Productive Computing

gManipulator

Functions Guide

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I Introduction

Description:

The gManipulator plug-in is a powerful tool used to exchange data between FileMaker and Google Suite. With this plug-in, FileMaker users are able to bidirectionally exchange data between FileMaker and Google Contacts, Calendar, Mail, and Tasks. These operations are accomplished using FileMaker function calls from within FileMaker calculations. These calculations are generally determined from within FileMaker "SetField" or "If" script steps. This document described all available plug-in functions and Google fields. Please see the accompanying "Developer's Guide" for a list of integration steps, features, and error handling.

Intended Audience:

FileMaker developers or persons who have knowledge of FileMaker scripting, calculations, and relationships as proper use of the plug-in requires that FileMaker integration scripts be created in your FileMaker solution

Successful Integration Practices:

1) Read the Developer's Guide
2) Read the Functions Guide
3) Watch our tutorial videos
4) Review our FileMaker demo file
5) Familiarize yourself with Google Suite

II. Functions Descriptions

General Functions

PCGM_Version(Type)

Purpose:
Used to identify the product and product version installed on a machine.

Dependencies:
None

Parameters:

Parameter Name	Purpose	Values	Default Value
Type	Type of version string to return	"Long" or "Short"	"Long"

Return Values:
"Long" version string, or "Short" version number.

Notes & Examples:
Example of "Long":
PC gManipulator v1.0.0.0 Client 32-bit

Example of "Short":
1.0.0.0

PCGM_GetOperatingMode

Purpose:
Used to identify the operating mode of the plug-in. Operating mode indicates if the plug-in has been properly registered.

Dependencies:
None

Parameters:
None

Return Values:
"DEMO" for Demo mode, "LIVE" for Live mode, "UNREGISTERED" for Unregistered mode, or "EXPIRED" for expired mode after 2 hour or 30 day timeout.

PCGM_Register(ServerName ; ServerPort ; ServerPage ; LicenseID)

Purpose:
Registers the plug-in with Productive Computing's registration servers. Must call the Register function once before using the plug-in.

Dependencies:
Must be called at least once before using any other plug-in function.

Parameters:

Parameter Name	Purpose	Values
ServerName	Name of the Licensing server	licensing.productivecomputing.com
ServerPort	Port of the Licensing server	80
ServerPage	Registration page	/PCIReg/pcireg.php
LicenseID	License ID to register with	"Your license ID" or "DEMO-GMS"

Return Values:
0 for success, or -10 and an error message for an error

PCGM_GetLastError(Type)

Purpose:
Returns a textual or numeric description of the last error the plug-in encountered. This gives the developer an option to trap errors as text or a number.

Dependencies:
None

Parameters:

Parameter Name	Purpose	Values	Default Value
Type	Type of error information to receive.	"Text" or "Number"	"Text"

Return Values:
The desired error description or number

PCGM_LogSet(OnOff)

Purpose:
Toggles whether to enact the internal plug-in logger. The plug-in logger will output string information regarding the processes of the plug-in during its working process. By default, this log file is saved to the current user's desktop, in a folder named "PCINC".

Dependencies:
None

Parameters:

Parameter Name	Purpose	Values
OnOff	Turns the logging feature on or off	Boolean value. True to enable, False to disable

Return Values:
0 for success, otherwise "!!ERROR!!"

Notes & Examples:
Full logfile path on Windows:
C:\Users\(current user)\Desktop\PCINC\(product name)\LogFile.txt

Full logfile path on Mac:
~/Desktop/PCINC/(product name)/LogFile.txt

PCGM_LogClear

Purpose:
Clears out the log file, if it exists, resetting the contents of the log to an empty state.

Dependencies:
None

Parameters:
None

Return Values:
0 for success, otherwise "!!ERROR!!"

Session Management Functions

PCGM_Authenticate

Purpose:
This function issues an authentication call to Google.

Dependencies:
Must be in LIVE or DEMO mode.

Parameters:
None

Return Values:
0 for success, otherwise "!!ERROR!!"

Notes & Examples:
If the system hasn't been authenticated before, the user will be prompted with a browser window to log into their Google account and allow the gManipulator plug-in to access their information. After authentication succeeds, an authentication certificate will be saved on the machine, and the plug-in will be able to communicate with Google.

If the system has been authenticated previously and the session wasn't disconnected, PCGM_Authenticate will load the saved authentication information without prompting the user to accept.

PCGM_Disconnect

Purpose:
This function disconnects the plug-in from Google, terminating the current session and clearing the local cache of any saved connection data.

This function can only be called with the client-side plug-in.

