



CFX_IMAP4 - Tag Reference

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CFX_IMAP4 - Introduction

CFX_IMAP4 is a fully featured IMAP4 client in a dynamic link library for Cold Fusion.

CFX_IMAP4 - Syntax

```
<CFX_IMAP4 SERVER="servername"
  PORT="port_number"
  SMTPPORT="port number"
  USERNAME="username"
  PASSWORD="password"
  TIMEOUT="timeout"
  ACTION="action"
  FOLDER="folder"
  DESTFOLDER="folder"
  OUTBOXFOLDER="folder"
  SENTITEMSFOLDER="folder"
  FOLDERCHARSET="charset"
  CHARSET="charset"
  FILENAME="filename"
  NAME="queryname"
  MESSAGENUMBER="numbers"
  UID="uids"
  FLAGS="IMAP flags"
  ATTACHMENTPATH="path"
  FILTERATTACHMENTS="fileextensions"
  FILTER="queryname"
  FILTERSUBJECTCHARS="char list (csv)"
  SEARCHCRITERIA="IMAP search criteria"
  EMLPATH="path"
  STARTROW="number"
  MAXROWS="number"
  DATETIMEFORMAT="datetimeformat"
  DELIMITER="delimiter"
  LISTDELIMITER="delimiter"
  QUERY="filterquery"
  FILTERPATH="path"
  MATCHHEADERS="headerlist"
  LOGTOFILE="filename"
  THROWONERROR="Yes/No"
  GENERATEUNIQUEFILENAMES
  LOWCPU
  RETURNMESSAGEOURCE
  ALWAYSCREATEQUERY
  LEAVEUNREAD
  AUTHSMTP
  SENDDIRECT
  ONLYRETURNSPECIFICMAIL
  USESSL
  RAWMODE>
```

SERVER

Required. Host name (*imap.yourdomain.com*) or ip address (*w.x.y.z*) of the IMAP server. Not required for LoadFromFile

PORT

Optional. Defaults to standard IMAP port, 143.

SMTPPORT

Optional. Defaults to standard SMTP port, 25.

USERNAME

Optional. If no username is specified, the IMAP connection is anonymous.

PASSWORD

Optional.

TIMEOUT

Optional. Specifies the maximum time to wait for data from the server. Defaults to 30 seconds.

ACTION

Optional. Specifies the mail action. There are seventeen possible values:

- ListFolders – (Default) Returns a query listing available folders
- CreateFolder – Creates a folder
- RenameFolder – Renames a folder
- DeleteFolder – Deletes a folder
- MoveMessages – Moves messages to a folder
- CopyMessages – Copies messages to a folder
- GetHeaderOnly – Returns message header information only.
- AltGetHeaderOnly – If GetHeaderOnly is slow, try this.
- GetAll – Returns message header information, message text, and attachment if ATTACHMENTPATH is specified.
- LoadFromFile – Loads an rfc822 message from a local source.
- LoadAndStore – Load an rfc822 message and store it in a folder
- SetFlags – Sets the flags of the specified messages
- Store – Store a message you specify on a query in a folder
- Send – Send a message you specify on a query.
- Delete – Deletes messages in the specified folder.
- Filter – Filters out emails using specified rule sets.
- Stat – Fastest way to check if there are any mails on your server.

FOLDER

Required. Specifies the working folder for CFX_IMAP4.

DESTFOLDER

Optional. Specifies a destination folder for actions such as 'MOVEMESSAGES' and 'COPYMESAGES'.

OUTBOXFOLDER

Optional. Specifies your Outbox folder for the SEND action.

SENTITEMSFOLDER

Optional. Specifies your Sent Items folder for the SEND action.

FOLDERCHARSET

Optional. Specifies the character set for use with folders. Defaults to iso-8859-1.

CHARSET

Optional. Specifies the character set for use with messages. Defaults to iso-8859-1.

FILENAME

Optional. Required for action "LoadFromFile". Specifies a list of local rfc822 files to load.

NAME

Optional. The name you assign to the index query. Required for "ListFolders", "GetHeaderOnly", "GetAll", "LoadFromFile" and "Filter".

MESSAGENUMBER

Optional. Specifies a list of messagenumbers for the given action. MESSAGENUMBER is required for ACTION="Delete". If it is provided for ACTION="GetHeaderOnly" or ACTION="GetAll", only referenced messages will be retrieved. If it is omitted for ACTION="GetHeaderOnly" or ACTION="GetAll", all messages available on the server are returned.

UID

Optional. Used as an alternative to MESSAGENUMBER. Specify a list of UID's to CFX_IMAP4 and it will return only those mails that match those UID's. UID will override the MESSAGENUMBER attribute if both are passed. There is a small performance overhead when using UID as it requires extra communications with the IMAP server.

FLAGS

Optional. Lets you set message flags as follows. SEEN, ANSWERED, FLAGGED, DELETED, DRAFT and MDNSENT (where supported).

ATTACHMENTPATH

Optional. Allows attachments to be written to the specified directory when ACTION="GetAll" or "LoadFromFile". If an invalid ATTACHMENTPATH is specified, no attachment files are written to the server.

FILTERATTACHMENTS

Optional. By passing a list of comma separated filename extensions (inclusive of the '.'), CFX_IMAP4 will not attempt to save the attachments that match the filter to disk.

FILTER

Optional. Pass in the rules by which CFX_IMAP4 filters spam using this query.

FILTERSUBJECTCHARS

Optional. Used with the 'FILTER' action to remove specified characters from a subject to allow better spam identification. Pass a comma separated list of characters to CFX_IMAP4 and it will strip them from the subject before it uses the filter query. To strip comma's from a subject pass the word 'comma' as one of the items in the list.

