) on page 81.

**Tip:** You can preserve default values for many `GalleryThumbnailOptions` properties by setting the `GalleryOptions` property `PreserveAllMetadata` to `true` or by choosing **File > Automate > Web Photo Gallery**, and then choosing **Preserve all metadata** on the Options area of the Web Photo Gallery dialog.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Border</b>	Number (Long)	Read-write. The amount of border pixels you want around your thumbnail images (0 - 99; default: 0).
<b>Caption</b>	Boolean	Read-write. Indicates whether there is a caption. Default: <code>false</code> .
<b>ColumnCount</b>	Number (Long)	Read-write. The number of columns on the page. Default: 5.
<b>Dimension</b>	Number (Long)	Read-write. The Web photo gallery thumbnail dimension in pixels. Default: 75.
<b>Font</b>	<a href="#">PsGalleryFontType</a>	Read-write. The Web photo gallery font. Default: 1.
<b>FontSize</b>	Number (Long)	Read-write. The font size for thumbnail images text (1 - 7; default: 3).
<b>IncludeCopyright</b>	Boolean	Read-write. Indication of whether to include copyright information for thumbnails. Default: <code>false</code> .
<b>IncludeCredits</b>	Boolean	Read-write. Indication of whether to include credits for thumbnails. Default: <code>false</code> .
<b>IncludeFilename</b>	Boolean	Read-write. Indication of whether to include file names for thumbnails. Default: <code>false</code> .
<b>IncludeTitle</b>	Boolean	Read-write. Indication of whether to include titles for thumbnails. Default: <code>false</code> .
<b>RowCount</b>	Number (Long)	Read-write. The number of rows on the page. Default: 3.
<b>Size</b>	<a href="#">PsGalleryThumbSizeType</a>	Read-write. The thumbnail image size. Default: 2.
<b>typename</b>	String	Read-only. The class name of the referenced <code>GalleryThumbnailOptions</code> object.

## GIFSaveOptions

Options that can be specified when saving a document in GIF format.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Colors</b>	Number (Long)	Read-write. The number of palette colors.  <b>Note:</b> Valid only when <code>Palette =</code> 2 ( <code>psMacOSPalette</code> ); 3 ( <code>psWindowsPalette</code> ); 4 ( <code>psWebPalette</code> ); 5 ( <code>psUniform</code> ); 6 ( <code>psLocalPerceptual</code> ); <b>or</b> 7 ( <code>psLocalSelective</code> ). See <a href="#">Palette</a> .
<b>Dither</b>	<a href="#">PsDitherType</a>	Read-write. The dither type.
<b>DitherAmount</b>	Number (Long)	Read-write. The amount of dither. (1 - 100; default: 75).  <b>Note:</b> Valid only for when <code>Dither = 2</code> ( <code>psDiffusion</code> ). See <a href="#">Dither</a> .
<b>Forced</b>	<a href="#">PsForcedColors</a>	Read-write. The type of colors to force into the color Palette.
<b>Interlaced</b>	Boolean	Read-write. Indicates whether rows should be interlaced. Default: <code>false</code> .
<b>Matte</b>	<a href="#">PsMatteType</a>	Read-write. The color to use to fill antialiased edges adjacent to transparent areas of the image. Default: 4 ( <code>psWhiteMatte</code> ).  <b>Note:</b> When <code>Transparency = false</code> , the matte color is applied to transparent areas. See <a href="#">Transparency</a> .
<b>Palette</b>	<a href="#">PsPaletteType</a>	Read-write. The type of palette to use. Default: 7 ( <code>psLocalSelective</code> ).
<b>PreserveExactColors</b>	Boolean	Read-write. Indicates whether to protect colors in the image that contain entries in the color table from being dithered.  <b>Note:</b> Valid only when <code>Dither = 2</code> ( <code>psDiffusion</code> ). See <a href="#">Dither</a> .

<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>Transparency</b>	Boolean	Read-write. Indicates whether to preserve transparent areas of the image during conversion to GIF format.
<b>typename</b>	String	Read-only. The class name of the referenced <code>GIFSaveOptions</code> object.

## GrayColor

Options for defining a gray color.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Gray</b>	Number (Double)	Read-write. The gray value (0.0 - 100.0; default: 0.0).
<b>typename</b>	String	Read-only. The class name of the referenced <code>grayColor</code> object.

## HistoryState

A version of the document stored automatically (and added to the `HistoryStates` collection), which preserves the document's state, each time the document is saved.

**Note:** See [“HistoryStates” on page 89](#) for information about the `HistoryStates` collection.

### Properties

Property	Value Type	What it is
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<code>Name</code>	String	Read-only. The <code>HistoryState</code> object's name.
<code>Parent</code>	Object ( <a href="#">Document</a> )	Read-only. The <code>HistoryState</code> object's container.
<code>Snapshot</code>	Boolean	Read-only. Indicates whether the history state is a snapshot.
<code>typename</code>	String	Read-only. The class name of the referenced <code>HistoryState</code> object.



## HistoryStates

The collection of `HistoryState` objects in the document.

**Note:** See ['HistoryState' on page 88](#) for more information on `HistoryState` objects.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of elements in the <code>HistoryStates</code> collection.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The <code>HistoryStates</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>HistoryStates</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>Index</b> (ItemPtr)	Object ( <a href="#">HistoryState</a> )	Number (Long)	Gets the index of the <code>HistoryState</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">HistoryState</a>	Gets an element from the <code>HistoryStates</code> collection.

## HSBColor

Options that can be specified for a color object using the HSB color model.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Brightness</b>	Number (Double)	Read-write. The brightness value (0.0 - 100.0).
<b>Hue</b>	Number (Double)	Read-write. The hue value (0.0 - 100.0).
<b>Saturation</b>	Number (Double)	Read-write. The saturation value (0.0 - 100.0).
<b>typename</b>	String	Read-only. The class name of the referenced <code>HSBColor</code> object.

## IndexedConversionOptions

Options that can be specified when converting an RGB image to an indexed color model.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Colors</b>	Number (Long)	Read-write. The number of palette colors.  <b>Note:</b> Valid only when <code>Palette =</code> <ul style="list-style-type: none"> <li>2 (<code>psMacOSPalette</code>)</li> <li>3 (<code>psWindowsPalette</code>)</li> <li>4 (<code>psWebPalette</code>)</li> <li>5 (<code>psUniform</code>)</li> <li>6 (<code>psLocalPerceptual</code>)</li> <li>7 (<code>psLocalSelective</code>)</li> <li>8 (<code>psLocalAdaptive</code>)</li> </ul> See <a href="#">Palette</a> .
<b>Dither</b>	<a href="#">PsDitherType</a>	Read-write. The dither type.
<b>DitherAmount</b>	Number (Long)	Read-write. The amount of dither. (1 - 100).  <b>Note:</b> Valid only when <code>Dither = 2</code> ( <code>psDiffusion</code> ).
<b>Forced</b>	<a href="#">PsForcedColors</a>	Read-write. The type of colors to force into the color palette.
<b>Matte</b>	<a href="#">PsMatteType</a>	Read-write. Read-write. The color to use to fill antialiased edges adjacent to transparent areas of the image. Default: 4 ( <code>psWhiteMatte</code> ).  <b>Note:</b> When <code>Transparency = false</code> , the matte color is applied to transparent areas. See <a href="#">Transparency</a> .
<b>Palette</b>	<a href="#">PsPaletteType</a>	Read-write. The palette type. Default: 1 ( <code>psExact</code> ).
<b>PreserveExactColors</b>	Boolean	Read-write. Indicates whether to protect colors in the image that contain entries in the color table from being dithered.  <b>Note:</b> Valid only when <code>Dither = 2</code> . ( <code>psDiffusion</code> ) See <a href="#">Dither</a> .

<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>Transparency</b>	Boolean	Read-write. Indicates whether to preserve transparent areas of the image during conversion to GIF format.
<b>typename</b>	String	Read-only. The class name of the referenced <code>IndexedConversionOptions</code> object.

## JPEGSaveOptions

Options that can be specified when saving a document in JPEG format.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in the document.
<b>FormatOptions</b>	<a href="#">PsFormatOptionsType</a>	Read-write. The download format to use. Default: 1 (psStandardBaseline).
<b>Matte</b>	<a href="#">PsMatteType</a>	Read-write. The color to use to fill antialiased edges adjacent to transparent areas of the image. Default: 4 (psWhiteMatte).  <b>Note:</b> When <code>Transparency = false</code> , the matte color is applied to transparent areas. See <a href="#">Transparency</a> .
<b>Quality</b>	Number (Long)	Read-write. The image quality setting to use (affects file size and compression) (0 - 12; default: 3).
<b>Scans</b>	Number (Long)	Read-write. The number of scans to make to incrementally display the image on the page (3 - 5; default: 3).  <b>Note:</b> Valid only for when <code>FormatOptions = 3</code> (psProgressive).
<b>typename</b>	String	Read-only. The class name of the referenced JPEGSaveOptions object.

## LabColor

Options that can be specified when defining a color object using the LAB color model.

### Properties

Property	Value Type	What it is
<b>A</b>	Number (Double)	Read-write. The a-value (-128.0 - 127.0).
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>B</b>	Number (Double)	Read-write. The b-value (-128.0 - 127.0).
<b>L</b>	Number (Double)	Read-write. The L-value (0.0 - 100.0).
<b>typename</b>	String	Read-only. The class name of the referenced <code>LabColor</code> object.

# LayerComp

A snapshot of a state of the layers in a document (can be used to view different page layouts or compositions).

## Properties

Property	Value Type	What it is
<b>Appearance</b>	Boolean	Read-write. Indicates whether to use layer appearance (layer styles) settings.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Comment</b>	String	Read-write. A description of the layer comp.
<b>Name</b>	String	Read-write. The name of the layer comp.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-write. The <code>LayerComp</code> object's container.
<b>Position</b>	Boolean	Read-write. Indicates whether to use layer position.
<b>Selected</b>	Boolean	Read-only. Indicates whether the layer comp is currently selected.
<b>typename</b>	String	Read-only. The class name of the referenced <code>LayerComp</code> object.
<b>Visibility</b>	Boolean	Read-write. Indicates whether to use layer visibility settings.

## Methods

Method	Parameter Type	Returns	What it does
<b>Apply</b> ( )			Applies the layer comp to the document.
<b>Delete</b> ( )			Deletes the <code>LayerComp</code> object.
<b>Recapture</b> ( )			Recaptures the current layer state(s) for this layer comp.
<b>ResetfromComp</b> ( )			Resets the layer comp state to the document state.

# LayerComps

The collection of `LayerComp` objects in the document.

**Note:** See "[LayerComp](#)" on page 95 for information on `LayerComp` objects.

## Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of elements in the <code>LayerComps</code> collection.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The <code>LayerComps</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>LayerComps</code> object.

## Methods

Method	Parameter Type	Returns	What it does
<b>Add</b> (Name, Comment, Appearance, Position, Visibility)	String String Boolean Boolean Boolean	<a href="#">LayerComp</a>	Adds a layer comp.
<b>Index</b> (ItemPtr)	Object ( <a href="#">LayerComp</a> )	Number (Long)	Gets the index of the <code>LayerComp</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">LayerComp</a>	Gets an element from the <code>LayerComps</code> collection.
<b>RemoveAll</b> ( )			Removes all <code>LayerComp</code> objects from the <code>LayerComps</code> collection.



## Layers

The collection of layer objects, including `ArtLayer` and `LayerSet` objects, in the document.

**Note:** See [“ArtLayer” on page 23](#) for information on `ArtLayer` objects. See [“LayerSet” on page 98](#) for information on `LayerSet` objects.

### Properties

Property	Value Type	What it is
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<code>Count</code>	Number (Long)	Read-only. The number of elements in the <code>Layers</code> collection.
<code>Parent</code>	Object ( <a href="#">Document</a> or <a href="#">LayerSet</a> )	Read-only. The <code>Layers</code> object's container.
<code>typename</code>	String	Read-only. The class name of the referenced <code>Layers</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<code>Index</code> (ItemPtr)	Object ( <a href="#">ArtLayer</a> or <a href="#">LayerSet</a> )	Number (Long)	Gets the index of the <code>ArtLayer</code> or <code>LayerSet</code> into the collection.
<code>Item</code> (ItemKey)	Number (Long)	Object ( <a href="#">ArtLayer</a> or <a href="#">LayerSet</a> )	Gets an element from the collection.
<code>RemoveAll</code> ( )			Removes all layers from the collection.

## LayerSet

A group of layer objects, which can include `ArtLayer` objects and other (nested) `LayerSet` objects. A single command or set of commands manipulates all layers in a `LayerSet` object.

### Properties

Property	Value Type	What it is
<b>AllLocked</b>	Boolean	Read-write. Indicates whether the contents in the layers contained in the <code>LayerSet</code> object are editable.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>ArtLayers</b>	Object ( <a href="#">ArtLayers</a> )	Read-only. The <code>ArtLayers</code> in this <code>LayerSet</code> .
<b>BlendMode</b>	<a href="#">PsBlendMode</a>	Read-write. The blend mode to use for the layer set.
<b>Bounds</b>	Array (Double)	Read-only. The bounding rectangle of the layer set.
<b>EnabledChannels</b>	Array ( <a href="#">Channel</a> objects)	Read-write. The channels enabled for the layer set; must be a list of component channels.  <b>Note:</b> See <code>Kind</code> in the Properties table for the <code>Channel</code> Object ( <a href="#">'Channel' on page 42</a> ).
<b>Layers</b>	Object ( <a href="#">Layers</a> )	Read-only. The layers in this <code>LayerSet</code> object.
<b>LayerSets</b>	Object ( <a href="#">LayerSets</a> )	Read-only. The top level <code>LayerSets</code> in this document.
<b>LinkedLayers</b>	Array ( <a href="#">ArtLayer</a> and/or <a href="#">LayerSet</a> )	Read-only. The layers linked to this <code>LayerSet</code> object.
<b>Name</b>	String	Read-write. The name of the <code>LayerSet</code> object.
<b>Opacity</b>	Number (Double)	Read-write. The master opacity of the <code>LayerSet</code> Object (0.0 - 100.0).
<b>Parent</b>	Object ( <a href="#">Document</a> or <a href="#">LayerSet</a> )	Read-only. The <code>LayerSet</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>LayerSet</code> object.
<b>Visible</b>	Boolean	Read-write. Indicates whether the <code>LayerSet</code> object is visible.

## Methods

Method	Parameter Type	Returns	What it does
<b>Delete</b> ( )			Deletes the <code>LayerSet</code> object.
<b>Duplicate</b> ( [RelativeObject] [, InsertionLocation] )	object ( <a href="#">ArtLayer</a> or <a href="#">LayerSet</a> ) <a href="#">PsElementPlacement</a>	Object ( <a href="#">LayerSet</a> )	Creates a duplicate of the <code>LayerSet</code> object.
<b>Link</b> (With)	Object ( <a href="#">ArtLayer</a> or <a href="#">LayerSet</a> )		Links the layer set with another layer.
<b>Merge</b> ( )		<code>ArtLayer</code>	Merges the layerset; returns a reference to the art layer created by this method.
<b>Move</b> (RelativeObject, InsertionLocation)	Object ( <a href="#">Application</a> ) <a href="#">PsElementPlacement</a>		Moves the <code>LayerSet</code> object.
<b>Resize</b> ( [Horizontal] [, Vertical] [, Anchor] )	Number (Double) Number (Double) <a href="#">PsAnchorPosition</a>		Resizes all layers in the layer set to the specified dimensions (as a percentage of its current size) and places the layer set in the specified position.
<b>Rotate</b> (Angle [, Anchor] )	Number (Double) <a href="#">PsAnchorPosition</a>		Rotates all layers in the layer set around the specified anchor point.
<b>Translate</b> ( [DeltaX] [, DeltaY] )	Number (Double) Number (Double)		Moves the position relative to its current position.
<b>Unlink</b> ( )			Unlinks the layer set.

## LayerSets

The collection of `LayerSet` objects in the document.

**Note:** See [“LayerSet” on page 98](#) for information on `LayerSet` objects.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of elements in the <code>LayerSets</code> collection.
<b>Parent</b>	Object ( <a href="#">Document</a> or <a href="#">LayerSet</a> )	Read-only. The <code>LayerSets</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>LayerSets</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>Add</b> ( )		<a href="#">LayerSet</a>	Creates a new <code>LayerSet</code> object.
<b>Index</b> (ItemPtr)	Object ( <a href="#">LayerSet</a> )	Number (Long)	Gets the index of the <code>LayerSet</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">LayerSet</a>	Gets an element from the <code>LayerSets</code> collection.
<b>RemoveAll</b> ( )			Removes the layer set, and any layers or layer sets it contains, from the document.

### Sample Script

The following script creates three layer sets, then nests a second layer set in each layer set, and then creates a text layer in each nested set that displays the text “Layer in *n* Set Inside *n* Set”, where *n* represents the ordinal number of the set (first, second, or third).