Dependencies:
Must have authenticated with Google.

Parameters:
None

Return Values:
0 for success, otherwise "!!ERROR!!".

PCGM_SaveSession

Purpose:
Saves the existing authenticated session information to an encrypted string, returning the data to FileMaker for later use.

Dependencies:
Must have authenticated to Google.

Parameters:
None

Return Values:
A session string for success, otherwise "!!ERROR!!"

PCGM_LoadSession(SessionString)

Purpose:
Loads a provided session string, decrypting it and loading the authentication data into memory. If the data is valid, the plug-in will be considered authenticated with Google.

Dependencies:
Session string must have been generated from a previous, still-active session.

Parameters:

Parameter Name	Purpose
SessionString	An encrypted session string generated by a call to PCGM_SaveSession

Return Values:
0 for success, otherwise "!!ERROR!!"

Folder Functions

PCGM_GetFirstFolder(FolderType)

Purpose:
Gets the first folder of the specified folder type from Google. If no folders are available, returns "END".

Dependencies:
Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
FolderType	Type of folder to retrieve.	"Mail", "Calendar", "Contact", "Task".

Return Values:
The name of the first folder of the specified type, "END" if there are no folders, or "!!ERROR!!" for an error.

PCGM_GetNextFolder

Purpose:
Gets the next folder from Google. This folder is the same type that was specified in the preceding call to PCGM_GetFirstFolder.

Dependencies:
Must have called PCGM_GetFirstFolder. Must have authenticated to Google.

Parameters:
None

Return Values:
The name of the next folder available, "END" if no folders are available, or "!!ERROR!!" for an error.

PCGM_OpenFolder(FolderID ; FolderType)

Purpose:
Opens the folder specified by the provided FolderPath, exposing the contents of the folder to the plug-in.

Dependencies:
Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
FolderID	Google ID of the folder to open	
FolderType	Type of folder to open.	"Mail", "Calendar", "Contact", or "Task".

Return Values:
0 for success, otherwise "!!ERROR!!".

PCGM_GetRecordCount

Purpose:
Returns the count of records contained by the currently-opened folder.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:
None

Return Values:
The number of records contained within the currently-opened folder, or "!!ERROR!!"

PCGM_GetFolderProperty(Name)

Purpose:
Gets the value of the specified folder property for the currently-opened folder.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose
Name	Name of the folder property to retrieve.

Return Values:
Value of the property, or "!!ERROR!!"

PCGM_ClearDeletedRecords(bPermanent)

Purpose:
Clears any records that have been marked for temporary deletion, permanently deleting them. This function only applies to Mail records in the "TRASH" label on Gmail.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:
None

Return Values:
0 for success, otherwise "!!ERROR!!"

PCGM_NewFolder(FolderName)

Purpose:
Creates a new folder as a subfolder of the currently-opened folder with the specified name. If successful, the current folder will now become the newly-created folder.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose
FolderName	Name of the folder

Return Values:
0 for success, otherwise "!!ERROR!!"

Record Functions

PCGM_GetFirstRecord

Purpose:
Queries the currently-opened folder for records and loads the first record found into memory. The unique identifier of the record is returned upon success.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:
None

Return Values:
The record's identifier, "END" if no records are present, or "!!ERROR!!" if an error occurred.

PCGM_GetNextRecord

Purpose:
Gets the next record in memory, returning its identifier. If no more records are present, this function returns "END".

Dependencies:
Must have opened a folder. Must have acquired a record. Must have authenticated to Google.

Parameters:
None

Return Values:
The next record's identifier, "END" if no more records are present, or "!!ERROR!!" if an error occurred.

PCGM_GetAllRecords(Type)

Purpose:
This function queries for all records belonging to the provided Type parameter, returning the Google ID of the first record in the found set. This will recover all records, regardless of which folder or label they may be under. As every record is considered, there may be significant delays in returning control back to FileMaker after calling this function, as records are retrieved and stored in memory for later use.

Dependencies:
Must have authenticated to Google.

Parameters:
Type – String value. Type of record to retrieve. Acceptable values are: "Mail", "Calendar", "Contact" or "Task".

Return Values:
The Google ID of the first record in the found set, or "!!ERROR!!" if an error occurred.

Notes:
This function is sensitive to any filters that may have previously been applied by PCGM_FilterByFilterString or PCGM_FilterByLastModified.

PCGM_FilterByLastModified(Timestamp)

Purpose:

Applies a filter on the record set for the currently-opened folder so that only records modified (or created) on or after the provided timestamp will be returned in the internal record list of PCGM_GetFirstRecord.