SEARCHCRITERIA

Optional. The SearchCriteria attribute only works when using the GETALL action with the RAWMODE flag unset. The SearchCriteria option allows you to retrieve all messages that match the criteria specified in the argument. See below for more information.

EMLPATH

Optional. Allows emails' to be written to the specified directory as rfc822 compliant messages when ACTION="GetAll" or "LoadFromFile". If the path supplied is invalid, no files are saved.

STARTROW

Optional. Specifies the first message number to be retrieved. Default is 1. This attribute is ignored if MESSAGENUMBER or UID is specified.

MAXROWS

Optional. Specifies the maximum number of entries for mail queries. This attribute is ignored if MESSAGENUMBER or UID is specified.

DATETIMEFORMAT

Optional. Specifies the DateTime format to be returned by the tag. Defaults to “dddd, dd/mmm/yyyy hh:nn:ss”.

Values	Display
D	Displays the day as a number without a leading zero (1-31).
dd	Displays the day as a number with a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat).
dddd	Displays the day as a full name (Sunday-Saturday).
M	Displays the month as a number without a leading zero (1-12). If the m specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mm	Displays the month as a number with a leading zero (01-12). If the mm specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mmm	Displays the month as an abbreviation (Jan-Dec).
mmmm	Displays the month as a full name (January-December).
yy	Displays the year as a two-digit number (00-99).
yyyy	Displays the year as a four-digit number (0000-9999).
H	Displays the hour without a leading zero (0-23).
hh	Displays the hour with a leading zero (00-23).
N	Displays the minute without a leading zero (0-59).
nn	Displays the minute with a leading zero (00-59).
S	Displays the second without a leading zero (0-59).
ss	Displays the second with a leading zero (00-59).
Z	Displays the millisecond without a leading zero (0-999).
zzz	Displays the millisecond with a leading zero (000-999).
am/pm	Uses the 12-hour clock for the preceding h or hh specifier, and displays 'am' for any hour before noon, and 'pm' for any hour after noon. The am/pm specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
a/p	Uses the 12-hour clock for the preceding h or hh specifier, and displays 'a' for any hour before noon, and 'p' for any hour after noon. The a/p specifier can use lower, upper, or mixed case, and the result is displayed accordingly.
/	Displays the date separator character.
:	Displays the time separator character.

DELIMITER

Optional. Specifies the delimiter to use when returning attachments and their properties. Defaults to <TAB> if none specified.

LISTDELIMITER

Optional. Specifies the delimiter to use when CFX_IMAP4 processes lists.

QUERY

Optional. Specifies to CFX_IMAP4 the filter criteria for the filtration of emails.

See the section regarding mail filters further on for more information.

FILTERPATH

Optional. Specifies the path to where mails are saved when the filter action is SAVEDELETE.

MATCHHEADERS

Optional. Using special techniques, this field allows you to search for and return values from the first instance of a field in the headers that are not currently specified within the standard CFX_IMAP4 query result sets.

An example of this would be to check the X-Mailer field in the headers of a mail. To do this, simply specify X-Mailer and the query will return with an extra column named 'Xmailer'. Note that the hyphen is missing from the query column name. Indeed, all hyphens are stripped from the column names of the fields that you may search for.

Another example would be where you are interested in Content-Transfer-Encoding and the Mime-Version of the emails. Specify MatchHeaders="Content-Transfer-Encoding,Mime-Version" in the attributes and returned along with the standard query will be two extra columns called 'ContentTransferEncoding' and 'MimeVersion' that will contain the relevant data.

LOGTOFILE

Optional. Specifies the location and name of the log file. Useful for debugging purposes but increases the processing required for operation.

THROWONERROR

Optional. Tells CFX_IMAP4 to behave differently when an exception is encountered. Rather than raising an error in the traditional way, when set to 'NO' CFX_IMAP4 returns variables with error codes to indicate problems rather than stopping page execution dead. Valid values are 'Yes' and 'No'. Defaults to 'Yes'.

GENERATEUNIQUEFILENAMEAMES

Optional. Tells CFX_IMAP4 to generate unique filenames for all attachments. The presence of the attribute is enough to enable the unique filenames functionality.

LOWCPU

Optional. Tells CFX_IMAP4 to yield to other processes more than normal.

RETURNMESSAGESOURCE

Optional. Tells CFX_IMAP4 to place the message source of an email into the query that is returned to Cold Fusion (Can be memory intensive). Use of this attribute is strongly discouraged. See notes on implementation.

ALWAYSCREATEQUERY

Optional. Tells CFX_IMAP4 to create a query result regardless of whether there is any mail or not. If this attribute is left out, CFX_IMAP4 only creates a query if there is data to return.

LEAVEUNREAD

Optional. Tells CFX_IMAP4 leave the mails in a folder as being unread. By default, when CFX_IMAP4 reads a mail it marks it as being read.

AUTHSMTP

Optional. Tells CFX_IMAP4 use AUTHSMTP when using the SEND action.

SENDDIRECT

Optional. Setting this flag bypasses your local SMTP server and sends mails directly to the recipients' mail server.

ONLYRETURNSPECIFICMAIL

Optional. Tells CFX_IMAP4 return only mails that match UIDs passed in. Default behaviour of CFX_IMAP when no UIDs match is to return all messages in the folder specified. Turning this flag on stops this behaviour.

USESSL

Optional. Tells CFX_IMAP4 to use SSL connections. For TLS connections, this flag should not be set. If port 993 is specified, UseSSL is set to True regardless of its current state.

This flag is only available to CFX_IMAP4 Enterprise.

RAWMODE

Optional. Tells CFX_IMAP4 to use its original method of retrieval when performing a GETALL action. SearchCriteria will be ignored when this flag is set. The order of the messages oldest first whereas without this flag being set, CFX_IMAP4 returns the messages most recent first.