#### LayerSets.vbs

```
Dim appRef, docRef, myLayerSets(3,3), textArray, i, myLayers(3)

Set appRef = CreateObject("Photoshop.Application")

'close all open documents
Do While appRef.Documents.Count
    appRef.ActiveDocument.Close
Loop

' create a working document
```

```
Set docRef = appRef.Documents.Add

' Create an array to hold the text
textArray = Array("First", "Second", "Third")

'Create an indexer variable
i = 0

' Create three layer sets at the top level
for i = 0 to 2
    Set myLayerSets(i,0) = docRef.LayerSets.Add
Next

' Rearrange the layer sets with the first one on top, second next, etc.
myLayerSets(1,0).moveAfter(myLayerSets(0,0))
myLayerSets(2,0).moveAfter(myLayerSets(1,0))

' Create a layer set inside each layer set
for i = 0 to 2
    myLayerSets(i,0).Name = textArray(i) + " Set"
    Set myLayerSets(i,1) = myLayerSets(i,0).LayerSets.Add
    myLayerSets(i,1).Name = "Inside " + textArray(i) + " Set"
Next

' Create a text layer with a description inside each layer set
for i = 0 to 2
    Set myLayers(i) = myLayerSets(i,1).ArtLayers.Add
    myLayers(i).Kind = 2 ' PsLayerKind.psTextLayer
    myLayers(i).textItem.Contents = "Layer in " & textArray(i) & " Set Inside " _
        & textArray(i) & " Set"
    myLayers(i).textItem.position = Array(appRef.ActiveDocument.Width * i * 0.33, _
        appRef.ActiveDocument.Height * (i + 1) * 0.25)
    myLayers(i).textItem.Size = 12
Next
```

## MeasurementLog

The measurement log for the application. See [MeasurementLog](#) (in the Properties table for the [Application](#) object.)

**Note:** The MeasurementLog feature is available in the Extended Version only.

Because the MeasurementLog class is a property of the Application object, you use the property name, measurementLog, rather than the class name, MeasurementLog, in your code.

### Methods

Method	Parameter type	Returns	What it does
<b>ExportMeasurements</b> ( [File] [, Range] [, DataPoints] )	String <a href="#">PsMeasurementRange</a> array of strings		Export some measurement(s).
<b>DeleteMeasurements</b> ( [Range] )	<a href="#">PsMeasurementRange</a>		Delete a measurement.

## MeasurementScale

The measurement scale for the document. See [MeasurementScale](#) (in the Properties table for the [Document](#) object.)

**Note:** The MeasurementScale feature is available in the Extended Version only.

### Properties

Property	Value Type	What it is
<code>PixelLength</code>	number (Long)	Read-write. The length in pixels this scale equates to.
<code>LogicalLength</code>	number (Double)	Read-write. The logical length this scale equates to.
<code>LogicalUnits</code>	String	Read-write. The logical units for this scale.

## NoColor

An object that represents a missing color.

### Properties

Property	Value type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>typename</b>	String	Read-only. The class name of the referenced <code>noColor</code> object.



## Notifier

An event-handler object that tells the script to execute specified code when a specified event occurs.

### Properties

Property	Value type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Event</b>	String	Read-only. The event ID in four characters or a unique String that the notifier is associated with.  <b>Note:</b> For a list of four-character codes, see <a href="#">Appendix A: Event ID Codes</a> .
<b>EventClass</b>	String	Read-only. The class ID of the event associated with the <code>Notifier</code> object, four characters or a unique string.  <b>Note:</b> When an event applies to multiple types of objects, you use this property to distinguish which object this <code>Notifier</code> applies to. For example, the <code>Make</code> event ("Mk ") applies to documents ("Dcmn"), channels ("Chnl") and other objects..
<b>EventFile</b>	File	Read-only. The path to the file to execute when the event occurs/activates the notifier.
<b>Parent</b>	Object ( <a href="#">Application</a> )	Read-only. The <code>Notifier</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>Notifier</code> object.

### Methods

Method	Parameter type	Returns	What it does
<b>Remove</b> ( )			Deletes the <code>Notifier</code> object.  <b>Note:</b> You can remove a <code>Notifier</code> object from the Script Events Manager drop-down list by deleting the file named <code>Script Events Manager.xml</code> from in the Photoshop preferences folder. See Adobe Photoshop CS4 help for more information.

## Notifiers

The collection of `Notifier` objects in the document; the `Notifiers` property of the `Application` object.

**Note:** See ['Notifier' on page 105](#) for information on `Notifier` objects. See [Notifiers](#) (in the Properties table of the [Application](#) object).

## Properties

Property	Value type	What it is
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<code>Count</code>	Number (Long)	Read-only. The number of elements in the <code>Notifiers</code> collection.
<code>EventClass</code>	String	Read-only. The class ID of the event.
<code>Parent</code>	Object ( <a href="#">Application</a> )	Read-only. The <code>Notifiers</code> object's container
<code>typename</code>	String	Read-only. The class name of the referenced <code>Notifiers</code> object.

## Methods

Method	Parameter type	Returns	What it does
<b>Add</b> (Event, EventFile [, EventClass])	String String String	<a href="#">Notifier</a>	<p>Creates a <code>Notifier</code> object.</p> <p><b>Note:</b> <code>EventClass</code> defines the class ID of the event: four characters or a unique string . For a list of four-character codes, see <a href="#">Appendix A: Event ID Codes</a>.</p> <p><b>Tip:</b> Remember to omit the single quotes when including a four-character ID in your code.</p> <p><b>Note:</b> <code>EventFile</code> defines the script file that executes when the event occurs.</p> <p><b>Note:</b> An <code>eventClass</code> value corresponds to the class of object the event is applied to: four characters or a unique string.</p> <p>When an <code>event</code> applies to multiple types of objects, you use the <code>EventClass</code> parameter to distinguish which object this <code>Notifier</code> applies to. For example, the <code>Make</code> event ("Mk ") applies to documents ("Dcmn"), channels ("Chnl") and other objects.</p>
<b>Index</b> (ItemPtr)	Object ( <a href="#">Notifier</a> )	Number (Long)	Gets the index of the <code>Notifier</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">Notifier</a>	Gets an element from the <code>Notifiers</code> collection.
<b>RemoveAll</b> ()			Removes all <code>Notifier</code> objects from the <code>Notifiers</code> collection. <p><b>Note:</b> You can remove a <code>notifier</code> object from the Script Events Manager drop-down list by deleting the file named <code>Script Events Manager.xml</code> from in the Photoshop preferences folder. See Adobe Photoshop CS4 help for more information.</p>

# PathItem

A path or drawing object, such as the outline of a shape or a straight or curved line, which contains sub paths that comprise its geometry.

## Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Kind</b>	<a href="#">PsPathKind</a>	Read-write. The PathItem object's type.
<b>Name</b>	String	Read-write. The PathItem object's name.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The PathItem object's container.
<b>SubPathItems</b>	Object ( <a href="#">SubPathItems</a> )	Read-only. The sub path objects for this PathItem object.
<b>typename</b>	String	Read-only. The class name of the referenced PathItem object.

## Methods

Method	Parameter Type	Returns	What it does
<b>Delete</b> ( )			Deletes this PathItem object.
<b>Deselect</b> ( )			Deselects this PathItem object.
<b>Duplicate</b> (Name)	String		Duplicates this PathItem object with the new name specified in the argument.
<b>FillPath</b> ([FillColor]  [, Mode] [, Opacity] [, PreserveTransparency] [, Feather] [, WholePath] [, AntiAlias])	Object ( <a href="#">SolidColor</a> , <a href="#">ArtLayer</a> , <a href="#">HistoryState</a> ); or String <a href="#">PsColorBlendMode</a> Number (Double) Boolean Number (Double) Boolean Boolean		Fills the area enclosed by the path (Opacity: 0 - 100 as percent; Feather: 0.0 - 250.0 in pixels).
<b>MakeClippingPath</b> ([Flatness])	Number (Double)		Makes this PathItem object the clipping path for this document; the optional parameter tells the PostScript printer how to approximate curves in the path (0.2 - 100).

Method	Parameter Type	Returns	What it does (Continued)
<b>MakeSelection</b> ([Feather] [, AntiAlias] [, Operation])	Number (Double) Boolean <a href="#">PsSelectionType</a>		Makes a Selection object, whose border is the path, from this PathItem Object (Feather: 0.0 - 250.0 in pixels).  <b>Note:</b> See <a href="#">'Selection' on page 135</a> .
<b>Select</b> ( )			Makes this PathItem object the active or selected PathItem object.
<b>StrokePath</b> ([Tool] [, SimulatePressure])	<a href="#">PsToolType</a> Boolean		Strokes the path with the specified information.

## Sample Script

The following creates a path in three segments: two diagonal lines that form a V, and a curved line above the V that makes it look like a 2D ice cream cone.

### Paths.vbs

```
Dim appRef, startRulerUnits, startTypeUnits, startDisplayDialogs, docRef
Dim lineArray(1), lineArray2(1), lineArray3(2), lineSubPathArray(2), myPathItem

Set appRef = CreateObject("Photoshop.Application")

' Save the current preferences
startRulerUnits = appRef.Preferences.RulerUnits
startTypeUnits = appRef.Preferences.TypeUnits
startDisplayDialogs = appRef.DisplayDialogs

' Set Photoshop CS4 to use pixels and display no dialogs
appRef.Preferences.RulerUnits = 1 'for PsUnits --> 1 (psPixels)
appRef.Preferences.TypeUnits = 1 'for PsTypeUnits --> 1 (psPixels)
appRef.DisplayDialogs = 3 'for PsDialogModes --> 3 (psDisplayNoDialogs)

' first close all the open documents
Do While appRef.Documents.Count
    appRef.ActiveDocument.Close
Loop

' create a document to work with
Set docRef = appRef.Documents.Add(5000, 7000, 72, "Simple Line")

'line #1--it's a straight line so the coordinates for anchor, left, and
'right for each point have the same coordinates
Set lineArray(0) = CreateObject("Photoshop.PathPointInfo")
lineArray(0).Kind = 2 ' for PsPointKind --> 2 (psCornerPoint)
lineArray(0).Anchor = Array(100, 100)
lineArray(0).LeftDirection = lineArray(0).Anchor
lineArray(0).RightDirection = lineArray(0).Anchor
```

```
Set lineArray(1) = CreateObject("Photoshop.PathPointInfo")
lineArray(1).Kind = 2
lineArray(1).Anchor = Array(150, 200)
lineArray(1).LeftDirection = lineArray(1).Anchor
lineArray(1).RightDirection = lineArray(1).Anchor

Set lineSubPathArray(0) = CreateObject("Photoshop.SubPathInfo")
lineSubPathArray(0).operation = 2 'for PsShapeOperation --> 2 (psShapeXOR)
lineSubPathArray(0).Closed = false
lineSubPathArray(0).entireSubPath = lineArray

'line#2
Set lineArray2(0) = CreateObject("Photoshop.PathPointInfo")
lineArray2(0).Kind = 2
lineArray2(0).Anchor = Array(150, 200)
lineArray2(0).LeftDirection = lineArray2(0).Anchor
lineArray2(0).RightDirection = lineArray2(0).Anchor

Set lineArray2(1) = CreateObject("Photoshop.PathPointInfo")
lineArray2(1).Kind = 2
lineArray2(1).Anchor = Array(200, 100)
lineArray2(1).LeftDirection = lineArray2(1).Anchor
lineArray2(1).RightDirection = lineArray2(1).Anchor

Set lineSubPathArray(1) = CreateObject("Photoshop.SubPathInfo")
lineSubPathArray(1).operation = 2
lineSubPathArray(1).Closed = false
lineSubPathArray(1).entireSubPath = lineArray2
'draw the "ice cream" curve above the two lines already on the screen
'it's a curved line, so there are 3 points, not 2 and the
'coordinates for the middle point (lineArray3(1)) are different.
'The left direction is positioned "above" the anchor on the screen.
'The right direction is positioned "below" the anchor
'You can change the coordinates for these points to see
'how the curve works...
Set lineArray3(0) = CreateObject("Photoshop.PathPointInfo")
lineArray3(0).Kind = 2
lineArray3(0).Anchor = Array(200, 100)
lineArray3(0).LeftDirection = lineArray3(0).Anchor
lineArray3(0).RightDirection = lineArray3(0).Anchor

Set lineArray3(1) = CreateObject("Photoshop.PathPointInfo")
lineArray3(1).Kind = 2
lineArray3(1).Anchor = Array(150, 50)
lineArray3(1).LeftDirection = Array(100, 50)
lineArray3(1).RightDirection = Array(200, 50)

Set lineArray3(2) = CreateObject("Photoshop.PathPointInfo")
lineArray3(2).Kind = 2
lineArray3(2).Anchor = Array(100, 100)
lineArray3(2).LeftDirection = lineArray3(2).Anchor
lineArray3(2).RightDirection = lineArray3(2).Anchor

Set lineSubPathArray(2) = CreateObject("Photoshop.SubPathInfo")
lineSubPathArray(2).operation = 2
lineSubPathArray(2).Closed = false
lineSubPathArray(2).entireSubPath = lineArray3

'create the path item
Set myPathItem = docRef.PathItems.Add("A Line", lineSubPathArray)
```

```
' stroke it so we can see something
myPathItem.StrokePath(2) 'for PsToolType --> 2 (psBrush)

' Reset the application preferences
appRef.Preferences.RulerUnits = startRulerUnits
appRef.Preferences.TypeUnits = startTypeUnits
appRef.DisplayDialogs = startDisplayDialogs
```

## PathItems

The collection of `PathItem` objects in the document.

**Note:** See '[PathItem](#)' on page 108 for information on `PathItem` objects.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of <code>PathItem</code> objects in the <code>PathItems</code> collection.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The <code>PathItems</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>PathItems</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>Add</b> (Name, EntirePath)	String Array ( <a href="#">SubPathInfo</a> objects)	<a href="#">PathItem</a>	Creates a new <code>PathItem</code> object from the sub paths defined in the array provided in the <code>EntirePath</code> parameter.  A new <a href="#">SubPathItem</a> object is created for each <code>SubPathInfo</code> object provided in <code>entirePath</code> , and those <code>SubPathItem</code> objects are added to the <a href="#">SubPathItems</a> collection of the returned <code>PathItem</code> .
<b>Index</b> (ItemPtr)	Object ( <a href="#">PathItem</a> )	Number (Long)	Gets the index of the <code>PathItem</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">PathItem</a>	Gets a <code>PathItem</code> object from the <code>PathItems</code> collection.
<b>RemoveAll</b> ( )			Removes all <code>PathItem</code> objects from the <code>PathItems</code> collection.



## PathPoint

Information about an array of `PathPointInfo` objects.

**Note:** You do not use the `PathPoint` object to create points that make up a path. Rather, you use the `PathPoint` object to retrieve information about the points that describe path segments. To create path points, use the `PathPointInfo` objects. See ['PathPointInfo' on page 114](#).

### Properties

Property	Value Type	What it is
<b>Anchor</b>	Array (Double)	Read-only. The point on the curve ( <code>LeftDirection</code> / <code>RightDirection</code> are points representing the control handle end points).
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Kind</b>	<a href="#">PsPointKind</a>	Read-only. The <code>PathPoint</code> object's type.
<b>LeftDirection</b>	Array (Double)	Read-only. The x and y coordinates that define the left handle.
<b>Parent</b>	Object ( <a href="#">SubPathItem</a> )	Read-only. The <code>PathPoint</code> object's container.
<b>RightDirection</b>	Array (Double)	Read-only. The x and y coordinates that define the right handle.
<b>typename</b>	String	Read-only. The class name of the referenced <code>PathPoint</code> object.

## PathPointInfo

A point on a path, expressed as an array of three coordinate arrays: the anchor point, left direction point, and right direction point. For paths that are straight segments (not curved), the coordinates of all three points are the same. For curved segments, the coordinates are different. The difference between the anchor point and the left or right direction points determines the arc of the curve. You use the left direction point to bend the curve “outward” or make it convex; you use the right direction point to bend the curve “inward” or make it concave.

### Properties

Property	Value Type	What it is
<b>Anchor</b>	Array	Read-write. The x and y coordinates of one end point of the path segment.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Kind</b>	<a href="#">PsPointKind</a>	Read-write. The <code>PathPointInfo</code> object's kind.
<b>LeftDirection</b>	Array (Double)	Read-write. The location of the left direction point ('in' position).
<b>RightDirection</b>	Array (Double)	Read-write. The location of the right handle ('out' position).
<b>typename</b>	String	Read-only. The class name of the referenced <code>PathPointInfo</code> object.

## PathPoints

A collection of `PathPoint` objects that comprises the `PathPoints` property of the `SubPathItem` object.

**Note:** See [‘SubPathItem’ on page 143](#) for more information.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of elements in the <code>PathPoints</code> collection.
<b>Parent</b>	Object ( <a href="#">SubPathItem</a> )	Read-only. The <code>PathPoints</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>PathPoints</code> object.

Method	Parameter type	Returns	What it does
<b>Index</b> (ItemPtr)	Object ( <a href="#">PathPoint</a> )	Number (Long)	Gets the index of the <code>PathPoint</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">PathPoint</a>	Gets an element from the <code>PathPoints</code> collection.

## PDFOpenOptions

Options that can be specified when opening a document in generic PDF format.

### Properties

Property	Value Type	What it is
<b>AntiAlias</b>	Boolean	Read-write. Indicates whether to use antialias.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>BitsPerChannel</b>	<a href="#">PsBitsPerChannelType</a>	Read-write. The number of bits per channel.
<b>ConstrainProportions</b>	Boolean	Deprecated for Adobe Photoshop CS4.
<b>CropPage</b>	<a href="#">PsCropToType</a>	Read-write. The method of cropping to use.
<b>Height</b>	Double	Deprecated for Adobe Photoshop CS4.
<b>Mode</b>	<a href="#">PsOpenDocumentMode</a>	Read-write. The color model to use.
<b>Name</b>	String	Read-write. The name of the document.
<b>Page</b>	Number (Long)	Read-write. The page to which to open the document.
<b>Resolution</b>	Number (Double)	Read-write. The resolution of the document (in pixels per inch).
<b>SuppressWarnings</b>	Boolean	Read-write. Indicates whether to suppress warnings when opening the document.
<b>typename</b>	String	Read-only. The class name of the referenced PDFOpenOptions object.
<b>UsePageNumber</b>	Boolean	Read-write. Indicates whether the value specified in the <code>page</code> property will refer to an image number when <code>usePageNumber = false</code> . See <a href="#">Page</a> .
<b>Width</b>	Double	Deprecated for Adobe Photoshop CS4.

