
CFX_CHECKEMAIL™

A ColdFusion® tag that syntax checks email addresses.



Installation & User Guide

For Windows, Linux & Solaris

| | |
|------------------|-------------------|
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1. INTRODUCTION

1.1. Thank You

Thank you for purchasing this product. It was designed by Derrick Peavy of Universal Advertising. I translated Derrick's work into C++ and we released it as a ColdFusion ® tag. As co-authors of this tag, it was our intent to develop a tag that adds value to your ColdFusion efforts by providing you the ability to develop secure, error free and useful solutions. If you feel a need to contact Derrick directly, please send him an email at derrick@universaladvertising.com. You can contact me directly, at email address anickles@cfxworks.com.

1.2. Overview

CFX_CHECKEMAIL is a ColdFusion CFX tag that validates the syntax of email addresses based on the Internet standard, RFC # 822. Please refer to <http://www.w3.org/Protocols/rfc822/rfc822.txt> for additional information on this specification. This standard specifies the syntax for text messages that are sent among computer users, within the framework of "electronic mail". This standard defines the syntax, and syntax rules, for the email addresses. In addition to the rules defined by this specification, CFX_CHECKEMAIL will also validate the top level domain name, if requested to do so.

2. DISCUSSION

2.1. Why Use CFX_CHECKEMAIL?

The major reasons to use the CFX_CHECKEMAIL tag are:

- To eliminate errors caused by attempting to use invalid email addresses.
- To reduce the time and effort required to correct mistakes caused by attempting to use invalid email addresses.

2.2. What syntax rules does CFX_CHECKEMAIL use to validate email addresses?

CFX_CHECKEMAIL validates the syntax of email addresses using the following rules:

1. The email address cannot be blank.
2. The email address must contain the symbol “@”.
3. The email address can only contain the symbol “@” once.
4. The symbol “@” cannot be the last symbol in the address.
5. The symbol “@” cannot be the first symbol in the address.
6. The symbol pairs “.@”, “..” and “@.” cannot be in the address.
7. The email address must contain the symbol “.”.
8. The symbol “.” cannot be the last symbol in the address.
9. The symbol “.” cannot be the first symbol in the address.
10. The following symbols are invalid in an email address:
 - The following “special” characters... ()<>@,;:\'[]
 - All ASCII CTL characters
 - The SPACE character
 - The DEL character
 - All non-ASCII characters
11. The following “commonly used” top level domains are considered valid if “DOMAIN=1” is selected (please refer to ***Tag Specification***):

.aero, .biz, .com, .coop, .edu, .gov, .info, .museum, .name,
.net, .org, .pro, .tv, .us
12. The “commonly used”, and four additional “restricted” top level domains are considered valid if “DOMAIN=2” is selected (please refer to ***Tag Specification***). The “restricted” top level domain names include:

.int – International
.mil – US Military
.arpa – ARPNET
.nato - NATO

13. The “commonly used”, “restricted” and many additional “international country code” top level domains are considered valid if “DOMAIN=3” is selected (please refer to *Tag Specification*). The “international country code” top level domain names include:

| | |
|-----|--------------------------|
| .ad | Andorra |
| .ae | United Arab Emirates |
| .af | Afghanistan |
| .ag | Antigua and Barbuda |
| .ai | Anguilla |
| .al | Albania |
| .am | Armenia |
| .an | Netherlands Antilles |
| .ao | Angola |
| .aq | Antarctica |
| .ar | Argentina |
| .as | American Samoa |
| .at | Austria |
| .au | Australia |
| .aw | Aruba |
| .az | Azerbaijan |
| .ba | Bosnia and Herzegovina |
| .bb | Barbados |
| .bd | Bangladesh |
| .be | Belgium |
| .bf | Burkina Faso |
| .bg | Bulgaria |
| .bh | Bahrain |
| .bi | Burundi |
| .bj | Benin |
| .bm | Bermuda |
| .bn | Brunei Darussalam |
| .bo | Bolivia |
| .br | Brazil |
| .bs | Bahamas |
| .bt | Bhutan |
| .bv | Bouvet Island |
| .bw | Botswana |
| .by | Belarus |
| .bz | Belize |
| .ca | Canada |
| .cc | Cocos (Keeling) Islands |
| .cf | Central African Republic |
| .cg | Congo |