CFX_IMAP4 - Query Variables

The following table describes the variables that are returned by CFX_IMAP4.

CFX_IMAP4 Query Variables	
Variable Names	Description
<i>queryname</i> .RecordCount	The total number of records returned by the query.
<i>queryname</i> .CurrentRow	The current row of the query being processed by CFOUTPUT
<i>queryname</i> .ColumnList	The list of column names in the query.
CFX_IMAP4.MessageCount	Returns the number of mails in the mailbox.
CFX_IMAP4.RecentMessageCount	Returns the number of mails marked as being recent in the mailbox.
CFX_IMAP4.UnreadMessageCount	Returns the number of mails marked as being unread in the mailbox.
CFX_IMAP4.NextUID	The next available UID in the selected folder.
CFX_IMAP4.ExecutionTime	Cumulative time required to process the query in milliseconds
CFX_IMAP4.MatchHeaders	Returns a sorted, de-duplicated list of headers that have been searched for
CFX_IMAP4.FilterRuleCount	Number of rules passed in by the query
CFX_IMAP4.FilterMailCount	Number of mails in the mailbox that were checked
CFX_IMAP4.ErrorMessage	Only set if THROWONERROR is set to 'NO'. This variable contains the error message normally passed to the CF Exception Handlers.

MessageHeader and Body Columns

The following table lists the message header and body columns that are returned by CFX_IMAP4 when you specify the ACTION attribute to be either GetHeaderOnly/Filter or GetAll/LoadFromFile.

Message Header and Body Columns		
Column Name	GetHeaderOnly/ Filter returns	GetAll/LoadFromFile Returns
<i>Queryname.date</i>	Yes	Yes
<i>Queryname.internaldate</i>	Yes	Yes 2
<i>Queryname.timezone</i>	Yes	Yes
<i>Queryname.internaltimezone</i>	Yes	Yes 2
<i>Queryname.from</i>	Yes	Yes
<i>Queryname.fromname</i>	Yes	Yes
<i>Queryname.fullfrom</i>	Yes	Yes
<i>Queryname.messageid</i>	Yes	Yes
<i>Queryname.uid</i>	Yes	Yes 2
<i>Queryname.replyto</i>	Yes	Yes
<i>Queryname.deliveredto</i>	Yes	Yes
<i>Queryname.subject</i>	Yes	Yes
<i>Queryname.cc</i>	Yes	Yes
<i>Queryname.to</i>	Yes	Yes
<i>Queryname.fullto</i>	Yes	Yes
<i>Queryname.header</i>	Yes	Yes
<i>Queryname.contenttype</i>	Yes	Yes
<i>Queryname.octets</i>	Yes	Yes
<i>Queryname.flags</i>	Yes	Yes
<i>Queryname.body</i>	Not available	Yes
<i>Queryname.rich</i>	Not available	Yes
<i>Queryname.html</i>	Not available	Yes
<i>Queryname.bodycharset</i>	Not available	Yes
<i>Queryname.richcharset</i>	Not available	Yes
<i>Queryname.htmlcharset</i>	Not available	Yes
<i>Queryname.attachments</i>	Not available	Yes 3
<i>Queryname.attachmentfiles</i>	Not available	Yes 3
<i>Queryname.contenttypes</i>	Not available	Yes 3
<i>Queryname.contentids</i>	Not available	Yes 3
<i>Queryname.filesizes</i>	Not available	Yes 3
<i>Queryname.messagesource</i>	Not available	Yes 1
<i>Queryname.emlfilename</i>	Not available	Yes 4
<i>Queryname.filterfilename</i>	Yes 5	Not available
<i>Queryname.filteraction</i>	Yes 5	Not available
<i>Queryname.RulesMatched</i>	Yes 5	Not available

1. As specified by switch ReturnMessageSource
2. Not LoadFromFile
3. Only when an AttachmentPath is specified
4. Only when EMLPath is specified
5. Only available when action is FILTER.

When using the MatchHeaders attribute, extra columns containing the results of the header search routine will be passed along with the standard ones listed above. The names of the extra columns will be the same as the values passed into MatchHeaders with the exception that any hyphens in the fields will be removed. e.g. MIME-VERSION becomes MIMEVERSION

The STAT function

The STAT function does just what you would expect. It returns the number of mails currently held in the specified folder in the mailbox. It will also return the unread and recent message count also. These values are returned in the CFX_IMAP4.MessageCount , CFX_IMAP4.UnreadMessageCount and CFX_IMAP4.RecentMessageCount variables respectively. This is by far the fastest way to check if a mailbox has new mail or not without actually retrieving anything. No queries are returned with the STAT action as no other data is retrieved from the server.

The FILTER query

The following table lays out the columns for the filter query when you wish to pre-filter your mailbox for either saving to a designated directory then deleting the mail from the queue or alternatively, just performing a simple deletion from the queue. The Delete action has performance comparable with the GetHeaderOnly action whereas the SaveDelete action has performance comparable with a GetAll action.

Column Name	Valid values
HEADER	FROM, PARTIALFROM, FROMFRAGMENTS, FROMPATTERN, TO, PARTIALTO, TOFRAGMENTS, TOSTARTSWITH, TOENDSWITH, TOSTARTEND, SUBJECT, PARTIALSUBJECT, SUBJECTFRAGMENTS. SUBJECTPATTERN
MATCHSTRING	Free-text or comma-separated list
ACTION	DELETE, SAVEDELETE, MOVEMESSAGES

An example query would have data as follows. This example has similar data that could be represented by using just the fragment-based rules however, for this example; all combinations of header and matchstring are shown.