## PDFSaveOptions

Options that can be specified when saving a document in PDF format.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels with the file.
<b>Annotations</b>	Boolean	Read-write. Indicates whether to save comments with the file.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>ColorConversion</b>	Boolean	Read-write. Indicates whether to convert the color profile to a destination profile.
<b>ConvertToEightBit</b>	Boolean	Read-write. Indicates whether to convert a 16-bit image to 8-bit for better compatibility with other applications.
<b>Descripton</b>	String	Read-write. Description of the save options to use.
<b>DestinationProfile</b>	String	Read-write. Description of the final RGB or CMYK output device, such as a monitor or a press standard.
<b>DowngradeColorProfile</b>	Boolean	Deprecated for Adobe Photoshop CS4.
<b>DownSample</b>	<a href="#">PsPDFResampleType</a>	Read-write. The down sample method to use.
<b>DownSampleSize</b>	Number (Double)	Read-write. The size to downsample images if they exceed the limit in pixels per inch.
<b>DownSampleSizeLimit</b>	Number (Double)	Read-write. Limits downsampling or subsampling to images that exceed this value in pixels per inch.
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in the document.
<b>EmbedFonts</b>	Boolean	Deprecated for Adobe Photoshop CS4.
<b>EmbedThumbnail</b>	Boolean	Read-write. Indicates whether to include a small preview image in Adobe PDF files.
<b>Encoding</b>	<a href="#">PsPDFEncoding</a>	Read-write. The encoding method to use. Default: 1 ( <code>psPDFZIP</code> ).
<b>Interpolation</b>	Boolean	Deprecated for Adobe Photoshop CS4.

Property	Value Type	What it is (Continued)
<b>JPEGQuality</b>	Number (Long)	Read-write. The quality of the produced image (0 - 12), which is inversely proportionate to the compression amount.  <b>Note:</b> Valid only when Encoding = 2 (psPDFJPEG).
<b>Layers</b>	Boolean	Read-write. Indicates whether to save the document's layers.
<b>OptimizeForWeb</b>	Boolean	Read-write. Indicates whether to improve performance of PDF files on Web servers.
<b>OutputCondition</b>	String	Read-write. An optional comment field for inserting descriptions of the output condition. The text is stored in the PDF/X file.
<b>OutputConditionID</b>	String	Read-write. Identifier for the output condition.
<b>PDFCompatibility</b>	<a href="#">PsPDFCompatibilityType</a>	Read-write. The PDF version to make the document compatible with.
<b>PDFStandard</b>	<a href="#">PsPDFStandardType</a>	Read-write. The PDF standard to make the document compatible with.
<b>PreserveEditing</b>	Boolean	Read-write. Indicates whether to reopen the PDF in Adobe Photoshop CS4 with native Photoshop data intact.
<b>PresetFile</b>	String	Read-write. The preset file to use for settings.  <b>Note:</b> This option overrides other settings.
<b>ProfileInclusionPolicy</b>	Boolean	Read-write. Indicates whether to show which profiles to include.
<b>RegistryName</b>	String	Read-write. URL where the output condition is registered.
<b>SpotColors</b>	Boolean	Read-write. Indicates whether to save spot colors.
<b>TileSize</b>	Number (Long)	Read-write. Compression option.  <b>Note:</b> Valid only when encoding = PDFEncoding.JPEG2000.
<b>Transparency</b>	Boolean	Deprecated for Adobe Photoshop CS4.
<b>typename</b>	String	Read-only. The class name of the referenced PDFSaveOptions object.
<b>UseOutlines</b>	Boolean	Deprecated for Adobe Photoshop CS4.

<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>VectorData</b>	Boolean	Deprecated for Adobe Photoshop CS4.
<b>View</b>	Boolean	Read-write. Indicates whether to open the saved PDF in Adobe Acrobat.

## PhotoCDOpenOptions

DEPRECATED in Adobe Photoshop CS4. Kodak PhotoCD is now found in the Goodies folder on the Adobe Photoshop CS4 Install DVD.

Options to be specified when opening a Kodak Photo CD (PCD) files, including high-resolution files from Pro Photo CD discs.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>ColorProfileName</b>	String	Read-write. The profile to use when reading the image.
<b>ColorSpace</b>	<a href="#">PsPhotoCDCColorSpace</a>	Read-write. The colorspace for the image.
<b>Orientation</b>	<a href="#">PsOrientation</a>	Read-write. The image orientation.
<b>PixelSize</b>	<a href="#">PsPhotoCDSIZE</a>	Read-write. The image dimensions.
<b>Resolution</b>	Number (Double)	Read-write. The image resolution (in pixels per inch).
<b>typename</b>	String	Read-only. The class name of the referenced <code>PhotoCDOpenOptions</code> object.



# PhotoshopSaveOptions

Options that can be specified when saving a document in PSD format.

## Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels.
<b>Annotations</b>	Boolean	Read-write. Indicates whether to save the annotations.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in the document.
<b>Layers</b>	Boolean	Read-write. Indicates whether to preserve the layers.
<b>SpotColors</b>	Boolean	Read-write. Indicates whether to save the spot colors.
<b>typename</b>	String	Read-only. The class name of the referenced PhotoshopSaveOptions object.

## PICTFileSaveOptions

Options that can be specified when saving a document in PICT format.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Compression</b>	<a href="#">PsPICTCompression</a>	Read-write. Default: 1)
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in the document.
<b>Resolution</b>	<a href="#">PsPICTBitsPerPixels</a>	Read-write. The number of bits per pixel.
<b>typename</b>	String	Read-only. The class name of the referenced PICTFileSaveOptions object.

# PicturePackageOptions

Options that can be specified for a Picture Package.

Property	Value type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Content</b>	<a href="#">PsPicturePackageTextType</a>	Read-write. The content information. Default: 0 (psNoText).
<b>Flatten</b>	Boolean	Read-write. Indicates whether all layers in the final document are flattened. Default: true.
<b>Font</b>	<a href="#">PsGalleryFontType</a>	Read-write. The font used for security text. Default: 1 (psArial).
<b>FontSize</b>	Number (Long)	Read-write. The font size used for security text. Default: 12.
<b>Layout</b>	String	Read-write. The layout to use to generate the picture package. Default: "(2) 5x7".
<b>Mode</b>	<a href="#">PsNewDocumentMode</a>	Read-write. Read-write. The color profile to use as the document mode. Default: 2 (psNewRGB).
<b>Opacity</b>	Number (Long)	Read-write. The Web page security opacity as a percent. Default: 100.
<b>Resolution</b>	Number (Double)	Read-write. The resolution of the document in pixels per inch. Default: 72.0.
<b>Text</b>	String	Read-write. The picture package custom text.  <b>Note:</b> Valid only when Content = 2 (psUserText). See <a href="#">Content</a> .
<b>TextColor</b>	<a href="#">RGBColor</a>	Read-write. The color to use for security text.
<b>TextPosition</b>	<a href="#">PsGallerySecurityTextPositionType</a>	Read-write. The security text position. Default: 1 (psCentered).
<b>TextRotate</b>	<a href="#">PsGallerySecurityTextRotateType</a>	Read-write. The orientation to use for security text. Default: 1 (psZero).
<b>typename</b>	String	Read-only. The class name of the referenced PicturePackageOptions object.

## PixarSaveOptions

Options that can be specified when saving a document in Pixar format.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>typename</b>	String	Read-only. The class name of the referenced <code>PixarSaveOptions</code> object.

## PNGSaveOptions

Options that can be specified when saving a document in PNG format.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Interlaced</b>	Boolean	Read-write. Indicates whether the should rows be interlaced. Default: <i>false</i> .
<b>typename</b>	String	Read-only. The class name of the referenced PNGSaveOptions object.

## Preferences

Options to define for the `Preferences` property of the `Application` object. See ['Preferences' on page 17](#) (in the Properties table for the `Application` object).

**Note:** Defining the `Preferences` properties is basically equivalent to selecting `Edit > Preferences (Windows)` or `Photoshop > Preferences` in the Adobe Photoshop CS4 application. For explanations of individual settings, please refer to Adobe Photoshop CS4 Help.

## Properties

Property	Value Type	What it is
<b>AdditionalPluginFolder</b>	String	Read-write. The path to an additional plug-in folder.  <b>Note:</b> Valid only when <code>UseAdditionalPluginFolder = true</code> . See <a href="#">UseAdditionalPluginFolder</a> .
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>AskBeforeSavingLayeredTIFF</b>	Boolean	Read-write. Indicates whether to ask the user to verify layer preservation options when saving a file in TIFF format.
<b>AutoUpdateOpenDocuments</b>	Boolean	Read-write. Indicates whether to automatically update open documents.
<b>BeepWhenDone</b>	Boolean	Read-write. Indicates whether to beep when a process finishes.
<b>ColorChannelsInColor</b>	Boolean	Read-write. Indicates whether to display component channels in the Channels palette in color.
<b>ColorPicker</b>	<a href="#">PsColorPicker</a>	Read-write.
<b>ColumnGutter</b>	Number (Double)	Read-write. The width of the column gutters (in points). (0.1 - 600.0).
<b>ColumnWidth</b>	Number (Double)	Read-write. Column width (in points) (0.1 - 600.0).
<b>CreateFirstSnapshot</b>	Boolean	Read-write. Indicates whether to automatically make the first snapshot when a new document is created.
<b>DynamicColorSliders</b>	Boolean	Read-write. Indicates whether dynamic color sliders appear in the Color palette.
<b>EditLogItems</b>	<a href="#">PsEditLogItemsType</a>	Read-write. The options for editing history log items.  <b>Note:</b> Valid only when <code>UseHistoryLog = true</code> . See <a href="#">UseHistoryLog</a> .

Property	Value Type	What it is (Continued)
<b>ExportClipboard</b>	Boolean	Read-write. Indicates whether to retain Adobe Photoshop CS4 contents on the clipboard after you exit the application.
<b>FontPreviewSize</b>	<a href="#">psFontPreviewType</a>	Read-write. Indicates whether to show font previews in the type tool font menus.
<b>GamutWarningOpacity</b>	Number (Double)	Read-write. (0 - 100 as percent).
<b>GridSize</b>	<a href="#">PsGridSize</a>	Read-write. The size to use for squares in the grid.
<b>GridStyle</b>	<a href="#">PsGridLineStyle</a>	Read-write. The formatting style for non-printing grid lines.
<b>GridSubDivisions</b>	Number (Long)	Read-write. (1 - 100)
<b>GuideStyle</b>	<a href="#">PsGuideLineStyle</a>	Read-write. The formatting style for non-printing guide lines.
<b>ImageCacheLevels</b>	Number (Long)	Read-write. The number of images to hold in the cache (1 - 8).
<b>ImagePreviews</b>	<a href="#">PsSaveBehavior</a>	Read-write. The behavior mode to use when saving files.
<b>Interpolation</b>	<a href="#">PsResampleMethod</a>	Read-write. The method to use to assign color values to any new pixels created when an image is resampled or resized.
<b>KeyboardZoomResizesWindows</b>	Boolean	Read-write. Indicates whether to automatically resize the window when zooming in or out using keyboard shortcuts.
<b>MaximizeCompatibility</b>	<a href="#">PsQueryStateType</a>	Read-write. The behavior to use to check whether to maximize compatibility when opening Adobe Photoshop CS4 (PSD) files.
<b>MaxRAMuse</b>	Number (Long)	Read-write. The maximum percentage of available RAM used by Adobe Photoshop CS4 (5 - 100).
<b>NonLinearHistory</b>	Boolean	Read-write. Indicates whether to allow non-linear history.
<b>NumberOfHistoryStates</b>	Number (Long)	Read-write. The number of history states to preserve (1 - 100).
<b>OtherCursors</b>	<a href="#">PsOtherPaintingCursors</a>	Read-write. The type of pointer to use.



Property	Value Type	What it is (Continued)
<b>PaintingCursors</b>	<a href="#">PsPaintingCursors</a>	Read-write. The type of pointer to use.
<b>Parent</b>	Object ( <a href="#">Application</a> )	Read-write. The <code>Preferences</code> object's container.
<b>PixelDoubling</b>	Boolean	Read-write. Indicates whether to halve the resolution or (double the size of pixels) to make previews display more quickly.
<b>PointSize</b>	<a href="#">PsPointType</a>	Read-write. The point/pica size.
<b>RecentFileListLength</b>	Number (Long)	Read-write. The number of items in the recent file list (0 - 30).
<b>RulerUnits</b>	<a href="#">PsUnits</a>	Read-write. The unit the scripting system will use when receiving and returning values.
<b>SaveLogItems</b>	<a href="#">PsSaveLogItemsType</a>	Read-write. The options for saving the history items.
<b>SaveLogItemsFile</b>	String	Read-write. The path to the history log file.
<b>SavePaletteLocations</b>	Boolean	Read-write. Indicates whether to make new palette locations the default location.
<b>ShowAsianTextOptions</b>	Boolean	Read-write. Indicates whether to display Asian text options in the Paragraph palette.
<b>ShowEnglishFontNames</b>	Boolean	Read-write. Indicates whether to list Asian font names in English.
<b>ShowSliceNumber</b>	Boolean	Read-write. Indicates whether to display slice numbers in the document window when using the Slice tool.
<b>ShowToolTips</b>	Boolean	Read-write. Indicates whether to show pop up definitions on mouse over.
<b>SmartQuotes</b>	Boolean	Read-write. Indicates whether to use curly or straight quote marks.
<b>typename</b>	String	Read-only. The class name of the referenced <code>Preferences</code> object.
<b>TypeUnits</b>	<a href="#">PsTypeUnits</a>	Read-write. The unit type-size that the numeric inputs are assumed to represent.

<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>UseAdditionalPluginFolder</b>	Boolean	Read-write. Indicates whether to use an additional folder for compatible plug-ins stored with a different application.
<b>UseHistoryLog</b>	Boolean	Read-write. Indicates whether to create a log file for history states.
<b>UseLowerCaseExtension</b>	Boolean	Read-write. Indicates whether the file extension should be lowercase.
<b>UseShiftKeyForToolSwitch</b>	Boolean	Read-write. Indicates whether to enable cycling through a set of hidden tools.
<b>UseVideoAlpha</b>	Boolean	Read-write. Indicates whether to enable Adobe Photoshop CS4 to send transparency information to your computer's video board. (Requires hardware support.)

## PresentationOptions

Options that can be specified for PDF presentations.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>AutoAdvance</b>	Boolean	Read-write. Indicates whether to auto advance images when viewing the presentation. Default: true.  <b>Note:</b> Valid only when <code>Presentation = true</code> . See <a href="#">Presentation</a> .
<b>IncludeFilename</b>	Boolean	Read-write. Indicates whether to include the file name for the image (default: false).
<b>Interval</b>	Number (Long)	Read-write. The time in seconds before the view is auto advanced (1 - 60; default: 5).  <b>Note:</b> Valid only when <code>AutoAdvance = true</code> . See <a href="#">AutoAdvance</a> .
<b>Loop</b>	Boolean	Read-write. Indicates whether to begin the presentation again after the last page. Default: false.  <b>Note:</b> Valid only when <code>AutoAdvance = true</code> . See <a href="#">AutoAdvance</a> .
<b>Magnification</b>	<a href="#">PsMagnificationType</a>	Read-write. The magnification type to use when viewing the image.
<b>PDFFileOptions</b>	<a href="#">PDFSaveOptions</a>	Read-write. Options to use when creating the PDF file.
<b>Presentation</b>	Boolean	Read-write. Indicates whether the output will be a presentation. Default: false); when false, the output is a Multi-Page document.
<b>Transition</b>	<a href="#">PsTransitionType</a>	Read-write. The transition from one image to the next. Default: 9 (psNoTransition).  <b>Note:</b> Valid only when <code>AutoAdvance = true</code> . See <a href="#">AutoAdvance</a> .
<b>typename</b>	String	Read-only. The class name of the referenced PDFPresentationOptions object.

## RawFormatOpenOptions

Options that can be specified when opening a document in RAW format.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>BitsPerChannel</b>	Number (Long)	Read-write. The number of bits for each channel.  <b>Note:</b> The only valid values are <code>BitsPerChannel = 8</code> or <code>BitsPerChannel = 16</code> .
<b>ByteOrder</b>	<a href="#">PsByteOrder</a>	Read-write. The order in which bytes will be read.  <b>Note:</b> Valid only when <code>BitsPerChannel = 16</code> . See <a href="#">BitsPerChannel</a> .
<b>ChannelNumber</b>	Number (Long)	Read-write. The number of channels in the image (1 - 56).  <b>Note:</b> The value of <code>ChannelNumber</code> cannot exceed the number of channels in the image. When <code>BitsPerChannel = 16</code> , only the following values are valid: 1, 3, or 4. See <a href="#">BitsPerChannel</a> .
<b>HeaderSize</b>	Number (Long)	Read-write. The number of bytes of information that will appear in the file before actual image information begins; that is, the number of zeroes inserted at the beginning of the file as placeholders (0 - 1919999).
<b>Height</b>	Number (Long)	Read-write. The height of the image (in pixels).
<b>InterleaveChannels</b>	Boolean	Read-write. Indicates whether to store color values sequentially.
<b>RetainHeader</b>	Boolean	Read-write. Indicates whether to retain the header when saving.  <b>Note:</b> Valid only when <a href="#">HeaderSize</a> is 1 or greater.
<b>typename</b>	String	Read-only. The class name of the referenced <code>RawFormatOpenOptions</code> object.
<b>Width</b>	Number (Long)	Read-write. The image width in pixels.