Dependencies:

Must have opened a folder. Must have authenticated with Google.

Parameters:

Parameter Name	Purpose	Values
Timestamp	Last modified timestamp	Any valid FileMaker timestamp

Return Values:

0 for success, otherwise "!!ERROR!!".

Notes:

Contacts do not have a "last modified" field that can be filtered on, so PCGM_FilterByLastModified will not apply to contacts.

Mail records will be filtered by creation timestamp instead of by modification timestamp.

Calendar and Task records will be filtered by modification timestamp.

Example:

PCGM_OpenFolder("Inbox" ; "Mail")
PCGM_FilterByLastModified(GetAsTimestamp("5-31-2018 4:00:00 PM"))
PCGM_GetFirstRecord

Will gather a set of all Mail records in the user's Inbox that have been modified/created on or after May 31st, 2018, at 4:00pm local time, and return the ID of the first record in the list. Any mail records created before this timestamp will not be retrieved by the system.

PCGM_FilterByField(FieldName ; Value ; bAppendToFilter)

Purpose:

Applies a filter on the record set for the currently-opened folder so that only records with field data that matches the specified value will be returned in the internal record list of PCGM_GetFirstRecord. Optionally, the parameter "bAppendToFilter" will allow multiple filter criteria to be specified for the current folder, using a logical "OR" operation (see Notes below).

Dependencies:

Must have opened a folder. Must have authenticated with Google.

Parameters:

Parameter Name	Purpose	Values
FieldName	Name of the field to filter on	See "Filter Fields" in the field tables for available fields.
Value	Value of the field to filter for	
bAppendToFilter	Boolean, Optional. If true, add this filter field to the list of filters to apply for the current folder's records.	Default value is "False".

Return Values:

0 for success, otherwise "!!ERROR!!".

Notes:

Filtering will be perofrmed as a "fuzzy search", where a record will be considered found if the filter field contains or is similar to the filter value. Multiple filter criteria will be handled as an "OR" logical operation.

Example:

PCGM_OpenFolder("My Contacts" ; "Contact")
PCGM_FilterByField("GivenName" ; "Brad")
PCGM_GetFirstRecord

Will gather all records within the contact folder "My Contacts" whose Given (First) name contains the word "Brad", and return the ID of the first record in the list. This might return records with the first names "Brad", "Bradley", "Brady", or similar, but not first names like "Braedon" or "Conrad" and not last names like "Bradbury".

Example:

PCGM_OpenFolder($$Tasklist ; "Task") // $$Tasklist = the task list ID for "John Smith's Tasklist"
PCGM_FilterByField("DueMin" ; GetAsTimestamp("6/25/2018 5:00:00 PM"))
PCGM_FilterByField("UpdatedMin" ; GetAsTimestamp("7/1/2018 12:00:00 AM"))
PCGM_GetFirstRecord

Will gather the list of Task records in John Smith's Tasklist that are either due on or after June 25th at 5:00pm local time, or are updated on or after July 1st, 2018, at midnight local time, and return the ID of the first record in the list.

PCGM_OpenRecord(RecordID ; RecordType)

Purpose:
Opens the record of the specified type with the provided Google ID, loading it into memory and exposing the record's fields.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
RecordID	Google ID of the record to open.	
RecordType	Type of record to open.	Acceptable values: "Mail", "Event", "Contact", "Task".

Return Values:
0 for success, otherwise "!!ERROR!!"

PCGM_NewRecord(optModule)

Purpose:
Creates a new record of the specified type in memory.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
optModule	Type of record to create. Optional.	If not specified, the type will be the same as the currently-opened folder.

Return Values:
0 for success, otherwise "!!ERROR!!".

PCGM_DeleteRecord(RecordID ; bPermanent)

Purpose:
Deletes the record from Google. If the parameter is "true", the record will be permanently deleted; otherwise, it will only be temporarily deleted, if temporary deletion is allowed.

Dependencies:
Must have opened a folder. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values	Default Value
RecordID	Google ID of the record to delete.		
bPermanent	Boolean.	If true, delete will be permanent. Otherwise, the deletion will be temporary.	False

Return Values:
0 if the deletion is successful, otherwise "!!ERROR!!".

PCGM_SaveRecord(optParam)

Purpose:
Saves the currently-opened record, submitting it to Google. If specified, the optParam parameter allows special handling for certain record types.

Dependencies:
Must have opened a record. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
optParam	Optional parameter to use while saving.	For Mail and Calendar records: "DontSend"; will save the email message as a DRAFT instead of sending it out, or will save the calendar record without sending out invitation notifications.