HEADER	MATCHSTRING	ACTION
FROM	paul.vernon@web-architect.co.uk	DELETE
PARTIALFROM	@web-architect.co.uk	SAVEDELETE
FROMFRAGMENTS	Paul,web-architect	DELETE
FROMPATTERN	Paul*@web-architect.co.uk	DELETE
TO	support@web-architect.co.uk	SAVEDELETE
PARTIALTO	Support@	DELETE
TOFRAGMENTS	Support,web-architect.co.uk	SAVEDELETE
TOSTARTSWITH	Paul.	DELETE
TOENDSWITH	@web-architect.co.uk	SAVEDELETE
TOSTARTEND	Paul.,@web-architect.co.uk	DELETE
SUBJECT	AS SEEN ON TV!!!	SAVEDELETE
PARTIALSUBJECT	ON TV!	DELETE
SUBJECTFRAGMENTS	SEEN,TV,!	SAVEDELETE
SUBJECTPATTERN	AS SEEN * TV *	DELETE
ENTIREHEADER	144.145.644.123	MOVEMESSAGES

TO, FROM AND SUBJECT must be an exact match for the mail.

The PARTIALTO, PARTIALFROM and PARTIALSUBJECT values allow you to pass a sub-string. If that sub-string appears anywhere in the fields, the filter is a match.

The TOFRAGMENTS, FROMFRAGMENTS and SUBJECTFRAGMENTS values allow you to specify any number of fragments that may be combined in the field. Only if all the fragments are found does the filter match.

The SEND function

The IMAP protocol does not support sending e-mail. This is usually carried out by another protocol running on the same server. The protocol that is most commonly used is SMTP. If you do not have an SMTP service available, use the SENDDIRECT flag to indicate that you want CFX_IMAP4 to use its own internal SMTP engine.

CFX_IMAP4 supports the SMTP protocol for sending e-mails out but as you would expect, it goes further and allows you to store an e-mail in your Outbox and then on completion of the SMTP send, in the Sent Items folder.

If your IMAP server does not support the UIDPLUS extension to IMAP4rev1 then instead of storing the message in the Outbox and transferring to the Sent Items folder after the send has completed, CFX_IMAP4 directly uploads the message to your Sent Items folder.

Using the attributes OutboxFolder and SentItemsFolder, you must specify the two folders you wish to use for the SEND action. CFX_IMAP4 will automatically re-configure itself to use either the SentItemsFolder only or both depending on your servers support for the UIDPLUS extension.

The SEND and STORE query

The following table lays out the columns for the SEND and STORE queries when you wish to send or store a message using CFX_IMAP4.

Column Name	Valid values
ATTACHMENTS	A tab-delimited list of fully qualified filenames.
BCC	A comma separated list of e-mail addresses.
CC	A comma separated list of e-mail addresses.
CONTENTIDS	A tab delimited list for the embedded attachments CID reference IDs. The list length must match that of HTMLATTACHMENTS.
FLAGS	ANSWERED, DELETED, DRAFT, FLAGGED, SEEN, MDNSENT
FROM	An e-mail address.
HTML	The HTML body for the e-mail.
HTMLATTACHMENTS	A tab delimited list of any attachments to be embedded as part of the HTML message.
PRIORITY	HIGHEST, HIGH, NORMAL, LOW, LOWEST
SUBJECT	The subject of the message.
TEXT	The text version of the message.
TO	A comma separated list of e-mail addresses.

All fields are mandatory although, some of them may be passed through blank including ATTACHMENTS, BCC, CC, CONTENTIDS, FLAGS, HTML, HTMLATTACHMENTS, PRIORITY.

At minimum of FROM, TO, SUBJECT and TEXT must be populated in order to send an e-mail.

The MOVEMESSAGES and COPYMESSAGES query

If the connected server supports the UIDPlus extension to the IMAP protocol and a name is specified to the CFX_IMAP4 tag when performing the action of MOVEMESSAGES or COPYMESSAGES, a query is returned containing the old UID and the new UID of the moved message.

Column Name	Valid values
OLDUID	The UID of the old message that has been moved from the source folder.
UID	The UID of the moved message in the destination folder.

The SEARCHCRITERIA attribute

CFX_IMAP4 Enterprise now exposes the full power of the IMAP protocol by allowing you to run native IMAP searches on mailboxes. The following information is taken from the RFC 3501.

<sequence set>

Messages with message sequence numbers corresponding to the specified message sequence number set.

ALL

All messages in the mailbox; the default initial key for ANDing.

ANSWERED

Messages with the \Answered flag set.

BCC <string>

Messages that contain the specified string in the envelope structure's BCC field.

BEFORE <date>

Messages whose internal date (disregarding time and timezone) is earlier than the specified date.

BODY <string>

Messages that contain the specified string in the body of the message.

CC <string>

Messages that contain the specified string in the envelope structure's CC field.

DELETED

Messages with the \Deleted flag set.

DRAFT

Messages with the \Draft flag set.

FLAGGED

Messages with the \Flagged flag set.

FROM <string>

Messages that contain the specified string in the envelope structure's FROM field.

HEADER <field-name> <string>

Messages that have a header with the specified field-name (as defined in [RFC-2822]) and that contains the specified string in the text of the header (what comes after the colon). If the string to search is zero-length, this matches all messages that have a header line with the specified field-name regardless of the contents.

KEYWORD <flag>

Messages with the specified keyword flag set.

LARGER <n>

Messages with an [RFC-2822] size larger than the specified number of octets.

NEW

Messages that have the \Recent flag set but not the \Seen flag.
This is functionally equivalent to "(RECENT UNSEEN)".

NOT <search-key>

Messages that do not match the specified search key.

OLD

Messages that do not have the \Recent flag set. This is functionally equivalent to "NOT RECENT" (as opposed to "NOT NEW").

ON <date>

Messages whose internal date (disregarding time and timezone) is within the specified date.