## RawSaveOptions

Options that can be specified when saving a document in RAW format.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether alpha channels should be saved.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>SpotColors</b>	Boolean	Read-write. Indicates whether the spot colors should be saved.
<b>typename</b>	String	Read-only. The class name of the referenced <code>RawSaveOptions</code> object.

## RGBColor

The definition of a color in RGB color mode.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Blue</b>	Number (Double)	Read-write. The blue color value (0.0 - 255.0; default: 255.0).
<b>Green</b>	Number (Double)	Read-write. The green color value (0.0 - 255.0; default: 255.0).
<b>HexValue</b>	String	Read-write. The hex representation of the color.
<b>Red</b>	Number (Double)	Read-write. The red color value (0.0 - 255.0; default: 255.0).
<b>typename</b>	String	Read-only. The class name of the referenced <code>RGBColor</code> object.

## Selection

The selected area of a document or layer.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Bounds</b>	Array of Number (Double)	Read-only. The bounding rectangle of the entire selection.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The object's container.
<b>Solid</b>	Boolean	Read-only. Indicates if the bounding rectangle is a solid.
<b>typename</b>	String	Read-only. The class name of the referenced <code>Selection</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>Clear</b> ( )			Clears the selection and does not copy it to the clipboard.
<b>Contract</b> (By)	Number (Double)		Contracts the selection by the specified amount.
<b>Copy</b> ( [Merge] )	Boolean		Copies the selection to the clipboard. When the optional argument is used and set to <code>true</code> , a merged copy is performed (all visible layers in the selection are copied).
<b>Cut</b> ( )			Clears the current selection and copies it to the clipboard.
<b>Deselect</b> ( )			Deselects the current selection.
<b>Expand</b> (By)	Number (Double)		Expands the selection by the specified amount.
<b>Feather</b> (By)	Number (Double)		Feathers the edges of the selection by the specified amount.

Method	Parameter Type	Returns	What it does (Continued)
<b>Fill</b> (FillType [, Mode] [, Opacity] [, PreserveTransparency])	Object ( <a href="#">SolidColor</a> , or <a href="#">HistoryState</a> ) <a href="#">PsColorBlendMode</a> Number (Long) Boolean		Fills the selection (Opacity: 1 - 100 as percent).
<b>Grow</b> (Tolerance, AntiAlias)	Number (Long) Boolean		Grows the selection to include all adjacent pixels falling within the specified tolerance range.
<b>Invert</b> ( )			Inverts the selection (deselects the selection and selects the rest of the layer or document).  <b>Note:</b> To flip the selection shape, see <a href="#">Rotate</a> .
<b>Load</b> (From [, Combination] [, Inverting])	<a href="#">Channel</a> <a href="#">PsSelectionType</a> Boolean		Loads the selection from the specified channel.
<b>MakeWorkPath</b> ([Tolerance])	Number (Double)		Makes this selection item the work path for this document.
<b>Resize</b> ([Horizontal] [, Vertical] [, Anchor])	Number (Double) Number (Double) <a href="#">PsAnchorPosition</a>		Resizes the selected area to the specified dimensions and anchor position.
<b>ResizeBoundary</b> ([Horizontal] [, Vertical] [, Anchor])	Number (Double) Number (Double) <a href="#">PsAnchorPosition</a>		Changes the size of the selection to the specified dimensions around the specified anchor.
<b>Rotate</b> (Angle [, Anchor])	Number (Double) <a href="#">PsAnchorPosition</a>		Rotates the selection by the specified amount around the specified anchor point.
<b>RotateBoundary</b> (Angle [, Anchor])	Number (Double) <a href="#">PsAnchorPosition</a>		Rotates the boundary of the selection around the specified anchor.
<b>Select</b> (Region [, Type] [, Feather] [, AntiAlias])	Array (Points: Array (Array (x,y),...) <a href="#">PsSelectionType</a> Number (Double) Boolean		Selects the specified region.
<b>SelectAll</b> ( )			Selects the entire layer.



Method	Parameter Type	Returns	What it does (Continued)
<b>SelectBorder</b> (Width)	Number (Double)		Selects the selection border only (in the specified width); subsequent actions do not affect the selected area within the borders.
<b>Similar</b> (Tolerance, AntiAlias)	Number (Long) Boolean		Grows the selection to include pixels throughout the image falling within the tolerance range.
<b>Smooth</b> (Radius)	Number (Long)		Cleans up stray pixels left inside or outside a color-based selection (within the radius specified in pixels).
<b>Store</b> (Into [, Combination])	<a href="#">Channel</a> <a href="#">PsSelectionType</a>		Saves the selection as a channel.
<b>Stroke</b> (StrokeColor, Width [, Location] [, Mode] [, Opacity] [, PreserveTransparency])	Object ( <a href="#">SolidColor</a> ) Number (Long) <a href="#">PsStrokeLocation</a> <a href="#">PsColorBlendMode</a> Number (Long) Boolean		Strokes the selection border (Opacity: 1 - 100 as percent).
<b>Translate</b> ([DeltaX] [, DeltaY])	Number (Double) Number (Double)		Moves the entire selection relative to its current position.
<b>TranslateBoundary</b> ([DeltaX] [, DeltaY])	Number (Double) Number (Double)		Moves the selection relative to its current position.

## Sample Script

► **The following script creates a checkerboard using the following steps:**

1. Create an 800 x 800 pixel document.
2. Divide the entire document into 100 x 100 pixel squares.
3. Select every other square in the first row, then shift the selection criteria to select the alternate squares in the following row. Repeat until every other square in the document is selected.
4. Fill the selected squares with the foreground color from the palette.
5. Invert the selection and fill the newly selected squares with the background color from the palette.
6. Deselect the squares to remove the selection outlines (the "marching ants").

### Selection.vbs

```
Dim appRef, startRulerUnits, startTypeUnits, startDisplayDialogs, docSize
```

```
Dim cells, cellSize, checkersDoc, shiftIt, h, v, eventWait, enumRedrawComplete
Dim typeState, keyState, desc

Set appRef = CreateObject("Photoshop.Application")

' Save the current Preferences
startRulerUnits = appRef.Preferences.RulerUnits
startTypeUnits = appRef.Preferences.TypeUnits
startDisplayDialogs = appRef.DisplayDialogs

' Set Photoshop CS4 to use pixels and display no dialogs
appRef.Preferences.RulerUnits = 1 'for PsUnits --> 1 (psPixels)
appRef.Preferences.TypeUnits = 1 'for PsTypeUnits --> 1 (psPixels)
appRef.DisplayDialogs = 3 'for PsDialogModes --> 3 (psDisplayNoDialogs)

' Close all the open documents
Do While appRef.Documents.Count
    appRef.ActiveDocument.Close
Loop

' Create variables for the 800 pixel board divided in even 100 x 100 squares
docSize = 800
cells = 8
cellSize = docSize / cells

' create a new document
Set checkersDoc = appRef.Documents.Add(docSize, docSize, 72, "Checkers")

' Create a variable to use for selecting the checker board
' That allows me to shift the selection one square to the right
' on every other row, and then shift back for the rows in between.
shiftIt = true

' loop through vertically to create the first row
v = 0
For v = 0 To (docSize - 1) Step cellSize
    ' Switch the shift For a new row
    shiftIt = Not shiftIt

    ' loop through horizontally
    h = 0
    For h = 0 To (docSize - 1) Step (cellSize * 2)
        ' push over the cellSize to start with only
        If shiftIt And h = 0 Then
            h = h + cellSize
        End If
        ' Select a square
        selRegion = Array(Array(h, v), _
            Array(h + cellSize, v), _
            Array(h + cellSize, v + cellSize), _
            Array(h, v + cellSize), _
            Array(h, v))

        If h = 0 And v = 0 Then
            checkersDoc.Selection.Select selRegion
        Else
            checkersDoc.Selection.Select selRegion, 2
            ' value 2 is for PsSelectionType --> 2 (psExtendSelection)
        End If
    Next h
Next v
```

```
        ' turn this off for faster execution
        ' turn this on for debugging
        WaitForRedraw
    Next
Next

' Fill the current selection with the Foreground color
checkersDoc.Selection.Fill(appRef.ForegroundColor)

'Invert the selection
checkersDoc.Selection.Invert()

' Fill the new selection with the background color
checkersDoc.Selection.Fill(appRef.BackgroundColor)

' Clear the selection to get rid of the non-printing borders
checkersDoc.Selection.Deselect()

' Reset the application preferences
appRef.Preferences.RulerUnits = startRulerUnits
appRef.Preferences.TypeUnits = startTypeUnits
appRef.DisplayDialogs = startDisplayDialogs

' -----
' A helper function for debugging
' It also helps the user see what is going on
' if you turn it off for this example you
' get a flashing cursor for a Number (Long) time
' Save a bit of time by creating the variables only once
Private Sub WaitForRedraw
    If VarType(eventWait) = vbEmpty Then
        eventWait = appRef.charIDToTypeID("Wait")
    End If
    If VarType(enumRedrawComplete) = vbEmpty Then
        enumRedrawComplete = appRef.charIDToTypeID("RdCm")
    End If
    If VarType(typeState) = vbEmpty Then
        typeState = appRef.charIDToTypeID("Stte")
    End If
    If VarType(keyState) = vbEmpty Then
        keyState = appRef.charIDToTypeID("Stte")
    End If
    If VarType(desc) = vbEmpty Then
        Set desc = CreateObject("Photoshop.ActionDescriptor")
        desc.putEnumerated KeyState, typeState, enumRedrawComplete
    End If
    appRef.executeAction eventWait, desc, 3 _
    'value of 3 for PsDialogModes --> 3 (psDisplayNoDialogs)
End Sub
```

## SGIRGBSaveOptions

Options that can be specified when saving a document in SGIRGB format.

**Note:** The SGIRGB format is not installed automatically with Adobe Photoshop CS4.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>SpotColors</b>	Boolean	Read-write. Indicates whether to save the spot colors.
<b>typename</b>	String	Read-only. The class name of the referenced <code>SGIRGBSaveOptions</code> object.

## SolidColor

A color definition used in the document.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>CMYK</b>	Object ( <a href="#">CMYKColor</a> )	Read-write. The CMYK color mode.
<b>Gray</b>	Object ( <a href="#">GrayColor</a> )	Read-write. The Grayscale color mode.
<b>HSB</b>	Object ( <a href="#">HSBColor</a> )	Read-write. The HSB color mode.
<b>Lab</b>	Object ( <a href="#">LabColor</a> )	Read-write. The LAB color mode.
<b>Model</b>	<a href="#">PsColorModel</a>	Read-write. The color model.
<b>NearestWebColor</b>	Object ( <a href="#">RGBColor</a> )	Read-only. The nearest Web color to the current color.
<b>RGB</b>	Object ( <a href="#">RGBColor</a> )	Read-write. The RGB color mode.
<b>typename</b>	String	Read-only. The class name of the referenced <code>SolidColor</code> object.

### Methods

Method	Parameter Type	Returns	What it does
<b>IsEqual</b> (Color)	<a href="#">SolidColor</a>	Boolean	Indicates whether the <code>SolidColor</code> object is visually equal to the specified color.

## SubPathInfo

An array of `PathPointInfo` objects that describes a straight or curved segment of a path.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Closed</b>	Boolean	Read-write. Indicates whether the path describes an enclosed area.
<b>EntireSubPath</b>	Array ( <a href="#">PathPoint</a> objects)	Read-write.
<b>Operation</b>	<a href="#">PsShapeOperation</a>	Read-write. The sub path's operation on other sub paths.
<b>typename</b>	String	Read-only. The class name of the referenced <code>SubPathInfo</code> object.

## SubPathItem

Information about a path.

**Note:** You do not use the `SubPathItem` object to create a path. Rather, you create path segments using the [SubPathInfo](#) object. Use the `SubPathItem` object to retrieve information about a path. (Note that all of the `SubPathItem` object's properties are *Read-only*.)

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Closed</b>	Boolean	Read-only. Indicates whether the path is closed.
<b>Operation</b>	<a href="#">PsShapeOperation</a>	Read-only. The sub path operation on other sub paths.
<b>Parent</b>	Object ( <a href="#">PathItem</a> )	Read-only. The object's container.
<b>PathPoints</b>	Object ( <a href="#">PathPoints</a> )	Read-only. The <code>PathPoints</code> collection.
<b>typename</b>	String	Read-only. The class name of the referenced <code>SubPathItem</code> object.

## SubPathItems

A collection of `SubPathItem` objects. See [SubPathItem](#).

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<b>Count</b>	Number (Long)	Read-only. The number of elements in the <code>SubPathItems</code> collection.
<b>Parent</b>	Object ( <a href="#">PathItem</a> )	Read-only. The <code>SubPathItems</code> object's container.
<b>typename</b>	String	Read-only. The class name of the referenced <code>SubPathItems</code> object.

### Methods

Method	Parameter type	Returns	What it does
<b>Index</b> (ItemPtr)	Object ( <a href="#">SubPathItem</a> )	Number (Long)	Gets the index of the <code>SubPathItem</code> into the collection.
<b>Item</b> (ItemKey)	Number (Long)	<a href="#">SubPathItem</a>	Gets an element from the <code>SubPathItems</code> collection.



## TargaSaveOptions

Options that can be set when saving a document in TGA (Targa) format.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Resolution</b>	<a href="#">PsTargaBitsPerPixel</a>	Read-write. The number of bits per pixel. Default: 24.
<b>RLECompression</b>	Boolean	Read-write. Indicates whether RLE compression should be used. Default: <code>true</code> .
<b>typename</b>	String	Read-only. The class name of the referenced <code>TargaSaveOptions</code> object.

## TextFont

Details about a font in the `TextFonts` collection.

**Note:** See [TextFonts](#) for more information on the `TextFonts` collection.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Family</b>	String	Read-only. The font family.
<b>Name</b>	String	Read-only. The name of the font.
<b>Parent</b>	Object ( <a href="#">Application</a> )	Read-only. The object's container.
<b>PostScriptName</b>	String	Read-only. The PostScript name of the font.
<b>Style</b>	String	Read-only. The font style.
<b>typename</b>	String	Read-only. The class name of the referenced <code>TextFont</code> object.

## TextFonts

The collection of fonts available on your computer.

**Note:** The `TextFonts` object corresponds to the `Fonts` property of the `Application` object. In a script, you use `Fonts` to refer to a `TextFonts` object. The following sample demonstrates how to use the `Count` property of the `TextFonts` object to display a dialog that indicates the number of fonts installed on the machine.

- **Correct:**  
`Alert appRef.Fonts.Count`
- **Incorrect:**  
`Alert appRef.TextFonts.Count`

See ['Application' on page 16](#), specifically the `Fonts` property, for more information.

## Properties

Property	Value Type	What it is
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the collection belongs to.
<code>Count</code>	Number (Long)	Read-only. The number of elements in the <code>TextFonts</code> collection.
<code>Parent</code>	Object ( <a href="#">Application</a> )	Read-only. The object's container.
<code>typename</code>	String	Read-only. The class name of the referenced <code>TextFonts</code> object.

## Methods

Method	Parameter Type	Returns	What it does
<code>Index</code> ( <code>ItemPtr</code> )	Object ( <a href="#">TextFont</a> )	Number (Long)	Gets the index of the <code>TextFont</code> into the collection.
<code>Item</code> ( <code>ItemKey</code> )	Number (Long)	<a href="#">TextFont</a>	Gets an element from the <code>TextFonts</code> collection.

## TextItem

The text in an `ArtLayer` object whose `Kind` property's value is 2.

**Note:** See [ArtLayer](#), specifically the `Kind` property, for more information.

### Properties

Property	Value Type	What it is
<code>AlternateLigatures</code>	Boolean	Read-write. Indicates whether to use alternate ligatures.  <b>Note:</b> Alternate ligatures are the same as Discretionary Ligatures. Please refer to Adobe Photoshop CS4 Help for more information.
<code>AntiAliasMethod</code>	<a href="#">PsAntiAlias</a>	Read-write. The method of anti aliasing to use.
<code>Application</code>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<code>AutoKerning</code>	<a href="#">PsAutoKernType</a>	Read-write. The auto kerning option to use.
<code>AutoLeadingAmount</code>	Number (Double)	Read-write. The percentage to use for auto. Default leading (0.01 - 5000.00 in points).  <b>Note:</b> Valid only when <code>UseAutoLeading = true</code> . See <a href="#">UseAutoLeading</a> .
<code>BaselineShift</code>	Number (Double)	Read-write. The unit value to use in the baseline offset of text.
<code>Capitalization</code>	<a href="#">PsCase</a>	Read-write. The text case.
<code>Color</code>	Object ( <a href="#">SolidColor</a> )	Read-write. The text color.
<code>Contents</code>	String	Read-write. The actual text in the layer.
<code>DesiredGlyphScaling</code>	Number (Double)	Read-write. The desired amount (percentage) to scale the horizontal size of the text letters (50 - 200; at 100, the width of characters is not scaled).  <b>Note:</b> Valid only when <code>Justification =</code> 4 ( <code>psLeftJustified</code> ); 5 ( <code>psCenterJustified</code> ); 6 ( <code>psRightJustified</code> ); <b>OR</b> 7 ( <code>psFullyJustified</code> ). See <a href="#">Justification</a> . The following values are also required: <a href="#">MinimumGlyphScaling</a> and <a href="#">MaximumGlyphScaling</a> .