| | |
|-----|-----------------------------|
| .ch | Switzerland |
| .ci | Cote D'Ivoire (Ivory Coast) |
| .ck | Cook Islands |
| .cl | Chile |
| .cm | Cameroon |
| .cn | China |
| .co | Colombia |
| .cr | Costa Rica |
| .cs | Czechoslovakia (former) |
| .cu | Cuba |
| .cv | Cape Verde |
| .cx | Christmas Island |
| .cy | Cyprus |
| .cz | Czech Republic |
| .de | Germany |
| .dj | Djibouti |
| .dk | Denmark |
| .dm | Dominica |
| .do | Dominican Republic |
| .dz | Algeria |
| .ec | Ecuador |
| .ee | Estonia |
| .eg | Egypt |
| .eh | Western Sahara |
| .er | Eritrea |
| .es | Spain |
| .et | Ethiopia |
| .fi | Finland |
| .fj | Fiji |
| .fk | Falkland Islands (Malvinas) |
| .fm | Micronesia |
| .fo | Faroe Islands |
| .fr | France |
| .fx | France, Metropolitan |
| .ga | Gabon |
| .gb | Great Britain (UK) |
| .gd | Grenada |
| .ge | Georgia |
| .gf | French Guiana |
| .gh | Ghana |
| .gi | Gibraltar |
| .gl | Greenland |
| .gm | Gambia |
| .gn | Guinea |
| .gp | Guadeloupe |
| .gq | Equatorial Guinea |

| | |
|-----|----------------------------------|
| .gr | Greece |
| .gs | S. Georgia and S. Sandwich Isls. |
| .gt | Guatemala |
| .gu | Guam |
| .gw | Guinea-Bissau |
| .gy | Guyana |
| .hk | Hong Kong |
| .hm | Heard and McDonald Islands |
| .hn | Honduras |
| .hr | Croatia (Hrvatska) |
| .ht | Haiti |
| .hu | Hungary |
| .id | Indonesia |
| .ie | Ireland |
| .il | Israel |
| .in | India |
| .io | British Indian Ocean Territory |
| .iq | Iraq |
| .ir | Iran |
| .is | Iceland |
| .it | Italy |
| .jm | Jamaica |
| .jo | Jordan |
| .jp | Japan |
| .ke | Kenya |
| .kg | Kyrgyzstan |
| .kh | Cambodia |
| .ki | Kiribati |
| .km | Comoros |
| .kn | Saint Kitts and Nevis |
| .kp | Korea (North) |
| .kr | Korea (South) |
| .kw | Kuwait |
| .ky | Cayman Islands |
| .kz | Kazakhstan |
| .la | Laos |
| .lb | Lebanon |
| .lc | Saint Lucia |
| .li | Liechtenstein |
| .lk | Sri Lanka |
| .lr | Liberia |
| .ls | Lesotho |
| .lt | Lithuania |
| .lu | Luxembourg |
| .lv | Latvia |
| .ly | Libya |

| | |
|-----|--------------------------|
| .ma | Morocco |
| .mc | Monaco |
| .md | Moldova |
| .mg | Madagascar |
| .mh | Marshall Islands |
| .mk | Macedonia |
| .ml | Mali |
| .mm | Myanmar |
| .mn | Mongolia |
| .mo | Macau |
| .mp | Northern Mariana Islands |
| .mq | Martinique |
| .mr | Mauritania |
| .ms | Montserrat |
| .mt | Malta |
| .mu | Mauritius |
| .mv | Maldives |
| .mw | Malawi |
| .mx | Mexico |
| .my | Malaysia |
| .mz | Mozambique |
| .na | Namibia |
| .nc | New Caledonia |
| .ne | Niger |
| .nf | Norfolk Island |
| .ng | Nigeria |
| .ni | Nicaragua |
| .nl | Netherlands |
| .no | Norway |
| .np | Nepal |
| .nr | Nauru |
| .nt | Neutral Zone |
| .nu | Niue |
| .nz | New Zealand (Aotearoa) |
| .om | Oman |
| .pa | Panama |
| .pe | Peru |
| .pf | French Polynesia |
| .pg | Papua New Guinea |
| .ph | Philippines |
| .pk | Pakistan |
| .pl | Poland |
| .pm | St. Pierre and Miquelon |
| .pn | Pitcairn |
| .pr | Puerto Rico |
| .pt | Portugal |

| | |
|-----|--------------------------------|
| .pw | Palau |
| .py | Paraguay |
| .qa | Qatar |
| .re | Reunion |
| .ro | Romania |
| .ru | Russia |
| .rw | Rwanda |
| .sa | Saudi Arabia |
| .sb | Solomon Islands |
| .sc | Seychelles |
| .sd | Sudan |
| .se | Sweden |
| .sg | Singapore |
| .sh | St. Helena |
| .si | Slovenia |
| .sj | Svalbard and Jan Mayen Islands |
| .sk | Slovak Republic |
| .sl | Sierra Leone |
| .sm | San Marino |
| .sn | Senegal |
| .so | Somalia |
| .sr | Suriname |
| .st | Sao Tome and Principe |
| .su | USSR (former) |
| .sv | El Salvador |
| .sy | Syria |
| .sz | Swaziland |
| .tc | Turks and Caicos Islands |
| .td | Chad |
| .tf | French Southern Territories |
| .tg | Togo |
| .th | Thailand |
| .tj | Tajikistan |
| .tk | Tokelau |
| .tm | Turkmenistan |
| .tn | Tunisia |
| .to | Tonga |
| .tp | East Timor |
| .tr | Turkey |
| .tt | Trinidad and Tobago |
| .tv | Tuvalu |
| .tw | Taiwan |
| .tz | Tanzania |
| .ua | Ukraine |
| .ug | Uganda |
| .uk | United Kingdom |