OR <search-key1> <search-key2>

Messages that match either search key.

RECENT

Messages that have the \Recent flag set.

SEEN

Messages that have the \Seen flag set.

SENTBEFORE <date>

Messages whose [RFC-2822] Date: header (disregarding time and timezone) is earlier than the specified date.

SENTON <date>

Messages whose [RFC-2822] Date: header (disregarding time and timezone) is within the specified date.

SENTSINCE <date>

Messages whose [RFC-2822] Date: header (disregarding time and timezone) is within or later than the specified date.

SINCE <date>

Messages whose internal date (disregarding time and timezone) is within or later than the specified date.

SMALLER <n>

Messages with an [RFC-2822] size smaller than the specified number of octets.

SUBJECT <string>

Messages that contain the specified string in the envelope structure's SUBJECT field.

TEXT <string>

Messages that contain the specified string in the header or body of the message.

TO <string>

Messages that contain the specified string in the envelope structure's TO field.

UID <sequence set>

Messages with unique identifiers corresponding to the specified unique identifier set. Sequence set ranges are permitted.

UNANSWERED

Messages that do not have the \Answered flag set.

UNDELETED

Messages that do not have the \Deleted flag set.

UNDRAFT

Messages that do not have the \Draft flag set.

UNFLAGGED

Messages that do not have the \Flagged flag set.

UNKEYWORD <flag>

Messages that do not have the specified keyword flag set.

UNSEEN

Messages that do not have the \Seen flag set.

The SEARCH command searches the mailbox for messages that match the given searching criteria. Searching criteria consist of one or more search keys. The untagged SEARCH response from the server contains a listing of message sequence numbers corresponding to those messages that match the searching criteria.

When multiple keys are specified, the result is the intersection (AND function) of all the messages that match those keys. For example, the criteria DELETED FROM "SMITH" SINCE 1-Feb-1994 refers to all deleted messages from Smith that were placed in the mailbox since February 1, 1994. A search key can also be a parenthesized list of one or more search keys (e.g., for use with the OR and NOT keys).

Server implementations MAY exclude [MIME-IMB] body parts with terminal content media types other than TEXT and MESSAGE from consideration in SEARCH matching.

The OPTIONAL [CHARSET] specification consists of the word "CHARSET" followed by a registered [CHARSET]. It indicates the [CHARSET] of the strings that appear in the search criteria. [MIME-IMB] content transfer encodings, and [MIME-HDRS] strings in [RFC-2822]/[MIME-IMB] headers, MUST be decoded before comparing text in a [CHARSET] other than US-ASCII. US-ASCII MUST be supported; other [CHARSET]s MAY be supported.

In all search keys that use strings, a message matches the key if the string is a substring of the field. The matching is case-insensitive.

The defined search keys are as follows. Refer to the Formal Syntax section for the precise syntactic definitions of the arguments.

Examples

1. SEARCHCRITERIA="DELETED FROM "SMITH" SINCE 1-Feb-1994"
2. SEARCHCRITERIA="LARGER 10240"
3. SEARCHCRITERIA="SMALLER 10240"
4. SEARCHCRITERIA="SUBJECT hello"
5. SEARCHCRITERIA="NOT SUBJECT hello"
6. SEARCHCRITERIA="BEFORE 9-Aug-2004"
7. SEARCHCRITERIA="FROM support "

For more information regarding the IMAP SEARCH command, please refer to rfc3501.

CFX_IMAP4 - Supported Character sets

Previous versions of CFX_IMAP4 supported a limited number of codepages as listed below.

ISO-8859-1, ISO-8859-2, ISO-8859-3, ISO-8859-4, ISO-8859-5, ISO-8859-6, ISO-8859-7, ISO-8859-8, ISO-8859-9, ISO-8859-10, ISO-8859-13, ISO-8859-14, ISO-8859-15, CP1250, CP1251, CP1252, CP1253, CP1254, CP1255, CP1256, CP1257, CP1258, KOI8-R, CP895, CP852, UCS-2, UCS-4, UTF-8, UTF-7, mUTF-7.

With the release of build 209 and subsequent versions of the tag, the way CFX_IMAP4 handles codepage conversions has changed and instead of using its own routines for performing codepage conversions, it now depends of the underlying codepage conversion routines that are embedded in Windows.

This has the effect of allowing CFX_IMAP4 to support any codepage that you have installed as part of your Windows installation and because Windows is capable of supporting more codepages than CFX_IMAP4 previously supported, it increases the capabilities of CFX_IMAP4 significantly.

CFX_IMAP4 currently support over 130 codepages with MLang as opposed to the original 29 as listed above.

By moving over to the Windows MLang libraries, support for the "modified UTF-7" codepage has been removed with the exception of use when accessing mUTF-7 encoded folders. Conversions to and from mUTF-7 is fully transparent to the user. utf-7 is still fully supported.

PLEASE NOTE: MLang ships with Internet Explorer 5.x and above and as such, an appropriate version of Internet Explorer must be present on your system.

CFX_IMAP4 - Implementation Notes

The STAT function can be used to poll a mailbox quickly reducing the load on your server when all you are doing is checking to see how many messages are in the mailbox.

The FILTER functions provide a fast and simple method for email filtering and flexibility in use so that you can experiment with new rules without losing ANY of your incoming mails. It is suggested that when you are configuring your rules that you always choose MOVEMESSAGES as the action until you are happy that your rules are not filtering out false positives. Once you are happy that all the mails that are moved out to your filtered mail repository are all correctly filtered, you can then change the filter action from MOVEMESSAGES to DELETE or SAVEDELETE.

Not only can the FILTER be used for the removal of unwanted mail, but when used to look for specific email addresses, you can use SAVEDELETE to filter the mail out, then use the query returned to loop through the email addresses and attach the file specified in the query to an email created with CFMAIL to forward it to a specific address.