Property	Value Type	What it is (Continued)
<b>DesiredLetterScaling</b>  <b>Note:</b> 'Letter Scaling' is basically equivalent to 'Letter Spacing' in the Adobe Photoshop CS4 application Justification dialog (Select Justification on the Paragraphs palette menu).	Number (Double)	Read-write. The amount of space between letters (100 - 500; at 0, no space is added between letters).  <b>Note:</b> Valid only when <code>Justification =</code> 4 ( <code>psLeftJustified</code> ); 5 ( <code>psCenterJustified</code> ); 6 ( <code>psRightJustified</code> ); or 7 ( <code>psFullyJustified</code> ). See <a href="#">Justification</a> . The following values are also required: <a href="#">MinimumLetterScaling</a> and <a href="#">MaximumLetterScaling</a> .
<b>DesiredWordScaling</b>  <b>Note:</b> 'Word Scaling' is basically equivalent to 'Word Spacing' in the Adobe Photoshop CS4 application Justification dialog (Select Justification on the Paragraphs palette menu).	Number (Double)	Read-write. The amount (percentage) of space between words (0 -1000; at 100, no additional space is added between words).  <b>Note:</b> Valid only when <code>Justification =</code> 4 ( <code>psLeftJustified</code> ); 5 ( <code>psCenterJustified</code> ); 6 ( <code>psRightJustified</code> ); or 7 ( <code>psFullyJustified</code> ). See <a href="#">Justification</a> . The following values are also required: <a href="#">MinimumWordScaling</a> and <a href="#">MaximumWordScaling</a> .
<b>Direction</b>	<a href="#">PsDirection</a>	Read-write. The text orientation.
<b>FauxBold</b>	Boolean	Read-write. Indicates whether to use faux bold. Default: <code>false</code> .  <b>Note:</b> Using <code>FauxBold.true</code> is equivalent to selecting text and clicking the Faux Bold button in the Character palette.
<b>FauxItalic</b>	Boolean	Read-write. Indicates whether to use faux italic. Default: <code>false</code> .  <b>Note:</b> Using <code>FauxItalic.true</code> is equivalent to selecting text and clicking the Faux Italic button in the Character palette.
<b>FirstLineIndent</b>	Number (Double)	Read-write. The amount (unit value) to indent the first line of paragraphs (-1296 - 1296).
<b>Font</b>	String	Read-write. The text face of the character.
<b>HangingPunctuation</b>	Boolean	Read-write. Indicates whether to use roman Hanging Punctuation.
<b>Height</b>	Number (Double)	Read-write. The height of the bounding box (unit value) for paragraph text.  <b>Note:</b> Valid only when <code>Kind =</code> 2 ( <code>psParagraphText</code> ). See <a href="#">Kind</a> .

Property	Value Type	What it is (Continued)
<b>HorizontalScale</b>	Number (Long)	Read-write. Character scaling (horizontal) in proportion to vertical scale (0 - 1000 in percent). See <a href="#">VerticalScale</a> .
<b>HyphenateAfterFirst</b>	Number (Long)	Read-write. The number of letters after which hyphenation in word wrap is allowed (1 - 15).
<b>HyphenateBeforeLast</b>	Number (Long)	Read-write. The number of letters before which hyphenation in word wrap is allowed (1 - 15).
<b>HyphenateCapitalWords</b>	Boolean	Read-write. Indicates whether to allow hyphenation in word wrap of capitalized words.
<b>HyphenateWordsLongerThan</b>	Number (Long)	Read-write. The minimum number of letters a word must have in order for hyphenation in word wrap to be allowed (2 - 25).
<b>Hyphenation</b>	Boolean	Read-write. Indicates whether to use hyphenation in word wrap.
<b>HyphenationZone</b>	Number (Double)	Read-write. The distance at the end of a line that will cause a word to break in unjustified type (0 - 720 pica).
<b>HyphenLimit</b>	Number (Long)	Read-write. The maximum number of consecutive lines that can end with a hyphenated word.
<b>Justification</b>	<a href="#">PsJustification</a>	Read-write. The paragraph justification.
<b>Kind</b>	<a href="#">PsTextType</a>	Read-write. The text-wrap type.
<b>Language</b>	<a href="#">PsLanguage</a>	Read-write. The language to use.
<b>Leading</b>	Number (Double)	Read-write. The leading amount (unit value).
<b>LeftIndent</b>	Number (Double)	Read-write. The amount (unit value) of space to indent text from the left (-1296 - 1296).
<b>Ligatures</b>	Boolean	Read-write. Indicates whether to use ligatures.
<b>MaximumGlyphScaling</b>	Number (Double)	<p>Read-write. The maximum amount (percentage) to scale the horizontal size of the text letters (50 - 200; at 100, the width of characters is not scaled).</p> <p><b>Note:</b> Valid only when <code>Justification =</code>  4 (<code>psLeftJustified</code>);  5 (<code>psCenterJustified</code>);  6 (<code>psRightJustified</code>); or  7 (<code>psFullyJustified</code>).</p> <p>See <a href="#">Justification</a>. The following values are also required: <a href="#">MinimumGlyphScaling</a> and <a href="#">DesiredGlyphScaling</a>.</p>

Property	Value Type	What it is (Continued)
<p><b>MaximumLetterScaling</b></p> <p><b>Note:</b> 'Letter Scaling' is basically equivalent to 'Letter Spacing' in the Adobe Photoshop CS4 application Justification dialog (Select Justification on the Paragraphs palette menu).</p>	<p>Number (Double)</p>	<p>Read-write. The maximum amount of space to allow between letters (100 - 500; at 0, no space is added between letters).</p> <p><b>Note:</b> Valid only when Justification =                      4 (psLeftJustified);                      5 (psCenterJustified);                      6 (psRightJustified); or                      7 (psFullyJustified).                      See <a href="#">Justification</a>. The following values are also required: <a href="#">MaximumLetterScaling</a> and <a href="#">DesiredLetterScaling</a>.</p>
<p><b>MaximumWordScaling</b></p> <p><b>Note:</b> 'Word Scaling' is basically equivalent to 'Word Spacing' in the Adobe Photoshop CS4 application Justification dialog (Select Justification on the Paragraphs palette menu).</p>	<p>Number (Double)</p>	<p>Read-write. The maximum amount (percentage) of space to allow between words (0 - 1000; at 100, no additional space is added between words).</p> <p><b>Note:</b> Valid only when Justification =                      4 (psLeftJustified);                      5 (psCenterJustified);                      6 (psRightJustified); or                      7 (psFullyJustified).                      See <a href="#">Justification</a>. The following values are also required: <a href="#">MaximumWordScaling</a> and <a href="#">DesiredWordScaling</a>.</p>
<p><b>MinimumGlyphScaling</b></p>	<p>Number (Double)</p>	<p>Read-write. The minimum amount (percentage) to scale the horizontal size of the text letters (50 - 200; at 100, the width of characters is not scaled).</p> <p><b>Note:</b> Valid only when Justification =                      4 (psLeftJustified);                      5 (psCenterJustified);                      6 (psRightJustified); or                      7 (psFullyJustified).                      See <a href="#">Justification</a>. The following values are also required: <a href="#">MaximumGlyphScaling</a> and <a href="#">DesiredGlyphScaling</a>.</p>
<p><b>MinimumLetterScaling</b></p> <p><b>Note:</b> 'Letter Scaling' is basically equivalent to 'Letter Spacing' in the Adobe Photoshop CS4 application Justification dialog (Select Justification on the Paragraphs palette menu).</p>	<p>Number (Double)</p>	<p>Read-write. The minimum amount (percentage) of space between letters (100 - 500; at 0, no space is removed between letters).</p> <p><b>Note:</b> Valid only when Justification =                      4 (psLeftJustified);                      5 (psCenterJustified);                      6 (psRightJustified); or                      7 (psFullyJustified).                      See <a href="#">Justification</a>. The following values are also required: <a href="#">MaximumLetterScaling</a> and <a href="#">DesiredLetterScaling</a>.</p>

Property	Value Type	What it is (Continued)
<b>MinimumWordScaling</b>  <b>Note:</b> 'Word Scaling' is basically equivalent to 'Word Spacing' in the Adobe Photoshop CS4 application Justification dialog (Select Justification on the Paragraphs palette menu).	Number (Double)	Read-write. The minimum amount (percentage) of space between words (0 -1000; at 100, no space is removed between words).  <b>Note:</b> Valid only when <code>Justification =</code> 4 ( <code>psLeftJustified</code> ); 5 ( <code>psCenterJustified</code> ); 6 ( <code>psRightJustified</code> ); or 7 ( <code>psFullyJustified</code> ). See <a href="#">Justification</a> . The following values are also required: <a href="#">MaximumWordScaling</a> and <a href="#">DesiredWordScaling</a> .
<b>NoBreak</b>	Boolean	Read-write. Indicates whether to allow words to break at the end of a line.  <b>Tip:</b> When enacted on large amounts of consecutive characters, <code>noBreak = true</code> can prevent word wrap and thus may prevent some text from appearing on the screen.
<b>OldStyle</b>	Boolean	Read-write. Indicates whether to use old style type.
<b>Parent</b>	Object ( <a href="#">ArtLayer</a> )	Read-write. The <code>TextItem</code> object's container.
<b>Position</b>	Array of Number (Double)	Read-write. The position of origin for the text. The array must contain two values (unit value).  <b>Tip:</b> Setting the <code>Position</code> property is basically equivalent to clicking the text tool at a point in the document to create the point of origin for text.
<b>RightIndent</b>	Number (Double)	Read-write. The amount of space (unit value) to indent text from the right (-1296 - 1296).
<b>Size</b>	Number (Double)	Read-write. The font size (unit value).
<b>SpaceAfter</b>	Number (Double)	Read-write. The amount of space (unit value) to use after each paragraph (-1296 - 1296).
<b>SpaceBefore</b>	Number (Double)	Read-write. The amount of space (unit value) to use before each paragraph (-1296 - 1296).
<b>StrikeThru</b>	<a href="#">PsStrikeThruType</a>	Read-write. The text strike through option to use.
<b>TextComposer</b>	<a href="#">PsTextComposer</a>	Read-write. The composition method to use to evaluate line breaks and optimize the specified hyphenation and Justification options.  <b>Note:</b> Valid only when <code>Kind = 2</code> ( <code>psParagraphText</code> ). See <a href="#">Kind</a> .



Property	Value Type	What it is (Continued)
<b>Tracking</b>	Number (Double)	Read-write. The amount of uniform spacing between multiple characters (-1000 - 10000).  <b>Note:</b> Tracking units are 1/1000 of an em space. The width of an em space is relative to the current type size. In a 1-point font, 1 em equals 1 point; in a 10-point font, 1 em equals 10 points. So, for example, 100 units in a 10-point font are equivalent to 1 point.
<b>typename</b>	String	Read-only. The class name of the referenced <code>TextItem</code> object.
<b>Underline</b>	<a href="#">PsUnderlineType</a>	Read-write. The text underlining options.
<b>UseAutoLeading</b>	Boolean	Read-write. Indicates whether to use a font's built-in leading information.
<b>VerticalScale</b>	Number (Long)	Read-write. Character scaling (vertical) in proportion to horizontal scale (0 - 1000 in percent). See <a href="#">HorizontalScale</a> .
<b>WarpBend</b>	Number (Double)	Read-write. The warp bend percentage (-100 - 100).
<b>WarpDirection</b>	<a href="#">PsDirection</a>	Read-write. The warp direction.
<b>WarpHorizontalDistortion</b>	Number (Double)	Read-write. The horizontal distortion (as percentage) of the warp (-100 - 100).
<b>WarpStyle</b>	<a href="#">PsWarpStyle</a>	Read-write. The style of warp to use.
<b>WarpVerticalDistortion</b>	Number (Double)	Read-write. The vertical distortion (as percentage) of the warp (-100 - 100).
<b>Width</b>	Number (Double)	Read-write. The width of the bounding box (unit value) for paragraph text.  <b>Note:</b> Valid only when <code>Kind = 2</code> ( <code>psParagraphText</code> ). See <a href="#">Kind</a> .

## Methods

Method	Parameter Type	Returns	What it does
<b>ConvertToShape</b> ( )			Converts the text item and its containing layer to a fill layer with the text changed to a clipping path.
<b>CreatePath</b> ( )			Creates a clipping path from the outlines of the actual text items (such as letters or words).

## TiffSaveOptions

Options that can be specified when saving a document in TIFF format.

### Properties

Property	Value Type	What it is
<b>AlphaChannels</b>	Boolean	Read-write. Indicates whether to save the alpha channels.
<b>Annotations</b>	Boolean	Read-write. Indicates whether to save the annotations.
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>ByteOrder</b>	<a href="#">PsByteOrder</a>	Read-write. The order in which the document's bytes will be read. The default is 2 ( <code>psMacOSByteOrder</code> ) when running on Mac OS and 1 ( <code>psIBMByteOrder</code> ) when running on a PC.
<b>EmbedColorProfile</b>	Boolean	Read-write. Indicates whether to embed the color profile in the document.
<b>ImageCompression</b>	<a href="#">PsTIFFEncodingType</a>	Read-write. The compression type. Default: 1 ( <code>psNoTIFFCompression</code> ).
<b>InterleaveChannels</b>	Boolean	Read-write. Indicates whether the channels in the image will be interleaved.
<b>JPEGQuality</b>	Number (Long)	Read-write. The quality of the produced image (0-12), which is inversely proportionate to the amount of JPEG compression.  <b>Note:</b> Valid only when <code>ImageCompression = 3</code> ( <code>psTiffJPEG</code> ).
<b>LayerCompression</b>	<a href="#">PsLayerCompressionType</a>	Read-write. The method of compression to use when saving layers (as opposed to saving composite data).  <b>Note:</b> Valid only when <code>Layers = true</code> . See <a href="#">Layers</a>
<b>Layers</b>	Boolean	Read-write. Indicates whether to save the layers.
<b>SaveImagePyramid</b>	Boolean	Read-write. Indicates whether to preserve multiresolution information. Default: <code>false</code> .
<b>SpotColors</b>	Boolean	Read-write. Indicates whether to save the spot colors.

<b>Property</b>	<b>Value Type</b>	<b>What it is (Continued)</b>
<b>Transparency</b>	Boolean	Read-write. Indicates whether to save the transparency as an additional alpha channel when the file is opened in another application.
<b>typename</b>	String	Read-only. The class name of the referenced <code>TIFFSaveOptions</code> object.

## XMPMetadata

Camera raw image file settings stored in an XMP file in the same folder as the raw file with the same base name and an XMP extension.

### Properties

Property	Value Type	What it is
<b>Application</b>	Object ( <a href="#">Application</a> )	Read-only. The application that the object belongs to.
<b>Parent</b>	Object ( <a href="#">Document</a> )	Read-only. The object's container.
<b>RawData</b>	String	Read-write. The raw XML form of file information.
<b>typename</b>	String	Read-only. The class name of the referenced XMPMetadata object.

# 3

## Scripting Constants

This section lists and describes the enumerations defined for use with Adobe Photoshop CS4 VBScript properties and methods.

Constant type	Values	What it means
<b>PsAdjustmentReference</b>	1 (psRelative) 2 (psAbsolute)	Method to use for interpreting selective color adjustment specifications: 1 = % of the existing color amount; 2 = % of the whole.
<b>PsAnchorPosition</b>	1 (psTopLeft) 2 (psTopCenter) 3 (psTopRight) 4 (psMiddleLeft) 5 (psMiddleCenter) 6 (psMiddleRight) 7 (psBottomLeft) 8 (psBottomCenter) 9 (psBottomRight)	The point on the object that does not move when the object is rotated or resized.
<b>PsAntiAlias</b>	1 (psNoAntialias) 2 (psSharp) 3 (psCrisp) 4 (psStrong) 5 (psSmooth)	Method to use to smooth edges by softening the color transition between edge pixels and background pixels.
<b>PsAutoKernType</b>	1 (psManual) 2 (psMetrics) 3 (psOptical)	The type of kerning to use for characters.
<b>PsBatchDestinationType</b>	1 (psNoDestination) 2 (psSaveAndClose) 3 (psFolder)	The destination, if any, for batch-processed files: 1: Leave all files open; 2: Save changes and close the files; 3: Save modified versions of the files to a new location (leaving the originals unchanged).
<b>PsBitmapConversionType</b>	1 (psHalfThreshold) 2 (psPatternDither) 3 (psDiffusionDither) 4 (psHalftoneScreen) 5 (psCustomPattern)	Specifies the quality of an image you are converting to bitmap mode.
<b>PsBitmapHalftoneType</b>	1 (psHalftoneRound) 2 (psHalftoneDiamond) 3 (psHalftoneEllipse) 4 (psHalftoneLine) 5 (psHalftoneSquare) 6 (psHalftoneCross)	Specifies the shape of the dots (ink deposits) in the halftone screen.
<b>PsBitsPerChannelType</b>	1 (psDocument1Bit) 8 (psDocument8Bits) 16 (psDocument16Bits) 32 (psDocument32Bits)	The number of bits per color channel.