Return Values:
The saved record's identifier if successful, otherwise "!!ERROR!!".

PCGM_GetFieldValue(FieldName ; optType)

Purpose:
Gets the value of the field for the specified field name from the currently-opened record. If no value exists, the result will be blank. Some fields have different types, which can be specified by the "optType" parameter.

Dependencies:
Must have opened a record. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose
FieldName	Name of the field
optType	Type of field. Optional.

Return Values:
The value of the field, blank if the field has no value, or "!!ERROR!!" if an error is encountered.

Notes & Examples:
Examples of optional types:
PCGM_GetFieldValue("EventDate" ; "Anniversary")
PCGM_GetFieldValue("OrganizationTitle" ; "Work")

PCGM_SetFieldValue(FieldName ; FieldValue ; optType)

Purpose:
Sets the field with the specified name to have the given value. For fields with multiple types, the "optType" parameter determine which field type to set the value of.

Dependencies:
Must have opened a record. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose
FieldName	Name of the field to set.
FieldValue	Value to set for the field.
optType	Optional. Type of the field to set.

Return Values:
0 for success, otherwise "!!ERROR!!"

Notes & Examples:
Examples of optional types:
PCGM_SetFieldValue("EventDate" ; "12/15/2017" ; "Anniversary")
PCGM_SetFieldValue("OrganizationTitle" ; "Lead Developer" ; "Work")

PCGM_SetContactPhoto(ImageContainer)

Purpose:
Sets the contact photo of the currently-opened Contact with the binary image data from a FileMaker container field.

Dependencies:
Must have opened a record. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose
ImageContainer	Binary data of a FileMaker container field, containing raw bytes for a contact photo.

Return Values:
0 for success, otherwise "!!ERROR!!"

PCGM_GetContactPhoto

Purpose:
Gets the binary data of the currently-opened Contact record's photo for storing into a FileMaker container field.

Dependencies:
Must have opened a record. Must have authenticated to Google.

Parameters:
None.

Return Values:
0 for success, otherwise "!!ERROR!!"

Attachment Functions

PCGM_AddAttachment(ContainerOrPath ; FileName ; bIsContainer)

Purpose:
Adds an attachment to the currently-opened Mail record. The attachment being added can either be stored by reference as a file path, or stored binary data. The "bIsContainer" parameter determines whether to handle the attachment data as a binary information.

Dependencies:
Must have opened or created a Mail record. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose
ContainerOrPath	Path or binary data of the file to attach
FileName	Name the file will be displayed as in the email
bIsContainer	Boolean. True if ContainerOrPath is binary data.

Return Values:
0 for success, otherwise "!!ERROR!!"

Notes & Examples:
Example of adding an attachment from a container field:
PCGM_AddAttachment(MailAttachment::Container ; "Document.txt" ; True)

Example of adding an attachment from a file path:
PCGM_AddAttachment("C:\\temp\\Document.txt" ; "Document.txt" ; False)

PCGM_GetAttachmentCount

Purpose:
Returns the count of attachments linked to the currently-opened mail record.

Dependencies:
Must have opened a Mail record. Must have authenticated to Google.

Parameters:
None

Return Values:
Count of attachments for the current mail record, or "!!ERROR!!" for an error.

PCGM_GetAttachmentCID(Index)

Purpose:
Returns the content ID of the attachment at the specified index. The content ID of an attachment is a unique identifier mapping to embedded attachments such as images within the body of an email.

Dependencies:
Must have opened a Mail record. Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
Index	The index of the attachment	The index is 0-based (first attachment is index 0)

Return Values:
The CID of the attachment, or "!!ERROR!!" if an error occurred.

PCGM_GetAttachmentName(Index)

Purpose:
Gets the file name of the attachment at the specified index.

Dependencies:
Must have opened a Mail record. Must have authenticated with Google.

Parameters:

Parameter Name	Purpose	Values
Index	Index of the attachment	The index is 0-based (first attachment is index 0)

Return Values:
File name of the attachment, or "!!ERROR!!" if an error occurred.

PCGM_SaveAttachment(bSaveToContainer ; Index ; optFilePath)

Purpose:
Saves the attachment at the specified index, either saving it to a file or returning binary data to be stored into a FileMaker Container field.

Dependencies:
Must have opened a Mail record. Must have authenticated with Google.

Parameters:

Parameter Name	Purpose
bSaveToContainer	Boolean. Flag to save attachment as binary container data or file path.
Index	Index of the attachment
optFilePath	File path where the attachment will be saved. Optional.

Return Values:
The binary container data of the attachment, "0" if the attachment was saved to a file, or "!!ERROR!!" if an error occurred.