Using RETURNMESSAGESOURCE is strongly discouraged due to the size of the queries that can be returned to Cold Fusion. If you really need to have access to the message source of an email it is recommended that the EMLPATH attribute be specified and the emails are loaded into a file variable once CFX_IMAP4 has completed. By accessing the message source of an email in this way, the memory and performance overheads on Cold Fusion are substantially reduced.

RETURNMESSAGESOURCE is not currently deprecated but may be in a future release.

The file stream architecture of CFX_IMAP4 introduces an interesting issue when used in conjunction with virus detection software. Basically, CFX_IMAP4 saves out the streams to your systems TEMP directory using a *.\$\$\$ filename format. Once the download is completed, the file is then read into CFX_IMAP4 for parsing. It is at this point that a virus detection program may parse the *.\$\$\$ file and stop CFX_IMAP4 from reading the stream. This of course is not desired functionality as the files are temporary, do not get executed and are deleted once parsed. It would be far better for the system to allow the *.\$\$\$ files to be read/written un-impinged, scanning the parsed attachments after they have been decoded to determine whether or not a virus exists in the email. To that end, it is recommend that a *.\$\$\$ filename pattern is added to your exclusion list in your virus detection software to allow CFX_IMAP4 to operate correctly. Consult your virus detection software for further information regarding this issue.

UPDATE: The extension *.\$\$\$ has been changed to .tmp to avoid problems with some anti-virus software that prohibits '\$\$\$' as a valid extension.

Please ensure that if you are using MailEnable, you have fully patched it to at least the January the 15th hotfix. If your MailEnable server is not patched then you will experience timeout problems on disconnect.

Cold Fusion MX

It is recommended that at least Cold Fusion MX 6.1 is used. Performance appears quicker and lock-ups seem to have been resolved under load with C++ style CFX tags in general.

Blue Dragon 6.1

CFX_IMAP4 is now fully tested with Blue Dragon 6.1 on a Windows XP platform.

CFX_IMAP4 - Frequently asked questions

Q. Should CFX_IMAP4 be kept loaded by Cold Fusion or not?

A. This does not really matter either way although there is a performance increase if the tag is kept in RAM.

Q. Can GetHeaderOnly tell me if there are attachments in the mail?

A. No, GetHeaderOnly really does just that. It knows no more about the email at this point than you do. To enable GetHeaderOnly to give you that information, it would internally have to do the same job as a GetAll action.

Q. I've checked my mailbox and I'm getting mails with no body... What gives?

A. CFX_IMAP4 returns both the text and HTML versions of a mail. It does this by providing an extra column in the query returned called HTML. By adding this column, CFX_IMAP4 is able to place the text version of the mails body in the BODY field and the HTML version of the body in the HTML field. If there is no text version, then the BODY field will be blank. Try checking whether there is any data in the HTML field.

Q. CFX_IMAP4 doesn't seem to be saving out my emails or attachments?

A. CFX_IMAP4 will not create a directory if it does not exist. To this end, if you specify a directory that does not exist, CFX_IMAP4 cannot save out any emails or attachments.

Q. Where does CFX_IMAP4 save its temporary stream files?

A. CFX_IMAP4 saves the stream files to the system temp directory of the account that the Cold Fusion Service is logged in under. Add the debug attribute to find out where that is.

Q. I have GENERATEUNIQUEFILENAMES set to 'NO' but the filenames are still unique. What is going on?

A. GENERATEUNIQUEFILENAMES is a flag. It is not a Boolean variable. This means that CFX_IMAP4 checks to see if the attribute is there only and not whether or not you are specifying a value. If it's there then you get unique filenames. Remove the attribute altogether to get the original filenames.

Q. Seeing as CFX_IMAP4 is thread-safe, do I still need to use CFLOCK like the Cold Fusion manuals tell me to?

A. That depends! If you are in an environment where you have two or more calls to CFX_IMAP4 on the same page request then it is imperative that you lock all instances of CFX_IMAP4 inside ONE lock. This is to ensure that each 'IMAP session', which may include multiple calls to CFX_IMAP4 in the same web-page, is discrete and the account being accessed cannot be accessed by another page request that is running at the same time.

If your IMAP4 access only entails a single call to the CFX_IMAP4 tag on any given request then there is no need to explicitly use CFLOCK as CFX_IMAP4 incorporates its own locking mechanisms that can deal with this eventuality.

Q. After reading the last **Q & A**, I'm pretty sure that I need to lock the CFX_IMAP4 session. How best do you suggest I do that?

A. The best way to lock a CFX_IMAP4 session is to use a name based lock. The best possible lock name to choose would be along the lines of 'username@host' in order to lock out access to CFX_IMAP4 calls on a per account basis. CFX_IMAP4 has internal locking mechanisms that take care of thread safety when writing files out to disk and so on. If you need to limit the connections to the server at the same time then the following code should be used.

```

<!-- this example locks two calls to CFX_IMAP4 to create a "session" and --->
<!-- then goes on to lock each call to the server to limit the number --->
<!-- of connections that can be made by CFX_IMAP4 to your mail server --->
<!-- substitute the words username and host for your variables --->

<cfset MaxConnects = 4> <!-- experiment with this value --->

<!-- 1st, lock the session --->
<cflock name="username@host" type="exclusive" timeout="60">

    <!-- Randomly pick a value and append it to the lockname --->
    <cfset UseConnection = RandRange(1, MaxConnects)>
    <cfset lockname="host" + "_" + UseConnection>

    <!-- then lock the call to CFX_IMAP4 using the lockname --->
    <cflock name="#lockname#" type="exclusive" timeout="60">
        <CFX_IMAP4 server="imap.server.com" user="username" ..... >
    </cflock>

    <!-- your code goes here --->

    <!-- Randomly pick a new value and append it to the lockname --->
    <cfset UseConnection = RandRange(1, MaxConnects)>
    <cfset lockname="pop.server.com" + "_" + UseConnection>
    <cflock name="#lockname#" type="exclusive" timeout="60">
        <CFX_IMAP4 server="imap.server.com" user="username" ..... >
    </cflock>

</cflock>

```

Q. I have a suggestion, how do I get in touch?

A. Suggestions are great, they are what help CFX_IMAP4 evolve. Get in touch using the contact details in the support section below.