Constant type	Values	What it means
<b>PsBlendMode</b>	1 (psPassThrough) 2 (psNormalBlend) 3 (psDissolve) 4 (psDarken) 5 (psMultiply) 6 (psColorBurn) 7 (psLinearBurn) 8 (psLighten) 9 (psScreen) 10 (psColorDodge) 11 (psLinearDodge) 12 (psOverlay) 13 (psSoftLight) 14 (psHardLight) 15 (psVividLight) 16 (psLinearLight) 17 (psPinLight) 18 (psDifference) 19 (psExclusion) 20 (psHue) 21 (psSaturationBlend) 22 (psColorBlend) 23 (psLuminosity) 26 (psHardMix) 27 (psLighterColor) 28 (psDarkerColor)	Controls how pixels in the image are blended.
<b>PsBMPDepthType</b>	1 (psBMP1Bit) 4 (psBMP4Bits) 8 (psBMP8Bits) 16 (psBMP16Bits) 24 (psBMP24Bits) 32 (psBMP32Bits) 60 (psBMP_X1R5G5B5) 61 (psBMP_A1R5G5B5) 62 (psBMP_R5G6B5) 63 (psBMP_X4R4G4B4) 64 (psBMP_A4R4G4B4) 65 (psBMP_R8G8B8) 66 (psBMP_X8R8G8B8) 67 (psBMP_A8R8G8B8)	The number of bits per channel (also called pixel depth or color depth). The number selected indicates the exponent of 2. For example, a pixel with a bit-depth of 8 has 2 <sup>8</sup> , or 256, possible color values.
<b>PsByteOrder</b>	1 (psIBMByteOrder) 2 (psMacOSByteOrder)	The order in which bytes will be read.
<b>PsCameraRAWSettingsType</b>	0 (psCameraDefault) 1 (psSelectedImage) 2 (psCustomSettings)	The default CameraRAW settings to use: the camera settings, custom settings, or the settings of the selected image.
<b>PsCameraRAWSize</b>	0 (psMinimumCameraRAW) 1 (psSmallCameraRAW) 2 (psMediumCameraRAW) 3 (psLargeCameraRAW) 4 (psExtraLargeCameraRAW) 5 (psMaximumCameraRAW)	The camera RAW size type options: 0 = 1536 x 1024 1 = 2048 x 1365 2 = 3072 x 2048 3 = 4096 x 2731 4 = 5120 x 4096 5 = 6144 x 4096
<b>PsCase</b>	1 (psNormalCase) 2 (psAllCaps) 3 (psSmallCaps)	The case usage for type.

Constant type	Values	What it means
<b>PsChangeMode</b>	1 (psConvertToGrayscale) 2 (psConvertToRGB) 3 (psConvertToCMYK) 4 (psConvertToLab) 5 (psConvertToBitmap) 6 (psConvertToIndexedColor) 7 (psConvertToMultiChannel)	The type of color mode to use.  <b>Note:</b> Color images must be changed to grayscale (1) mode before you can change them to bitmap (5) mode.
<b>PsChannelType</b>	1 (psComponentChannel) 2 (psMaskedAreaAlphaChannel) 3 (psSelectedAreaAlphaChannel) 4 (psSpotColorChannel)	The type of channel: 1: related to document color mode; 2: Alpha channel where color indicates masked area; 3: Alpha channel where color indicates selected area; 4: channel that contains spot colors.
<b>PsColorBlendMode</b>	2 (psNormalBlendColor) 3 (psDissolveBlend) 4 (psDarkenBlend) 5 (psMultiplyBlend) 6 (psColorBurnBlend) 7 (psLinearBurnBlend) 8 (psLightenBlend) 9 (psScreenBlend) 10 (psColorDodgeBlend) 11 (psLinearDodgeBlend) 12 (psOverlayBlend) 13 (psSoftLightBlend) 14 (psHardLightBlend) 15 (psVividLightBlend) 16 (psLinearLightBlend) 17 (psPinLightBlend) 18 (psDifferenceBlend) 19 (psExclusionBlend) 20 (psHueBlend) 21 (psSaturationBlendColor) 22 (psColorBlendMode) 23 (psLuminosityBlend) 24 (psBehindBlend) 25 (psClearBlend) 26 (psHardMixBlend)	Controls how pixels in the image are blended.
<b>PsColorModel</b>	1 (psGrayscaleModel) 2 (psRGBModel) 3 (psCMYKModel) 4 (psLabModel) 5 (psHSBModel) 50 (psNoModel)	The color model to use.
<b>PsColorPicker</b>	1 (psAdobeColorPicker) 2 (psAppleColorPicker) 3 (psWindowsColorPicker) 4 (psPlugInColorPicker)	The color picker to use.
<b>PsColorProfileType</b>	1 (psNo) 2 (psWorking) 3 (psCustom)	The color profile type to use to manage this document.

Constant type	Values	What it means
<b>PsColorReductionType</b>	0 (psPerceptualReduction) 1 (psSelective) 2 (psAdaptive) 3 (psRestrictive) 4 (psCustomReduction) 5 (psBlackWhiteReduction) 6 (psSFWGrayscale) 7 (psMacintoshColors) 8 (psWindowsColors)	The color reduction algorithm option to use.
<b>PsColorSpaceType</b>	0 (psAdobeRGB) 1 (psColorMatchRGB) 2 (psProPhotoRGB) 3 (psSRGB)	The type of color space to use.
<b>PsCopyrightedType</b>	1 (psCopyrightedWork) 2 (psPublicDomain) 3 (psUnmarked)	The copyright status of the document.
<b>PsCreateFields</b>	1 (psDuplication) 2 (psInterpolation)	The method to use for creating fields.
<b>PsCropToType</b>	0 (psBoundingBox) 1 (psMediaBox) 2 (psCropBox) 3 (psBleedBox) 4 (psTrimBox) 5 (psArtBox)	The style to use when cropping a page.
<b>PsDCSType</b>	1 (psNoComposite) 2 (psGrayscaleComposite) 3 (psColorComposite)	The DCS format to use: 1: Does not create a composite file; 2: Creates a grayscale composite file in addition to DCS files; 3: Creates a color composite file in addition to DCS files.
<b>PsDepthMapSource</b>	1 (psNoSource) 2 (psTransparencyChannel) 3 (psLayerMask) 4 (psImageHighlight)	What to use for the depth map.
<b>PsDescValueType</b>	1 (psIntegerType) 2 (psDoubleType) 3 (psUnitDoubleType) 4 (psStringType) 5 (psBooleanType) 6 (psListType) 7 (psObjectType) 8 (psEnumeratedType) 9 (psReferenceType) 10 (psClassType) 11 (psAliasType) 12 (psRawType)	The value type of an object.
<b>PsDialogModes</b>	1 (psDisplayAllDialogs) 2 (psDisplayErrorDialogs) 3 (psDisplayNoDialogs)	Controls the type (mode) of dialogs Photoshop displays when running scripts.
<b>PsDirection</b>	1 (psHorizontal) 2 (psVertical)	The orientation of the object.



Constant type	Values	What it means
<b>PsDisplacementMapType</b>	1 (psStretchToFit) 2 (psTile)	Describes how the displacement map fits the image if the image is not the same size as the map.
<b>PsDitherType</b>	1 (psNoDither) 2 (psDiffusion) 3 (psPattern) 4 (psNoise)	The default type of dithering to use.
<b>PsDocumentFill</b>	1 (psWhite) 2 (psBackgroundColor) 3 (psTransparent)	The fill of the document.
<b>PsDocumentMode</b>	1 (psGrayscale) 2 (psRGB) 3 (psCMYK) 4 (psLab) 5 (psBitmap) 6 (psIndexedColor) 7 (psMultiChannel) 8 (psDuotone)	The color mode of the open document.
<b>PsEditLogItemsType</b>	1 (psSessionOnly) 2 (psConcise) 3 (psDetailed)	The history log edit options: 1: Save history log only for the session; 2: Save a concise history log; 3: Save a detailed history log.
<b>PsElementPlacement</b>	0 (psPlaceInside) 1 (psPlaceAtBeginning) 2 (psPlaceAtEnd) 3 (psPlaceBefore) 4 (psPlaceAfter)	The object's position in the Layers palette.  <b>Note:</b> Not all values are valid for all object types. Please refer to the object property definition in <a href="#">VBScript Interface</a> to make sure you are using a valid value.
<b>PsEliminateFields</b>	1 (psOddFields) 2 (psEvenFields)	The type of fields to eliminate.
<b>PsExportType</b>	1 (psIllustratorPaths) 2 (psSaveForWeb)	The export options to use.
<b>PsExtensionType</b>	2 (psLowercase) 3 (psUppercase)	The formatting of the extension in the filename.

Constant type	Values	What it means
<b>PsFileNamingType</b>	1 (psDocumentNameMixed) 2 (psDocumentNameLower) 3 (psDocumentNameUpper) 4 (psSerialNumber1) 5 (psSerialNumber2) 6 (psSerialNumber3) 7 (psSerialNumber4) 8 (psSerialLetterLower) 9 (psSerialLetterUpper) 10 (psMmddy) 11 (psMmdd) 12 (psYyyymmdd) 13 (psYymmdd) 14 (psYyddmm) 15 (psDdmmyy) 16 (psDdmm) 17 (psExtensionLower) 18 (psExtensionUpper)	File naming options for the batch command.
<b>psFontPreviewType</b>	0 (psFontPreviewNone) 1 (psFontPreviewSmall) 2 (psFontPreviewMedium) 3 (psFontPreviewLarge)	The type size to use for font previews in the type tool font menus.
<b>PsForcedColors</b>	1 (psNoForced) 2 (psBlackWhite) 3 (psPrimaries) 4 (psWeb)	The type of colors to be forced (included) into the color table: 2: Pure black and pure white; 3: Red, green, blue, cyan, magenta, yellow, black, and white; 4: the 216 web-safe colors.
<b>PsFormatOptionsType</b>	1 (psStandardBaseline) 2 (psOptimizedBaseline) 3 (psProgressive)	The option with which to save a JPEG file: 1: Format recognized by most web browsers; 2: Optimized color and a slightly reduced file size; 3: Displays a series of increasingly detailed scans as the image downloads.
<b>PsGalleryConstrainType</b>	1 (psConstrainWidth) 2 (psConstrainHeight) 3 (psConstrainBoth)	The type of proportions to constrain for images.
<b>PsGalleryFontType</b>	1 (psArial) 2 (psCourierNew) 3 (psHelvetica) 4 (psTimesNewRoman)	The fonts to use for the Web photo gallery captions and other text.
<b>PsGallerySecurityTextPositionType</b>	1 (psCentered) 2 (psUpperLeft) 3 (psLowerLeft) 4 (psUpperRight) 5 (psLowerRight)	The position of the text displayed over gallery images as an antitheft deterrent.
<b>PsGallerySecurityTextRotateType</b>	1 (psZero) 2 (psClockwise45) 3 (psClockwise90) 4 (psCounterClockwise45) 5 (psCounterClockwise90)	The orientation of the text displayed over gallery images as an antitheft deterrent.

Constant type	Values	What it means
<b>PsGallerySecurityType</b>	1 (psNoSecurity) 2 (psCustomSecurityText) 3 (psFilename) 4 (psCopyright) 5 (psCaption) 6 (psCredit) 7 (psTitle)	The content to use for text displayed over gallery images as an antitheft deterrent.  <b>Note:</b> All types draw from the image's file information except 2.
<b>PsGalleryThumbSizeType</b>	1 (psSmall) 2 (psMedium) 3 (psLarge) 4 (psCustomThumbnail)	The size of thumbnail images in the web photo gallery.
<b>PsGeometry</b>	0 (psTriangle) 1 (psPentagon) 2 (psHexagon) 3 (psSquareGeometry) 4 (psHeptagon) 5 (psOctagon)	Geometric options for shapes, such as the iris shape in the Lens Blur Filter.
<b>PsGridLineStyle</b>	1 (psGridSolidLine) 2 (psGridDashedLine) 3 (psGridDottedLine)	The line style for the nonprinting grid displayed over images.
<b>PsGridSize</b>	1 (psNoGrid) 2 (psSmallGrid) 3 (psMediumGrid) 4 (psLargeGrid)	The value of grid line spacing.
<b>PsGuideLineStyle</b>	1 (psGuideSolidLine) 2 (psGuideDashedLine)	The line style for nonprinting guides displayed over images.
<b>PsIllustratorPathType</b>	1 (psDocumentBounds) 2 (psAllPaths) 3 (psNamedPath)	The paths to export.
<b>PsIntent</b>	1 (psPerceptual) 2 (psSaturation) 3 (psRelativeColorimetric) 4 (psAbsoluteColorimetric)	The rendering intent to use when converting from one color space to another.
<b>PsJavaScriptExecutionMode</b>	1 (psNeverShowDebugger) 2 (psDebuggerOnError) 3 (psBeforeRunning)	The debugging behavior to use when executing a JavaScript.
<b>PsJustification</b>	1 (psLeft) 2 (psCenter) 3 (psRight) 4 (psLeftJustified) 5 (psCenterJustified) 6 (psRightJustified) 7 (psFullyJustified)	The placement of paragraph text within the bounding box.

Constant type	Values	What it means
<b>PsLanguage</b>	1 (psEnglishUSA) 2 (psEnglishUK) 3 (psFrench) 4 (psCanadianFrench) 5 (psFinnish) 6 (psGerman) 7 (psOldGerman) 8 (psSwissGerman) 9 (psItalian) 10 (psNorwegian) 11 (psNynorskNorwegian) 12 (psPortuguese) 13 (psBrazilianPortuguese) 14 (psSpanish) 15 (psSwedish) 16 (psDutch) 17 (psDanish)	The language to use.
<b>PsLayerCompressionType</b>	1 (psRLELayerCompression) 2 (psZIPLayerCompression)	Compression methods for data for pixels in layers.
<b>PsLayerKind</b>	1 (psNormalLayer) 2 (psTextLayer) 3 (psSolidFillLayer) 4 (psGradientFillLayer) 5 (psPatternfillLayer) 6 (psLevelsLayer) 7 (psCurvesLayer) 8 (psColorBalanceLayer) 9 (psBrightnessContrastLayer) 10 (psHueSaturationLayer) 11 (psSelectiveColorLayer) 12 (psChannelMixerLayer) 13 (psGradientMapLayer) 14 (psInversionLayer) 15 (psThresholdLayer) 16 (psPosterizeLayer) 17 (psSmartObjectLayer) 18 (psPhotoFilterLayer) 19 (psExposureLayer) 20 (psLayer3D) 21 (psVideoLayer) 22 (psBlackAndWhiteLayer) 23 (psVibrance)	The kind of <a href="#">ArtLayer</a> object.
<b>PsLayerType</b>	1 (psArtLayer) 2 (psLayerSet)	The kind of layer object.
<b>PsLensType</b>	1 (psZoomLens) 2 (psPrime35) 3 (psPrime105) 5 (psMoviePrime)	The type of lens to use.
<b>PsMagnificationType</b>	0 (psActualSize) 1 (psFitPage)	The type of magnification to use when viewing an image.

Constant type	Values	What it means
<b>PsMatteType</b>	1 (psNoMatte) 2 (psForegroundColorMatte) 3 (psBackgroundColorMatte) 4 (psWhiteMatte) 5 (psBlackMatte) 6 (psSemiGray) 7 (psNetscapeGrayMatte)	The color to use for matting.
<b>PsMeasurementRange</b>	1 (psAllMeasurements) 2 (psActiveMeasurements)	The measurement to take action upon
<b>PsMeasurementSource</b>	1 (psMeasureSelection) 2 (psMeasureCountTool) 3 (psMeasureRulerTool)	The source for recording measurements
<b>PsNewDocumentMode</b>	1 (psNewGray) 2 (psNewRGB) 3 (psNewCMYK) 4 (psNewLab) 5 (psNewBitmap)	The color profile to use for the document.
<b>PsNoiseDistribution</b>	1 (psUniformNoise) 2 (psGaussianNoise)	Distribution method to use when applying an Add Noise filter.
<b>PsOffsetUndefinedAreas</b>	1 (psOffsetSetToLayerFill) 2 (psOffsetWraparound) 3 (psOffsetRepeatEdgePixels)	Method to use to fill the empty space left by offsetting a an image or selection.
<b>PsOpenDocumentMode</b>	1 (psOpenGray) 2 (psOpenRGB) 3 (psOpenCMYK) 4 (psOpenLab)	The color profile to use.

Constant type	Values	What it means
<b>PsOpenDocumentType</b>	1 (psPhotoshopOpen) 2 (psBMPOpen) 3 (psCompuServeGIFOpen) 4 (psPhotoshopEPSOpen) 5 (psFilmstripOpen) 6 (psJPEGOpen) 7 (psPCXOpen) 8 (psPhotoshopPDFOpen) 9 (psPhotoCDOpen) 10 (psPICTFileFormatOpen) 11 (psPICTResourceFormatOpen) 12 (psPixarOpen) 13 (psPNGOpen) 14 (psRawOpen) 15 (psScitexCTOpen) 16 (psTargaOpen) 17 (psTIFFOpen) 18 (psPhotoshopDCS_1Open) 19 (psPhotoshopDCS_2Open) 21 (psPDFOpen) 22 (psEPSOpen) 23 (psEPSPICTPreviewOpen) 24 (psEPSTIFFPreviewOpen) 25 (psAliasPIXOpen) 26 (psElectricImageOpen) 27 (psPortableBitmapOpen) 28 (psWavefrontRLAOpen) 29 (psSGIRGBOpen) 30 (psSoftImageOpen) 31 (psWirelessBitmapOpen) 32 (psCameraRAWOpen) 33 (psDICOMOpen)	The format in which to open a document.  <b>Note:</b> psPhotoCDOpen (8) is deprecated. Kodak PhotoCD is now found in the Goodies folder on the Adobe Photoshop CS4 Install DVD.  <b>Note:</b> The psDICOMOpen (33) option is for the Extended version only.
<b>PsOperatingSystem</b>	1 (psOS2) 2 (psWindows)	The operating system.
<b>PsOrientation</b>	1 (psLandscape) 2 (psPortrait)	The page orientation.
<b>PsOtherPaintingCursors</b>	1 (psStandardOther) 2 (psPreciseOther)	The pointer for the following tools: Eraser, Pencil, Paintbrush, Healing Brush, Rubber Stamp, Pattern Stamp, Smudge, Blur, Sharpen, Dodge, Burn, Sponge.
<b>PsPaintingCursors</b>	1 (psStandard) 2 (psPrecise) 3 (psBrushsize)	The pointer for the following tools: Marquee, Lasso, Polygonal Lasso, Magic Wand, Crop, Slice, Patch Eyedropper, Pen, Gradient, Line, Paint Bucket, Magnetic Lasso, Magnetic Pen, Freeform Pen, Measure, Color Sampler.