Notes & Examples:
Example of saving binary data:
PCGM_SaveAttachment(True ; 0)

Example of saving to a file:
PCGM_SaveAttachment(False ; 0 ; "C:\\temp\\Document.txt")

Shortcut Functions

PCGM_SendMail(To ; Cc ; Bcc ; Subject ; Body ; Attachments ; optFormat)

Purpose:
Shortcut Function. This function sends an email with the provided properties. When sending attachments, each attachment must be sent as a file path.

For the "To", "Cc", Bcc", and "AttachmentPaths" parameters, multiple values are separated by semicolon ";" characters.

Dependencies:
Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
To	To email addresses	
Cc	Cc email addresses	
Bcc	Bcc email addresses	
Subject	Email subject	
Body	Email body content	
AttachmentPaths	Attachment file paths	
Format	"HTML" or "Plain Text"	

Return Values:
0 for success, otherwise "!!ERROR!!".

Notes & Examples:
Example:
PCGM_SendMail("user1@test.com" ; "user2@test.com;user3@test.com" ; "" ; "Test Message" ; "This is a test email message." ; "C:\\temp\\Document.txt" ; "Plain Text")

PCGM_CreateEvent(Start ; End ; Summary ; Description ; Location ; bSetReminder)

Purpose:
Shortcut Function. This function creates a quick calendar event using the provided parameters. This event will be created in the authenticated user's primary calendar.

Dependencies:
Must be authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
Start	Start timestamp of the event	
End	End timestamp of the event	
Summary	Summary or title of the event	
Description	Description of the event	
Location	Where the event will be held	
bSetReminder	Boolean.	If true, a popup reminder will be set to appear 15 minutes prior to the start of the event.

Return Values:
The Google ID of the event, or "!!ERROR!!" if an error is encountered.

Notes & Examples:
Example:
PCGM_CreateEvent("3/14/2018 12:00:00 PM" ; "3/14/2018 1:00:00 PM" ; "Celebrate Pi Day" ; "Bring pie to the office for Pi Day" ; "Office Break Room" ; True)

PCGM_CreateContact(FirstName ; LastName ; Company ; EmailAddress ; PhoneNumber ; AddressBlock)

Purpose:
Shortcut Function. This function creates a contact with the specified information. The contact is saved to the authenticated user's default contact group.

Dependencies:
Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values
FirstName	Contact's first name	
LastName	Contact's last name	
Company	Name of the company	
Phone	Work phone number	
Email	Work email address	
Website	Work website URL	
AddressBlock	Work address, in address format	

Return Values:
Google ID of the contact, or "!!ERROR!!" if an error occurred.

Notes & Examples:
The "AddressBlock" field format is a freeform address style. Example:
123 Street St. Apt. 123
Some City, CA 99999

Example:
PCGM_CreateContact("John" ; "Testerson" ; "Testing, Inc." ; "(555) 111-2222" ;
"jtesterson@testing.com" ; "www.testing.com" ; "123 Street St Apt. 123¶Some City, CA 99999")

PCGM_CreateTask(Due ; Title ; Notes)

Purpose:
Shortcut Function. This function creates a quick task with the provided information.

Dependencies:
Must have authenticated to Google.

Parameters:

Parameter Name	Purpose	Values	Default Value
Due	Timestamp of the task's due date		
Title	Title of the task		
Notes	Task notes		

Return Values:

Google ID of the task, or "!!ERROR!!" if an error occurred.

Notes & Examples:

Example:

PCGM_CreateTask("2/14/2018 3:00:00 PM" ; "Pick Up Timmy From School" ; "Timmy gets out of school early, be sure to pick him up!")

III. Field Names

The tables below detail the fields that are accessible by each module of the gManipulator, specifically for use by the PCEM_GetFieldValue and PCEM_SetFieldValue functions. Some fields support the use of the "optType" parameter, which is used primarily to separate multiple types of the same field; an example of this would be a "home address" and a "work address":

PCEM_GetFieldValue("AddressStreet" ; "Home") - returns the home street address

PCEM_SetFieldValue("AddressCity" ; "San Marcos" ; "Work") - sets the work address city to "San Marcos"