CFX_IMAP4 - Support

If possible, when you experience an error with CFX_IMAP4 a full description of what CFX_IMAP4 was doing at the time would be helpful. Using the LogToFile feature of CFX_IMAP4 greatly enhances the chances that an error can be identified and a solution being provided.

If you believe the problem to be with a specific email, try to use the new EMLPATH attribute to save out the mail so that it can be sent to new media development for testing and debugging.

Contact details

Support is available through the following channels. Although this software is freeware, we endeavour to support it to the best of our abilities.

<mailto:support@newmediadevelopment.net>

<http://store.newmediadevelopment.net/contact.cfm>

Testing

CFX_IMAP4 has been tested using Cold Fusion 5 and CFMX 6.1 on Windows 2000 Advanced Server SP3 and Windows 2003 for Web-servers respectively. Both Apache 1.3/2.x, and IIS5 and 6 server installations along with the CFMX standalone server installations have been used for testing.

CFX_IMAP4 - Updates

CFX_IMAP4 is always evolving. The latest version of CFX_IMAP4 is available for download from the URL below.

<http://store.newmediadevelopment.net/contact.cfm>

CFX_IMAP4 - Change log

08 – April - 2008 (build 2.0.20)

6 very minor changes to accommodate specific change requests and one bug fix related to the way message id values were created that could generate null characters within the mail header when using the store or send commands.

28 – January – 2005 (build 2.0.13)

The implementation of improved functionality for the MOVEMESSAGES action has been completed. Essentially, if a set of UID values are passed to CFX_IMAP4 and the server supports UIDPlus, CFX_IMAP4 can optionally return a query containing both the old UID and the new UID for every message that has been moved into the destination folder.

The FILTERSUBJECTCHARS attribute can now be applied to all actions.

Support for the UIDNEXT value has been implemented and is returned from the server into the standard struct that is created by CFX_IMAP4 when it is called.

Fix to remove an exception when the UUDecode function encounters a corrupt e-mail. Instead of just stopping all processing, the exception is handled and CFX_POP3 continues to decode beyond the corrupt section. This most closely resembles the behaviour of popular desktop mail clients like Outlook Express.

Added support for XXencoded e-mails although, they are extremely rare.

Fixed a bug where retrieval of some messages by UID was retrieving the wrong message.

15 – January – 2005 (build 2.0.11)

A fix has been implemented to handle e-mail addresses that illegally use a ';' character which stops CFX_IMAP4 entering into an infinite loop and consuming all CPU resources.

To compensate for what seems to be a bug in Windows XP and Windows2003, a workaround has been added for the codepage conversion routines when converting from hz-gb-2312 to utf-8. The bug does not seem to be present in Windows 2000. Essentially, the workaround converts from hz-gb-2312 to utf-7 and then from utf-7 to utf-8. This workaround works on all three platforms and is now added into the tag as a special case conversion. Users who do not receive mail in hz-gb-2312 codepage and do not convert to utf-8 should see no difference.

Received some support queries using CFX_IMAP4 with MailEnable. All issues turned out to be with MailEnable and they have all been addressed within 24 hours of being raised. If you use MailEnable, please ensure that it is fully patched. This note relates to version 1.54 of MailEnable and below.

10 – December – 2004 (build 2.0.10)

An issue was fixed where if the port was not specified as an attribute; the tag would throw an error rather than using the default setting of port 143.

16 – November – 2004 (build 2.0.9)

Added support for the richtext mailpart.

Fixed the character set conversion routines. The conversions were not working in all circumstances and sometimes the conversions were being skipped altogether additionally, the support for codepage conversion tables using the Windows MLang libraries has been implemented to take the number of supported codepage tables from under 30 to over 130.

Fixed a problem with the CRAM-MD5 login process where it was incorrectly calculating the challenge response.

A bug was fixed that was stripping headers from embedded e-mails as attachments because the content-type was not matching the test condition correctly.

The filename of an attachment would get mangled if the MIME headers were poorly formed.

The bug that was leaving the '_' character in quoted-printable encoded text has been fixed. This has been a long standing bug that originally stripped out all '_' characters and the original fix applied left in too many '_' characters in the text. The new fix correctly handles all eventualities and is less complex than the original solution and its original fix.

18 – August – 2004 (build 2.0.8)

The SSL Sockets were prone to hanging until the timeout period expired when connecting to certain servers.

There was a minor problem decoding 'Quoted-printable' encoded e-mails where a malformed header was present.

11 – August – 2004 (build 2.0.7) Gold Release

Gold Release of 2.0.6. Rebuilt with new version numbers and build dates. Beta versions and release candidates are now unsupported.

10 – August – 2004 (build 2.0.6) Release Candidate 2

A sockets layer incompatibility with the Courier-IMAP mail server has been fixed.

09 – August – 2004 (build 2.0.5) Release Candidate 1

Introduced a fully functional SEARCH for CFX_IMAP4 Enterprise and completed the SSL connectivity. All versions now have a RAWMODE switch as the GETALL behaviour has changed. RAWMODE returns the behaviour to pre 2.0.5 functionality.