Constant type	Values	What it means
<b>PsPaletteType</b>	1 (psExact) 2 (psMacOSPalette) 3 (psWindowsPalette) 4 (psWebPalette) 5 (psUniform) 6 (psLocalPerceptual) 7 (psLocalSelective) 8 (psLocalAdaptive) 9 (psMasterPerceptual) 10 (psMasterSelective) 11 (psMasterAdaptive) 12 (psPreviousPalette)	The palette type to use.
<b>PsPathKind</b>	1 (psNormalPath) 2 (psClippingPath) 3 (psWorkPath) 4 (psVectorMask) 5 (psTextMask)	The type of path.
<b>PsPDFCompatibilityType</b>	1 (psPDF13) 2 (psPDF14) 3 (psPDF15) 4 (psPDF16)	The PDF version to make the document compatible with.
<b>PsPDFEncoding</b>	0 (psPDFNone) 1 (psPDFZip) 2 (psPDFJPEG) 3 (psPDFPDFZip4Bit) 4 (psPDFJPEGHIGH) 5 (psPDFJPEGMEDHIGH) 6 (psPDFJPEGMED) 7 (psPDFJPEGMEDLOW) 8 (psPDFJPEGLow) 9 (psPDFJPEG2000High) 10 (psPDFJPEG2000MEDHIGH) 11 (psPDFJPEG2000MED) 12 (psPDFJPEG2000MEDLOW) 13 (psPDFJPEG2000LOW) 14 (psPDFJPEG2000LOSSLESS)	Encoding and compression options to use when saving a document in PDF format.
<b>PsPDFResampleType</b>	0 (psNoResample) 1 (psPDFAverage) 2 (psPDFSubSample) 3 (psPDFBicubic)	The down sample method to use.
<b>PsPDFStandardType</b>	0 (psNoStandard) 1 (psPDFX1A2001) 2 (psPDFX1A2003) 3 (psPDFX32002) 4 (psPDFX32003)	The PDF standard to make the document compatible with.
<b>PsPhotoCDCColorSpace</b>	1 (psRGB8) 2 (psRGB16) 3 (psLab8) 4 (psLab16)	The color space to use when creating a Photo CD.  <b>Note:</b> Deprecated for Adobe Photoshop CS4. Kodak PhotoCD is now found in the Goodies folder on the Adobe Photoshop CS4 Install DVD.

Constant type	Values	What it means
<b>PsPhotoCDSize</b>	1 (psMinimumPhotoCD) 2 (psSmallPhotoCD) 3 (psMediumPhotoCD) 4 (psLargePhotoCD) 5 (psExtralargePhotoCD) 6 (psMaximumPhotoCD)	The pixel dimensions of the image.  psMinimumPhotoCD = 64x96 psSmallPhotoCD = 128x192 psMediumPhotoCD = 256x384 psLargePhotoCD = 512x768 psExtralargePhotoCD = 1024x1536 psMaximumPhotoCD = 2048x3072  <b>Note:</b> Deprecated for Adobe Photoshop CS4. Kodak PhotoCD is now found in the Goodies folder on the Adobe Photoshop CS4 Install DVD.
<b>PsPICTBitsPerPixels</b>	2 (psPICTTwoBits) 4 (psPICTFourBits) 8 (psPICTEightBits) 16 (psPICTSixteenBits) 32 (psPICTThirtyTwoBits)	The number of bits per pixel to use when compression a PICT file.  <b>Note:</b> Use 16 or 32 for RGB images; use 2, 4, or 8 for bitmap and grayscale images.
<b>PsPICTCompression</b>	1 (psNoPICTCompression) 2 (psJPEGLowPICT) 4 (psJPEGMediumPICT) 5 (psJPEGHighPICT) 6 (psJPEGMaximumPICT)	The type of compression to use when saving an image as a PICT file.
<b>PsPicturePackageTextType</b>	1 (psNoText) 2 (psUserText) 3 (psFilenameText) 4 (psCopyrightText) 5 (psCaptionText) 6 (psCreditText) 7 (psOriginText)	The function or meaning of text in a Picture Package.
<b>PsPointKind</b>	1 (psSmoothPoint) 2 (psCornerPoint)	The role a <a href="#">PathPoint</a> plays in a <a href="#">PathItem</a> .
<b>PsPointType</b>	1 (psPostScriptPoints) 2 (psTraditionalPoints)	The kind of measurement to use for type points: 1 = 72 points/inch; 2 = 72.27 points/inch.
<b>PsPolarConversionType</b>	1 (psRectangularToPolar) 2 (psPolarToRectangular)	The method of polar distortion to use.
<b>PsPreviewType</b>	1 (psNoPreview) 2 (psMonochromeTIFF) 3 (psEightbitTIFF)	The type of image to use as a low-resolution preview in the destination application.
<b>PsPrintEncoding</b>	1 (psBinaryEncoding) 2 (psJPEGEncoding) 3 (psAsciiEncoding)	The type of encoding to use.
<b>PsPurgeTarget</b>	1 (psUndoCaches) 2 (psHistoryCaches) 3 (psClipboardCache) 4 (psAllCaches)	Cache to be targeted in a purge operation.



Constant type	Values	What it means
<b>PsQueryStateType</b>	1 (psAlways) 2 (psAsk) 3 (psNever)	Permission state for queries.
<b>PsRadialBlurMethod</b>	1 (psSpin) 2 (psZoom)	The blur method to use.
<b>PsRadialBlurQuality</b>	1 (psRadialBlurDraft) 2 (psRadialBlurGood) 3 (psRadialBlurBest)	The smoothness or graininess of the blurred image.
<b>PsRasterizeType</b>	1 (psTextContents) 2 (psShape) 3 (psFillContent) 4 (psLayerClippingPath) 5 (psEntireLayer) 6 (psLinkedLayers)	The layer element to rasterize.
<b>PsReferenceFormType</b>	1 (psReferenceNameType) 2 (psReferenceIndexType) 3 (psReferenceIdentifierType) 4 (psReferenceOffsetType) 5 (psReferenceEnumeratedType) 6 (psReferencePropertyType) 7 (psReferenceClassType)	The type of an <a href="#">ActionReference</a> object.
<b>PsResampleMethod</b>	1 (psNoResampling) 2 (psNearestNeighbor) 3 (psBilinear) 4 (psBicubic) 5 (psBicubicSharper) 6 (psBicubicSmoother)	The method to use for image interpolation.
<b>PsRippleSize</b>	1 (psSmallRipple) 2 (psMediumRipple) 3 (psLargeRipple)	The undulation size to use.
<b>PsSaveBehavior</b>	1 (psNeverSave) 2 (psAlwaysSave) 3 (psAskWhenSaving)	The application's behavior when a <code>Save</code> method is called.

Constant type	Values	What it means
<b>PsSaveDocumentType</b>	1 (psPhotoshopSave) 2 (psBMPSave) 3 (psCompuServeGIFSave) 4 (psPhotoshopEPSSave) 6 (psJPEGSave) 7 (psPCXSave) 8 (psPhotoshopPDFSave) 10 (psPICTFileFormatSave) 12 (psPixarSave) 13 (psPNGSave) 14 (psRawSave) 15 (psScitexCTSave) 16 (psTargaSave) 17 (psTIFFSave) 18 (psPhotoshopDCS_1Save) 19 (psPhotoshopDCS_2Save) 25 (psAliasPIXSave) 26 (psElectricImageSave) 27 (psPortableBitmapSave) 28 (psWavefrontRLASave) 29 (psSGIRGBSave) 30 (psSoftImageSave) 31 (psWirelessBitmapSave) 1	The format in which to save a document.
<b>PsSaveEncoding</b>	1 (psBinary) 2 (psJPEGLow) 3 (psAscii) 4 (psJPEGMedium) 5 (psJPEGHigh) 6 (psJPEGMaximum)	The type of encoding to use when saving a file.
<b>PsSaveLogItemsType</b>	1 (psMetadata) 2 (psLogFile) 3 (psLogFileAndMetadata)	The location of history log data.
<b>PsSaveOptions</b>	1 (psSaveChanges) 2 (psDoNotSaveChanges) 3 (psPromptToSaveChanges)	The save options to use when the <code>Close</code> method is called to close a document.
<b>PsSelectionType</b>	1 (psReplaceSelection) 2 (psExtendSelection) 3 (psDiminishSelection) 4 (psIntersectSelection)	The selection behavior when a selection already exists: 1: Replace the selected area; 2: Add the selection to an already selected area; 3: Remove the selection from the already selected area; 4: Make the selection only the area where the new selection intersects the already selected area.
<b>PsShapeOperation</b>	1 (psShapeAdd) 2 (psShapeXOR) 3 (psShapeIntersect) 4 (psShapeSubtract)	A <code>subPathItem</code> object's behavior when it intersects another <code>subPathItem</code> object.
<b>PsSmartBlurMode</b>	1 (psSmartBlurNormal) 2 (psSmartBlurEdgeOnly) 3 (psSmartBlurOverlayEdge)	The method to use for smart blurring: 1 : Apply blur to entire image; 2, 3 : Apply blur only to edges of color transitions.

Constant type	Values	What it means
<b>PsSmartBlurQuality</b>	1 (psSmartBlurLow) 2 (psSmartBlurMedium) 3 (psSmartBlurHigh)	The blur quality to use.
<b>PsSourceSpaceType</b>	1 (psDocumentSpace) 2 (psProofSpace)	The color space for source when printing.
<b>PsSpherizeMode</b>	1 (psNormalSpherize) 2 (psHorizontalSpherize) 3 (psVerticalSpherize)	The curve (or stretch shape) to use for the distortion.
<b>PsStrikeThruType</b>	1 (psStrikeOff) 2 (psStrikeHeight) 3 (psStrikeBox)	The style of strikethrough to use.
<b>PsStrokeLocation</b>	1 (psInsideStroke) 2 (psCenterStroke) 3 (psOutsideStroke)	The placement of path or selection boundary strokes.
<b>PsTargaBitsPerPixels</b>	16 (psTarga16Bits) 24 (psTarga24Bits) 32 (psTarga32Bits)	The resolution to use when saving an image in Targa format.
<b>PsTextComposer</b>	1 (psAdobeSingleLine) 2 (psAdobeEveryLine)	The composition method to use to optimize the specified hyphenation and justification options.
<b>PsTextType</b>	1 (psPointText) 2 (psParagraphText)	The type of text: 1: Text that does not wrap; 2: Text that wraps within a bounding box.
<b>PsTextureType</b>	1 (psBlocksTexture) 2 (psCanvasTexture) 3 (psFrostedTexture) 4 (psTinyLensTexture) 5 (psTextureFile)	The type of texture or glass surface image to load for a texturizer or glass filter.
<b>PsTIFFEncodingType</b>	1 (psNoTIFFCompression) 2 (psTiffLZW) 3 (psTiffJPEG) 4 (psTiffZIP)	The encoding to use for TIFF files.
<b>PsToolType</b>	1 (psPencil) 2 (psBrush) 3 (psEraser) 4 (psBackgroundEraser) 5 (psCloneStamp) 6 (psPatternStamp) 7 (psHealingBrush) 8 (psHistoryBrush) 9 (psArtHistoryBrush) 10 (psSmudge) 11 (psBlur) 12 (psSharpen) 13 (psDodge) 14 (psBurn) 15 (psSponge) 16 (psColorReplacementTool)	The tool selection.

Constant type	Values	What it means
<b>PsTransitionType</b>	1 (psBlindsHorizontal) 2 (psBlindsVertical) 3 (psDissolveTransition) 4 (psBoxIn) 5 (psBoxOut) 6 (psGlitterDown) 7 (psGlitterRight) 8 (psGlitterRightDown) 9 (psNoTransition) 10 (psRandom) 11 (psSplitHorizontalIn) 12 (psSplitHorizontalOut) 13 (psSplitVerticalIn) 14 (psSplitVerticalOut) 15 (psWipeDown) 16 (psWipeLeft) 17 (psWipeRight) 18 (psWipeUp)	The method to use to transition from one image to the next in a PDF presentation.
<b>PsTrimType</b>	0 (psTransparentPixels) 1 (psTopLeftPixel) 9 (psBottomRightPixel)	Type of pixels to trim around an image: 9 = bottom right pixel color; 1 = top left pixel color.
<b>PsTypeUnits</b>	1 (psTypePixels) 4 (psTypeMM) 5 (psTypePoints)	The unit to use for measuring text characters.
<b>PsUndefinedAreas</b>	1 (psWrapAround) 2 (psRepeatEdgePixels)	The method to use to treat undistorted areas or areas left blank in an image to which the a filter in the Distort category has been applied.
<b>PsUnderlineType</b>	1 (psUnderlineOff) 2 (psUnderlineRight) 3 (psUnderlineLeft)	The placement of text underlining. <b>Note:</b> 3 and 2 are valid only when PsDirection = 2.
<b>PsUnits</b>	1 (psPixels) 2 (psInches) 3 (psCM) 4 (psMM) 5 (psPoints) 6 (psPicas) 7 (psPercent)	The measurement unit for type and ruler increments.
<b>PsUrgency</b>	0 (psNone) 1 (psLow) 2 (psTwo) 3 (psThree) 4 (psFour) 5 (psNormal) 6 (psSix) 7 (psSeven) 8 (psHigh)	The editorial urgency of the artwork.

Constant type	Values	What it means
<b>PsWarpStyle</b>	1 (psNone) 2 (psArc) 3 (psArcLower) 4 (psArcUpper) 5 (psArch) 6 (psBulge) 7 (psShellLower) 8 (psShellUpper) 9 (psFlag) 10 (psWave) 11 (psFish) 12 (psRise) 13 (psFishEye) 14 (psInflate) 15 (psSqueeze) 16 (psTwist)	The warp style to use.
<b>PsWaveType</b>	1 (psSine) 2 (psTriangular) 3 (psSquare)	The type of wave to use.
<b>PsWhiteBalanceType</b>	0 (psAsShot) 1 (psAuto) 2 (psDaylight) 3 (psCloudy) 4 (psShade) 5 (psTungsten) 6 (psFluorescent) 7 (psFlash) 8 (psCustomCameraSettings)	The lighting conditions to use (affects color balance).
<b>PsZigZagType</b>	1 (psAroundCenter) 2 (psOutFromCenter) 3 (psPondRipples)	The method of zigzagging to use.

## Appendix A: Event ID Codes

The following table lists events and their four-character ID codes or string identifiers for use with the `Notifier` object.

**Note:** Do not include single quotes ( ' ) with four-character IDs in your code. The single quotes are used in this table to illustrate the placement of required spaces in codes that do not contain four letters. However, string identifiers, which are longer than four characters, require double quotes in the code.

**Tip:** If you can't find the event you want to use for notification in this table, you can use `ScriptListener` to determine the event ID code. See the `ScriptListener` documentation in the Action Manager chapter of the *Photoshop CS4 Scripting Guide*.

Event	4-char ID or String
3DTransform	'TdT '
Average	'Avrg'
ApplyStyle	'ASty'
Assert	'Asrt'
AccentedEdges	'AccE'
Add	'Add '
AddNoise	'AdNs'
AddTo	'AddT'
Align	'Algn'
All	'All '
AngledStrokes	'AngS'
ApplyImage	'AppI'
BasRelief	'BsRl'
Batch	'Btch'
BatchFromDroplet	'BtcF'
Blur	'Blr '
BlurMore	'BlrM'
Border	'Brdr'
Brightness	'BrgC'
CanvasSize	'CnvS'
ChalkCharcoal	'ChlC'
ChannelMixer	'ChnM'

<b>Event</b>	<b>4-char ID or String</b>
Charcoal	'Chrc'
Chrome	'Chrm'
Clear	'Cler'
Close	'Cls '
Clouds	'Clds'
ColorBalance	'ClrB'
ColorHalftone	'ClrH'
ColorRange	'ClrR'
ColoredPencil	'ClrP'
ContactSheet	"0B71D221-F8CE-11d2-B21B-0008C75B322C"
ConteCrayon	'CntC'
Contract	'Cntc'
ConvertMode	'CnvM'
Copy	'copy'
CopyEffects	'CpFX'
CopyMerged	'CpyM'
CopyToLayer	'CpTL'
Craquelure	'Crql'
CreateDroplet	'CrtD'
Crop	'Crop'
Crosshatch	'Crsh'
Crystallize	'Crst'
Curves	'Crvs'
Custom	'Cstm'
Cut	'cut '
CutToLayer	'CtTL'
Cutout	'Ct '
DarkStrokes	'DrkS'
DeInterlace	'Dntr'
DefinePattern	'DfnP'
Defringe	'Dfrg'
Delete	'Dlt '
Desaturate	'Dstt'

<b>Event</b>	<b>4-char ID or String</b>
Deselect	'Dslc'
Despeckle	'Dspc'
DifferenceClouds	'DfrC'
Diffuse	'Dfs '
DiffuseGlow	'DfsG'
DisableLayerFX	'dlfx'
Displace	'Dspl'
Distribute	'Dstr'
Draw	'Draw'
DryBrush	'DryB'
Duplicate	'Dplc'
DustAndScratches	'DstS'
Emboss	'Embs'
Equalize	'Eqlz'
Exchange	'Exch'
Expand	'Expn'
Export	'Expr'
JumpTo	'Jpto'
ExportTransparentImage	"02879e00-cb66-11d1-bc43-0060b0a13dc4"
Extrude	'Extr'
Facet	'Fct '
Fade	'Fade'
Feather	'Fthr'
Fibers	'Fbrs'
Fill	'Fl '
FilmGrain	'FlmG'
Filter	'Fltr'
FindEdges	'FndE'
FitImage	"3caa3434-cb67-11d1-bc43-0060b0a13dc4"
FlattenImage	'FltI'
Flip	'Flip'
Fragment	'Frgm'