Available Contact Fields

Name	Get/Set	Notes
ETag	Get/Set	Edit tag
ResourceName	Get	Unique ID
AddressStreet	Get/Set	Street address
AddressExtended	Get/Set	Extended street address (Suite, Apt, Unit)
AddressCity	Get/Set	City
AddressRegion	Get/Set	Region. Alternate name: AddressState
AddressPostalCode	Get/Set	Postal code. Alternate name: AddressZip
AddressCountry	Get/Set	Country name
AddressCountryCode	Get/Set	ISO country code
AddressPOBox	Get/Set	Address PO Box number
AddressFormatted	Get/Set	Formatted address string
AgeRange	Get/Set	Age range of the contact.
Body	Get/Set	Alternate name: Biographies.
BodyType	Get	Data type of the contact's Body
Birthday	Get/Set	Timestamp. Date of birth.
BraggingRights	Get/Set	

EmailAddress	Get/Set	Email address. Type determines which email.
EventDate	Get/Set	Date of event. Type determine type of event
Gender	Get/Set	
IMProtocolFormatted	Get/Set	IM protocol formatted to be human-readable.
IMPrimary	Get/Set	Boolean. Whether the IM protocol is primary.
IMProtocol	Get/Set	IM service name.
IMUsername	Get/Set	Username for the IM service.
Interests	Get/Set	Contact interests and hobbies
Locales	Get/Set	
DomainMembership	Get	Domain the contact is a member of
ContactGroupMembership	Get	Group(s) the contact is a member of
DisplayName	Get/Set	
DisplayNameFirstLast	Get/Set	
FamilyName	Get/Set	Also known as "Last Name"
GivenName	Get/Set	Also known as "First Name"
Prefix	Get/Set	Mr., Mrs., Ms., etc.
Suffix	Get/Set	Jr., Sr., Esq., etc.
MiddleName	Get/Set	
Nickname	Get/Set	Type determines which type of nickname
Occupation	Get/Set	
OrganizationIsCurrent	Get/Set	Boolean. Type determines which organization type.
OrganizationDepartment	Get/Set	
OrganizationDomain	Get/Set	
OrganizationEndDate	Get/Set	Date.
OrganizationJobDescription	Get/Set	
OrganizationLocation	Get/Set	

OrganizationName	Get/Set	
OrganizationStartDate	Get/Set	Date.
OrganizationSymbol	Get/Set	Stock symbol
OrganizationTitle	Get/Set	
PhoneNumber	Get/Set	
PhotoURL	Get/Set	URL for the contact photo
Relation	Get/Set	
RelationshipInterest	Get/Set	
RelationshipStatus	Get/Set	
Residences	Get/Set	
Skill	Get/Set	
Tagline	Get/Set	
URL	Get/Set	External website URL. Type determines which type of URL.
UserDefined	Get/Set	Custom fields. These may not display on the contact's web details in Google Contacts.

Available Mail Fields

Name	Get/Set	Notes
ETag	Get/Set	Edit tag
Id	Get	Unique ID. Alternate name: ResourceName
Created	Get	Creation timestamp. Alternate names: InternalDate, CreationDate.
LabelIds	Get/Set	List of label IDs the message is attached to
Body	Get/Set	Message body. Alternate name: PayloadBody
IsBodyHTML	Get/Set	Boolean. Flag for whether email is HTML or not.
PayloadETag	Get/Set	ETag of the message payload.
PayloadMIMEType	Get/Set	MIME type of the message payload.
PayloadPartID	Get/Set	Part ID of the message payload.
SizeEstimate	Get/Set	Estimated size of the message
Snippet	Get/Set	Snippet of the message, useful for previewing the contents.
ThreadID	Get/Set	ID of the thread the message is part of.
To	Get/Set	
From	Get/Set	
Cc	Get/Set	
Bcc	Get/Set	
Subject	Get/Set	
Date	Get/Set	
UniqueID	Get/Set	
MessageID	Get/Set	
MIMEVersion	Get/Set	Version of the MIME message
Encoding	Get/Set	Content encoding
ContentType	Get/Set	

ContentLanguage	Get/Set	
HasAttachment	Get/Set	
ThreadTopic	Get	Original topic of the thread
ThreadIndex	Get	Index of the message in the thread
Importance	Get/Set	
HTMLBody	Set	
Priority	Get/Set	Message priority
ReplyTo	Get/Set	
Sender	Get/Set	
LabelIdsToRemove	Set	A label's ID to remove from the existing Mail record. Setting this multiple times will remove multiple labels