Many changes to the sockets layers to improve performance and stability under all scenarios.

Thanks to Ricardo Russon, Alex DeMarco and Dirk De Bock for beta testing and/or providing access to IMAP servers that I would normally not be able to test with.

Special thanks to April Lorenzen for her patience with me tracking down some sockets problems and beta testing with *A LOT* of users!!!

08 – July – 2004 (build 2.0.4) (Enterprise SSL beta 4)

Fixed some timeout and performance issues on the sockets layer. Changed the temporary file extension from .\$\$\$ to .tmp for better integration with anti-virus software. Improved speed of logins when using CRAM-MD5 authentication.

29 – May – 2004 (build 2.0.3) (Enterprise SSL beta 3)

A bug has been fixed in the message parsing routines that was truncating filenames when they contained a ';' character. Improvements have been made to the performance of the login authentication for non SSL connections.

A 'vtm' file has finally been written and accompanies the distribution.

19 – May – 2004 (build 2.0.1) (Enterprise SSL beta 1)

Implemented SSL connectivity using SecureBlackBox SSL components. Preliminary testing with a sendmail server running TLS have been successful and performance has not been affected to much.

Further testing with an Exchange Server (SSL only) and Merak Server (TLS and SSL) revealed some sockets performance issues at the point of logon. These have been addressed and performance is close to that of a non-secure connection

17 – Apr – 2004 (build 1.3.7)

Another memory leak has been addressed in the message parsing components. Also, attachment filenames sometimes got created as rfc822-****.eml when they should have been using the subject of the attached mail. This has been fixed.

03 – Apr – 2004 (build 1.3.6)

Several memory leaks in the message parsing component of CFX_IMAP4 have been addressed. Attachment filename handling has been improved with a couple of bugs being addressed regarding decoding mails where rfc822 mails are embedded as attachments.

21 – Feb – 2004 (build 1.3.4)

Added the facility to parse the ENTIREHEADER when using the spam filter. This is particularly useful when searching for particular static IP addresses or non-standard headers.

Added a column to the returned query that store the internal date of the mail according to when the IMAP server received it.

Added the charset attribute to the tag in order to allow the conversion between the incoming character set and the one that is used by Cold Fusion.

16 – Jan – 2003 (build 1.3.2)

A minor bug in the login procedure when using AUTH SMTP has been fixed which also led the way for full auto detection of supported AUTH SASL mechanisms. Added support for AUTH PLAIN so CFX_IMAP4 now supports AUTH CRAM-MD5, AUTH LOGIN and AUTH PLAIN for authenticated SMTP connections.

The SENDDIRECT attribute was added to provide a full SMTP engine for sending mails directly to the recipient's server.

A fix was introduced to stop errors when only a Sent Items folder is specified and no Outbox is set. CFX_IMAP4 no longer requires an Outbox when using the 'SEND' action.

11 – Jan – 2003 (build 1.3.0 limited beta release)

A very simple mail client is now included in the distribution to provide some examples for the use of CFX_IMAP4.

A full SMTP client has been built into the tag to allow the tag to provide full send message capabilities.

Added the following actions:

ALTGETHEADERONLY – Some IMAP servers are optimised to return the entire message more quickly than just the headers. Experiment to see which one is fastest for you!

LOADANDSTORE – Load an RFC822 message from disk and store it in your IMAP mailbox.

SEND – Send and store a copy of a message in your IMAP mailbox.

SETFLAGS – Alter the flags of your messages.

STORE – Store a message in your IMAP mailbox for future use.

Introduced support for:

RFC 2221 – IMAP4 Login Referrals
RFC 2359 – IMAP UIDPLUS extensions
RFC 3503 – Message Disposition Notification

Updated support of IMAP4rev1 from RFC 2060 to RFC 3501

CFX_IMAP4 looks for the servers capabilities and alters its behaviour accordingly.

Fixed the following issues:

A minor bug in the folder internationalisation code has been fixed.

Improved the formatting of the headers for HTML messages to fix the problem where embedded images were not displaying in Outlook 98-2003.

A bug in the demo version that was causing a 'list index out of bounds' error when a user attempted to download less than 5 messages was fixed.

Completed testing on iPlanet Messaging Server 5.2 (thanks go to Frank Stocker of [NetEducation GMBH](#) for furnishing an account to us and giving ideas and suggestions for improvements to the tag).

Minor enhancements to the messages that are written out to the logfile and output to the screen when DEBUG is enabled have been completed.

04 – Jan – 2003 (build 1.2.5)

Added support for character set encoding, allowing CFX_IMAP4 to access internationalised folder names. All folder names are internally converted to and from modified UTF-7.

Fixed a bug that stopped the message size being reported correctly.

Added a field to the returned query called Flags, returning the flags associated with the message.

30 – Dec – 2003 (build 1.2.2)

Minor bug in attachment filename recognition when handling MMS messages.

29 – Oct – 2003 (build 1.2.1)

Initial release.

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TERMINATION

Termination of this agreement can be carried out at any time by the cessation of use and removal of CFX_IMAP4 from all your equipment. We reserve the right to cancel this agreement at any time.

INSTALLATION OF CFX_IMAP4 SIGNIFIES YOUR CONFIRMATION THAT YOU HAVE READ AND ACCEPTED THE TERMS AND CONDITIONS AS SET OUT HEREIN.

CFX_IMAP4 - Third party software

CFX_IMAP4 contains software from third parties to achieve particular functionality.

Fast String manipulation routines provided by Peter Morris used under licence.

<http://www.droopyeyes.com>

For modified UTF-7 support:

Character set conversion routines provided by Lukas Gebauer used under licence.

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<http://www.ararat.cz/synapse/index.htm>

CFX API integration unit for Delphi provided by Leonid Fofanov used under licence.

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