<b>Event</b>	<b>4-char ID or String</b>
Fresco	'Frsc'
GaussianBlur	'GsnB'
Get	'getd'
Glass	'Gls '
GlowingEdges	'GlwE'
Gradient	'Grdn'
GradientMap	'GrMp'
Grain	'Grn '
GraphicPen	'GraP'
Group	'GrpL'
Grow	'Grow'
HalftoneScreen	'Hlfs'
Hide	'Hd '
HighPass	'HghP'
HSBHSL	'HsbP'
HueSaturation	'HStr'
ImageSize	'ImgS'
Import	'Impr'
InkOutlines	'InkO'
Intersect	'Intr'
IntersectWith	'IntW'
Inverse	'Invs'
Invert	'Invr'
LensFlare	'LnsF'
Levels	'Lvls'
LightingEffects	'LghE'
Link	'Lnk '
Make	'Mk '
Maximum	'Mxm '
Median	'Mdn '
MergeLayers	'Mrg2'
MergeLayersOld	'MrgL'
MergeSpotChannel	'MSpt'

<b>Event</b>	<b>4-char ID or String</b>
MergeVisible	'MrgV'
Mezzotint	'Mztn'
Minimum	'Mnm '
ModeChange	"8cba8cd6-cb66-11d1-bc43-0060b0a13dc4"
Mosaic	'Msc '
Mosaic_PLUGIN	'MscT'
MotionBlur	'MtnB'
Move	'move'
NTSCColors	'NTSC'
NeonGlow	'NGLw'
Next	'Nxt '
NotePaper	'NtPr'
Notify	'Ntfy'
Null	typeNull
OceanRipple	'OcnR'
Offset	'Ofst'
Open	'Opn '
Paint	'Pnt '
PaintDaubs	'PntD'
PaletteKnife	'PltK'
Paste	'past'
PasteEffects	'PaFX'
PasteInto	'PstI'
PasteOutside	'PstO'
Patchwork	'Ptch'
Photocopy	'Phtc'
PicturePackage	"4C1ABF40-DD82-11d2-B20F-0008C75B322C"
Pinch	'Pnch'
Place	'Plc '
Plaster	'Plst'
PlasticWrap	'PlsW'
Play	'Ply '

<b>Event</b>	<b>4-char ID or String</b>
Pointillize	'Pntl'
Polar	'Plr '
PosterEdges	'PstE'
Posterize	'Pstr'
Previous	'Prvs'
Print	'Prnt'
ProfileToProfile	'PrfT'
Purge	'Prge'
Quit	'quit'
RadialBlur	'RdlB'
Rasterize	'Rstr'
RasterizeTypeSheet	'RstT'
RemoveBlackMatte	'RmvB'
RemoveLayerMask	'RmvL'
RemoveWhiteMatte	'RmvW'
Rename	'Rnm '
ReplaceColor	'RplC'
Reset	'Rset'
ResizeImage	"1333cf0c-cb67-11d1-bc43-0060b0a13dc4"
Reticulation	'Rtcl'
Revert	'Rvrt'
Ripple	'Rple'
Rotate	'Rtte'
RoughPastels	'RghP'
Save	'save'
Select	'slct'
SelectiveColor	'SlcC'
Set	'setd'
SharpenEdges	'ShrE'
Sharpen	'Shrp'
SharpenMore	'ShrM'
Shear	'Shr '
Show	'Shw '

<b>Event</b>	<b>4-char ID or String</b>
Similar	'Smlr'
SmartBlur	'SmrB'
Smooth	'Smth'
SmudgeStick	'SmdS'
Solarize	'Slrz'
Spatter	'Spt '
Spherize	'Sphr'
SplitChannels	'SplC'
Sponge	'Spng'
SprayedStrokes	'SprS'
StainedGlass	'StnG'
Stamp	'Stmp'
Stop	'Stop'
Stroke	'Strk'
Subtract	'Sbtr'
SubtractFrom	'SbtF'
Sumie	'Smie'
TakeMergedSnapshot	'TkMr'
TakeSnapshot	'TkSn'
TextureFill	'TxtF'
Texturizer	'Tztz'
Threshold	'Thrs'
Tiles	'Tls '
TornEdges	'TrnE'
TraceContour	'TrcC'
Transform	'Trnf'
Trap	'Trap'
Twirl	'Twrl'
Underpainting	'Undr'
Undo	'undo'
Ungroup	'Ungr'
Unlink	'Unlk'
UnsharpMask	'Unsm'

<b>Event</b>	<b>4-char ID or String</b>
Variations	'Vrtn'
Wait	'Wait'
WaterPaper	'WtrP'
Watercolor	'Wtrc'
Wave	'Wave'
Wind	'Wnd '
ZigZag	'ZgZg'
BackLight	'BacL'
FillFlash	'File'
ColorCast	'ColE'

# Index

## A

- Action Manager
  - scripting objects 8
- actions
  - executing 18
- active links 78
- Add Noise filter 25
- adjust
  - contrast 29
- AdjustBrightnessContrast 24
- adjusting
  - brightness 24
  - color balance 24
  - colors 157
  - component channels 31
  - curves 24
  - highlights 32
  - layers color balance 31
  - levels 25, 29
  - shadows 32
  - temperature 31
- Adobe Photoshop CS 2
  - activating 17
  - new features 5
  - version 17
- alpha channels
  - defined 42
- anchor points
  - path point info 114
  - path points 113
- anchor position
  - types 157
- annotations 63
- anti alias
  - text 148
  - types 157
- application
  - activating 17
  - checking if feature enabled 19
  - code sample 21
  - location 16
  - preferences 127
  - version 17
- art layers, *See* layers
- Asian text 129
- Average filter 25

## B

- background color
  - application 16
  - galleries 78
- background layer
  - designating 23

- finding 59
- Batch command
  - destination folder 36
- batch command
  - destination types 157
  - input folder 18
- beep 127
- bitmap documents
  - converting to 38
  - opening 166
  - saving 39
- bitmap images
  - See* bitmap documents 38
- BitmapConversionOptions 38
- black and white images 32
- blend modes 158
- Blur filter 25
- blur filters
  - Average 25
  - Blur 25
  - Blur More 25
  - Gaussian Blur 26
  - Lens Blur 27
  - Motion Blur 28
  - Radial Blur 28
  - Smart Blur 29
- Blur More filter 25
- BMP documents
  - opening 166
  - saving 39
- brightness
  - adjusting 24
  - camera shots 40
  - equalizing 30

## C

- caches
  - histograms 128
  - images 128
  - purging 20
- camera raw documents
  - opening 40, 166
- canvases
  - resizing 64
  - rotating 63
- captions
  - contact sheets 52
  - galleries 79
- channels
  - activating 59
  - adding 43, 55
  - alpha *See* alpha channels
  - code sample 43

- component *See* component channels 24
  - composite *See* composite channels
  - creating 55
  - deleting 42
  - displaying in color 127
  - making visible 42
  - merging (spot) 42
  - mixing 31
  - splitting 65
  - spot *See* spot channels
  - types of 159
  - clipping paths
    - creating 108
    - from text 153
  - Clouds filter 25
  - CMYK color 49
  - color picker 127, 159
  - color samplers
    - adding 51
    - creating 51
    - deleting 50
    - moving 50
  - colors
    - adjusting 24
    - blend modes 158
    - CMYK 49
    - comparing 141
    - forced 85, 162
    - gray 87
    - HSB 90
    - Lab 94
    - links 78
    - none 104
    - RGB 134
    - selective 32
    - solid color objects 141
  - component channels
    - color balance adjustments 24
    - defined 42
    - displaying in color 127
    - enabling 98
    - listing 59
    - merging with spot channels 42
    - mixing 31
  - composite channel
    - defined 42
  - Compuserve GIF documents
    - opening 166
    - saving 85
  - contact sheets
    - captions 52
    - dimensions 53
    - formatting 52
    - making 19
  - contrast
    - adjusting 24
    - adjusting automatically 29
  - copyrights 68, 160
  - cursors 128
  - curves
    - adjusting 24
    - defining 28
  - Custom filter 25
- D**
- DCS1 documents
    - opening 166
    - saving 56
  - DCS2 documents
    - opening 166
    - saving 57
  - default units 129
  - De-Interlace filter 25
  - Deprecated 19
  - Despeckle filter 25
  - dialogs
    - displaying 16
    - modes 160
  - DICOM format documents
    - opening 58
  - Difference Clouds filter 25
  - Diffuse Glow filter 25
  - Displace filter 25
  - distort filters
    - Diffuse Glow 25
    - Displace 25
    - Glass Effect 26
    - Ocean Ripple 28
    - Pinch 28
    - Polar Coordinates 28
    - Ripple 28
    - Shear 28
    - Spherize 29
    - Twirl 29
    - Wave 29
    - Zigzag 29
  - documents
    - activating 16
    - adding 71
    - closing 62
    - color samplers 59
    - colors 59
    - counting items 60
    - counting objects 62
    - creating 71
    - cropping 63
    - exporting 63
    - loading 19
    - managed 60
    - measurement scale 60
    - metadata 24, 61, 68
    - open with Photoshop dialog 20
    - opening 20
    - printing 64
    - sample code 66
    - saving 65
    - size 60
    - specifying author 68
    - title 69

- trapping (CMYK) 65
- trimming 65

Dust & Scratches filter 26

**E**

- edit log 127
- EPS documents
  - opening 72, 166
  - saving 73
- equalizing, brightness values 30
- event IDs
  - using ScriptListener to find 174
- events, associating with actions 107
- EXIF 68
- exporting
  - documents 63
  - paths 74
  - to Illustrator 74
  - to the web 74
  - type of 161

**F**

- file extensions, case of 161
- file types
  - Macintosh 16
  - naming 162
  - Windows 17
- files
  - extensions 130
  - merging 19
  - naming types 162
- Filmstrips, opening 166
- filters
  - See individual filter names
- fonts
  - contact sheets 52
  - family 146
  - finding 16
  - gallery banners 77
  - gallery type 163
  - picture packages 123
  - PostScript names 146
- foreground color 16

**G**

- galleries
  - banners 77
  - constrain types 162
  - font type 163
  - image options 79
  - making 19
  - photographer 77
  - security options 83
  - security type 163
  - thumbnails 84
- Gaussian Blur filter 26
- GIF documents
  - opening 166

- saving 85
- Glass Effect filter 26
- GrayColor 87
- grid options 128
- guide options 128

**H**

- High Pass filter 26
- highlights 24, 32
- histograms
  - caches 128
  - channels 42
  - code sample 43
  - documents 60
- history states
  - activating 59
  - number of 128
  - snapshot 88
- HSBColor 90

**I**

- IDs
  - string to type 20
  - type to char 20
  - type to string 20
- images
  - black and white 32
  - cache level 128
  - gallery 79
  - previews 128
  - resizing 64
- indexed color model 91

**J**

- JavaScript
  - executing from VBScript 18
- JPEG documents
  - opening 166
  - saving 93
- justification 150, 163

**K**

- kerning
  - types of 157
- keyboard options 128
- keywords 69

**L**

- Lab color 94
- layer comps
  - adding 96
  - applying 95
  - using visibility in 95
- layer sets
  - adding 100
  - finding layers in 98
  - linking 99



- making visible 98
- moving 99
- nesting 98
- opacity 98
- sample code 100
- unlinking 99
- layer styles 29
- layers
  - activating 59
  - adding 35
  - adjusting 24–25
  - applying filters 25–29
  - applying styles to 29
  - background 23
  - clipboard commands 29–31
  - counting 97
  - flattening 64
  - grouping 23
  - kind 23
  - linking 30
  - locking contents 23–24
  - making visible 24
  - merging 30
  - rasterizing 31, 64
  - sample code 32
  - types 164
- left direction points 113
  - path point info 114
- Lens Blur filter
  - applying 27
- Lens Flare filter 27
- levels
  - adjusting 25
  - adjusting automatically 29
- link colors
  - active 78
  - visited 78
- linking layers 30

**M**

- Macintosh
  - compatibility in Batch command 36
  - file types 16
- Maximum filter 27
- Median Noise filter 27
- memory, available 16
- merging
  - channels 42
  - files 19
  - layer sets 99
  - layers 30
  - layers (in copy command) 135
  - visible layers 64
- metadata 156
- midtones 24
- Minimum filter 28
- Motion Blur filter 28

**N**

- nearest web color, finding 141
- new features 5
- noise filters
  - Add Noise 25
  - Despeckle 25
  - Dust & Scratches 26
  - Median Noise 27
- notifiers
  - adding 107
  - associating with actions 107
  - event IDs 174
  - removing 105
- NTSC filter 28

**O**

- Ocean Ripple filter 28
- Offset filter 28
- opacity
  - channels 42
  - layer sets 98
  - layers 23
  - picture packages 123
- open options
  - Camera RAW format 40
  - DICOM format 58
  - EPS format 72
  - PDF format 116
  - Photo CD format 120
  - raw format 132
- optimizing 74, 75
- other filters
  - Custom 25
  - High Pass 26
  - Maximum 27
  - Minimum 28
  - Offset 28

**P**

- palette locations 129
- paragraph text 171
- path items
  - adding 112
  - clipping path 108
  - filling 108
  - from selections 136
  - making selection 109
  - path segments 142
  - sample code 109
  - selecting 108
  - stroking 109
- path point info
  - anchor points 114
  - left/right direction points 114
  - subpath info items 142
- path points
  - anchor points 113
  - defined 115
  - left/right direction points 113

- paths
  - See path items
- PCX documents
  - opening 166
- PDF documents
  - opening 116, 166
  - saving 117
- PDF presentations
  - auto advance 131
  - code sample 22
  - making 19
  - transition type 131, 172
- photo galleries
  - See galleries
- Photo Merge 19
- PhotoCD documents, opening 120, 166
- Photoshop CS 2, See Adobe Photoshop CS 2
- Photoshop documents
  - opening 166
  - saving 121
- Photoshop PDF documents, opening 166
- PICT files
  - opening 166
  - saving 122
- PICT resources
  - opening 166
- picture packages
  - flattening layers in 123
  - making 19
  - specifying options 123
- Pinch filter 28
- Pixar documents
  - opening 166
  - saving 124
- plug-in
  - folders 130
- PNG documents
  - opening 166
  - saving 103, 125
- point text 171
- points
  - corner 168
  - PostScript 168
  - size 129
  - smooth 168
- Polar Coordinates filter 28
- PostScript font names 146
- preferences 127
- printing 64
- Pro Photo CD discs, opening files from 120
- property
  - measurementLog 16
- PSD documents
  - opening 166
  - saving 121
- psVideoLayer 164
- purging, caches 20

**Q**

- Quick Mask mode 60

**R**

- Radial Blur filter 28
- rasterizing 31
- raw documents
  - opening 132, 166
  - saving 133
- RecordMeasurements 64
- render filters
  - Clouds 25
  - Difference Clouds 25
  - Lens Flare 27
- RGBColor 134
- right direction points
  - defining 113
  - path point info 114
- Ripple filter 28
- ruler units 129, 172

**S**

- save as 65
- saving
  - See individual document formats
  - Comuserve GIF documents 85
  - ESP documents 73
  - GIF documents 85
  - JPEG documents 93
  - PDF documents 117
  - Photoshop documents 121
  - PICT files 122
  - Pixar documents 124
  - PNG documents 125
  - PSD documents 121
  - raw documents 133
  - SGIRGB documents 140
  - TIFF documents 154
- scripting build date 17
- scripting interface, new features 5
- ScriptingVersion 17
- Scripts Events Manager 16
- security, galleries 83
- selections
  - clearing 135
  - creating paths from 136
  - filling 135
  - from paths 109
  - inverting 136
  - resizing 136
  - sample code 137
- selective color 32
- SGIRGB documents
  - opening 166
  - saving 140, 157
- shadows 24, 32
- Sharpen Edges filter 28
- Sharpen filter 28
- sharpen filters

- Sharpen 28
  - Sharpen Edges 28
  - Sharpen More 28
  - Unsharp Mask 29
- Sharpen More filter 28
- Shear filter 28
- Smart Blur filter 29
- smart quotes 129
- Spherize filter 29
- spot channels
  - defined 42
  - merging 42
- styles, applying 29
- SystemInformation 17

## T

- Targa documents
  - opening 166
  - saving 145
- text
  - Asian 129
  - creating paths from 153
  - creating selections from 153
  - fonts 149
  - formatting 148
  - gallery security 83
  - hyphenation 150
  - justification 150
  - paragraph 171
  - picture packages 123
  - point 171
  - warping 153
- text layers
  - contents 24, 148
  - creating 23, 164
  - sample code 100
- Texture Fill filter 29
- threshold 32
- thumbnails 84
  - sizes 163
  - specifications 84
- TIFF documents
  - opening 166
  - saving 154
- tool tips, displaying 129

- trapping 65
- Twirl filter 29
- type units 129, 172

## U

- units
  - defaults 129
  - ruler 129, 172
  - type 129, 172
- Unix, compatibility in Batch commands 37
- Unsharp Mask filter 29
- urgency 69
- UTF8 encoding 82

## V

- video filters
  - De-Interlace 25
  - NTSC 28
- visibility
  - application 17
  - channels 42
  - layer sets 98
  - layers 24
- visited links 78

## W

- warp 153
- Wave filter
  - applying 29
  - type 173
- web snap 76
- white balance 41, 173
- Windows
  - color settings 17
  - compatibility in Batch commands 37
  - file types 17

## X

- xml 156
- xmp metadata 156

## Z

- Zigzag filter 29