Available Event Fields

Name	Get/Set	Notes
AnyoneCanAddSelf	Get/Set	Boolean.
Attachments	Get	List of attachments
Attendees	Get/Set	Attendee email addresses. Types are "Organizer", "Resource", "Required", or "Optional".
AttendeesOmitted	Get/Set	Boolean
ColorID	Get/Set	
Created	Get	DateTime
CreatedRaw	Get	
Creator	Get	
Description	Get/Set	Alternate Name: Body
End	Get/Set	DateTime
EndTimeUnspecified	Get/Set	Boolean
ETag	Get/Set	Edit tag of the event
PrivateExtendedProperties	Get/Set	Custom fields
SharedExtendedProperties	Get/Set	Custom fields
GadgetLink	Get/Set	
GadgetType	Get/Set	
GadgetTitle	Get/Set	
GadgetDisplay	Get/Set	
GuestsCanInviteOthers	Get/Set	Boolean
GuestsCanModify	Get/Set	Boolean
GuestsCanSeeOtherGuests	Get/Set	Boolean
HangoutLink	Get	Link to the event's Google Hangouts connection
HTMLLink	Get	HTML link to the google event

ICalUID	Get	Internal calendar UID
Id	Get	Unique identifier
Kind	Get	
Location	Get/Set	
Locked	Get	Boolean
Organizer	Get/Set	
OriginalStartTime	Get/Set	
PrivateCopy	Get/Set	
Sequence	Get/Set	
Source	Get/Set	
Start	Get/Set	DateTime
Status	Get/Set	
Summary	Get/Set	Alternate name: Title
Transparency	Get/Set	
Updated	Get/Set	
UpdatedRaw	Get/Set	
Visibility	Get/Set	

Available Task Fields

Name	Get/Set	Notes
ETag	Get/Set	Edit tag
ID	Get	Unique identifier
Completed	Get/Set	DateTime. Alternate Name: DateCompleted
CompletedRaw	Get/Set	
Deleted	Get/Set	Boolean
Due	Get/Set	DateTime. Alternate Name: DateDue
DueRaw	Get/Set	
Hidden	Get/Set	Boolean
Kind	Get	
Links	Get	
Notes	Get/Set	Alternate Name: Body
Parent	Get	
Position	Get/Set	
SelfLink	Get/Set	
Status	Get/Set	
Title	Get/Set	
Updated	Get/Set	DateTime.
UpdatedRaw	Get/Set	

Available Filter Fields:

Field Name	Module	Notes
GivenName	Contacts	String. Commonly known as "First name"
FamilyName	Contacts	String. Commonly known as "Last name"
DisplayName	Contacts	String. Contact's name as it appears in Google's Contact list
OrganizationName	Contacts	String. Name of the organization/company the contact works for
UserDefined	Contacts	String. Custom field defined for the user.
Q	Events	String. Also "QueryString". Free-form text query that matches many fields in the calendar event.
TimeMin	Events	Timestamp. Filters for events on or after this timestamp.
TimeMax	Events	Timestamp. Filters for events on or before this timestamp.
UpdatedMin	Events	Timestamp of minimum update time; also used in PCGM_FilterByLastModified.
CompletedMin	Tasks	Date. Filters for tasks completed on or after this date.
CompletedMax	Tasks	Date. Filters for tasks completed on or before this date.
DueMin	Tasks	Date. Filters for tasks due on or after this date.
DueMax	Tasks	Date. Filters for tasks due on or before this date.
ShowCompleted	Tasks	Boolean. If set, records returned will either show completed or incomplete tasks.
ShowDeleted	Tasks	Boolean. If set, records returned will either show deleted or existing tasks.
ShowHidden	Tasks	Boolean. If set, records return will eitehr show hidden or visible tasks.
UpdatedMin	Tasks	Timestamp of minimum update time; also used in PCGM_FilterByLastModified.
Q	Mail	String. Also "QueryString". Free-form query string. See Developer's Guide.
From	Mail	String. Sender email address or name
To	Mail	String. Recipient email address or name
Subject	Mail	String. Word or words in the subject line
-	Mail	String. Remove the value from the filter results. See "Advanced Filtering" in the Developer's Guide for an example.
AROUND	Mail	String. Filter for messages with words near each other. Use a number in the value to state how many words apart the words can be.
Label	Mail	String. Filter for messages with a specific label.
Has	Mail	String. When "Has" is specified, a specific value should be passed:

		- Attachment
		- Drive
		- Document
		- Spreadsheet
		- Presentation
		- Youtube
		- Yellow-star
		- Blue-info
		- Purple-star
		- Userlabels
		- Nouserlabels
		See "Advanced Filtering" in the Developer's Guide for an example.
List	Mail	String. Filter for messages from a mailing list.
Filename	Mail	String. Filter for messages with attachments of a certain filename or type.
In	Mail	String. Messages in any folder, including Spam and Trash.
Is	Mail	String. When "Is" is specified, a specific value should also be passed: - Important - Starred - Snoozed - Unread - Read See "Advanced Filtering" in the Developer's Guide for an example.
Cc	Mail	String. Filter messages for recipients in the Cc field.
Bcc	Mail	String. Filter messages for recipients in the Bcc field. NOTE: You cannot find messages that you received on Bcc.
After	Mail	String. Filter for messages after a certain date/time/timestamp.
Before	Mail	String. Filter for messages before a certain date/time/timestamp.
Older	Mail	String. Filter for messages older than a certain date/time/timestamp.
Newer	Mail	String. Filter for messages newer than a certain date/time/timestamp.
Older_than	Mail	String. Filter for messages older than a time period, using "d" (day), "m" (month), or "y" (year).
Newer_than	Mail	String. Filter for messages newer than a time period, using "d" (day), "m" (month), or "y" (year).
Deliveredto	Mail	String. Filter for messages that were delivered to a certain email address.
Category	Mail	String. Filter for messages in a certain category.

Size	Mail	Number. Filter for messages larger than a certain size in bytes.
Larger	Mail	String. Filter for messages larger than a certain size in bytes.
Smaller	Mail	String. Filter for messages smaller than a certain size in bytes.
+	Mail	String. Filter for messages that match a word exactly.
Rfc822msgid	Mail	String. Filter for messages with a certain message-id header.

Simple examples of the format of Mail filter strings can be found at the following website:

https://support.google.com/mail/answer/7190?hl=en

Examples of the gManipulator PCGM_FilterByField and PCGM_FilterByLastModified using the fields above can be found in the "Advanced Filtering" section in the Developer's Guide.

Available Folder Fields

Folder fields are accessible by using the PCGM_GetFolderProperty function, and not through PCGM_GetFieldValue. Note that folders have different names: Mail folders are "labels", Contact folders are "ContactGroups", Event folders are "Calendars", and Task folders are "TaskLists".

Name	Get/Set	Module	Notes
ETag	Get	Mail	Edit Tag
Id	Get	Mail	Unique Identifier
LabelListVisibility	Get	Mail	Visibility of label lists
MessageListVisibility	Get	Mail	Visibility of message lists
MessagesTotal	Get	Mail	Total messages linked to this label
MessagesUnread	Get	Mail	Unread messages linked to this label
Name	Get	Mail	
ThreadsTotal	Get	Mail	Total threads under this label
ThreadsUnread	Get	Mail	Unread threads under this label
Type	Get	Mail	Label type
ETag	Get	Contacts	Edit Tag
ResourceName	Get	Contacts	Unique Identifier. Alternate name: Id
FormattedName	Get	Contacts	Formatted name
GroupType	Get	Contacts	Type of group
MemberCount	Get	Contacts	Count of contacts in this group
MemberResourceNames	Get	Contacts	List of contact names in this group
Deleted	Get	Contacts	Boolean.
Updated	Get	Contacts	DateTime.
Name	Get	Contacts	
AccessRole	Get	Event	

BackgroundColor	Get	Event	
ColorID	Get	Event	
DefaultReminders	Get	Event	
Deleted	Get	Event	Boolean
Description	Get	Event	
ETag	Get	Event	Edit Tag
ForegroundColor	Get	Event	
Hidden	Get	Event	Boolean
Id	Get	Event	Unique Identifier
Kind	Get	Event	
Location	Get	Event	
NotificationSettings	Get	Event	
Primary	Get	Event	Boolean
Selected	Get	Event	Boolean
Summary	Get	Event	
SummaryOverride	Get	Event	
TimeZone	Get	Event	
ETag	Get	Task	Edit Tag
Id	Get	Task	Unique Identifier
Kind	Get	Task	
SelfLink	Get	Task	Reference to itself
Title	Get	Task	
Updated	Get	Task	DateTime
UpdatedRaw	Get	Task	

IV. Contact Us

Successful integration of a FileMaker plug-in requires the creation of integration scripts within your FileMaker solution. A working knowledge of FileMaker Pro, especially in the areas of scripting and calculations is necessary. If you need additional support for scripting, customization or setup (excluding registration) after reviewing the videos, documentation, FileMaker demo and sample scripts, then please contact us via the avenues listed below.

Phone: 760-510-1200

Email: support@productivecomputing.com

Forum: https://fmforums.com/forum/285-contact-and-calendar-management-plug-ins/

Please note assisting you with implementing this plug-in (excluding registration) is billable at our standard hourly rate. We bill on a time and materials basis billing only for the time in minutes it takes to assist you. We will be happy to create your integration scripts for you and can provide you with a free estimate if you fill out a Request For Quote (RFQ) at www.productivecomputing.com/rfq. We are ready to assist and look forward to hearing from you!