| | |
|-----|----------------------------------|
| .um | US Minor Outlying Islands |
| .us | US = United States |
| .uy | Uruguay |
| .uz | Uzbekistan |
| .va | Vatican City State (Holy See) |
| .vc | Saint Vincent and the Grenadines |
| .ve | Venezuela |
| .vg | Virgin Islands (British) |
| .vi | Virgin Islands (U.S.) |
| .vn | Viet Nam |
| .vu | Vanuatu |
| .wf | Wallis and Futuna Islands |
| .ws | Samoa |
| .ye | Yemen |
| .yt | Mayotte |
| .yu | Yugoslavia |
| .za | South Africa |
| .zm | Zambia |
| .zr | Zaire |
| .zw | Zimbabwe |

For more information about top level domain names and country codes please visit <http://www.thrall.org/domains.htm>

For a useful explanation of the ASCII character set please visit <http://www.jimprice.com/jim-asc.htm>.

2.3. Does CFX_CHECKEMAIL validate using all of the RFC 822 syntax rules?

The syntax of an email address is as follows:

local-part “@” domain

Although the standard allows for “quoted-strings” in the “local-part” of the email address and “domain-literals” in the “domain”, CFX_CHECKEMAIL does not validate these constructs and considers them errors since many mail servers do not support these features. If these constructs are used, CFX_CHECKEMAIL will flag them as errors.

2.4. Does CFX_CHECKEMAIL use encryption technology?

Encryption technology is not used by CFX_CHECKEMAIL.

3. TECHNICAL ISSUES

3.1. Tag Specification

The programming specification for the CFX_CHECKEMAIL tag is as follows:

| | | |
|--------------------------------------|---|-------------------------|
| <CFX_CHECKEMAIL | | |
| ADDRESS="emial to be syntax checked" | | <u>Default</u> blank |
| DOMAINS=0-3 | 0 - don't check top level domain name 1 - check common top level domain names 2 - check common and restricted 3 - check common, restricted, and international country codes | 1 |
| DISPLAY=0 or 1 | 0 - display or log nothing 1 - displal log 2 - writ log to disk using file "checkemail.log" | |
| > | | |
| response: | | |
| VALID="YES" | YES - email address is valid. NO - there is an error in the email address. | |
| RESPONSE= "xxx" | 0 - OK 1 - Email address blank! 2 - Email address does not contain the "@" symbol! 3 - Email address contains the "@" symbol more than once! 4 - Email address cannot end with the "@" symbol! 5 - Email address cannot start with the "@" symbol! 6 - Email address cannot contain the symbol pairs ".@" or "@.!" 7 - Email address must contain a "." symbol! 8 - Email address cannot end with the "." symbol! 9 - Email address cannot start with the "." symbol! 10 - Email address contains an invalid symbol! 11 - Email top level domain name is not valid! 12 - Email address contains an ASCII CTL, SPACE, DEL or non-ascii character! 13 - Email address cannot contain the symbol pair "..!" 98 - Undefined error! 99 - License error! | |
| RC=0-13, 98 or 99 | | |

Figure 1 - Tag Specification

1. CFX_CHECKEMAIL is distributed as zip file (filename.zip). The actual filename is specific to each licensee. You will need a "password" to unzip this file. The password is sent to the licensee by email when the tag is ordered. The command you must enter at a command line is as follows:

Windows: pkunzip filename -s[password]
Linux: unzip -j filename
Solaris: unzip -j filename

Note that commands and filenames in Linux and Solaris are case sensitive. The "-j" in the above Linux and Solaris command stands for a "junk", or do not make directories. Without this parameter, the unzip command will create subdirectories within the current working directory. On Linux and

Solaris, after you have unzipped the zip file, you will have to use the “chmod u+x cfx_checkemail.so” command to make this file executable.

When you unzip this file, the code and documentation is extracted to the current working directory. The zip file contains the following files:

- CFX_CHECKEMAIL.dll (Windows) or “cfx_checkemail.so” (Linux & Solaris) – the executable.
 - EMAIL0.cfm – sample program ...
 - EMAIL1.cfm – sample program ...
 - LICENSE_CHECKEMAIL.pdf – a copy of the software license.
 - CFXCHECKEMAIL.pdf – this document.
2. On versions of Coldfusion prior to MX, ColdFusion recommends that you copy the CFX_CHECKEMAIL executable to the \CFUSION\CFX directory for execution. This wasn't absolutely necessary, but it was best practices. On Windows versions of MX, this directory would be \CFusionMX\CustomTags\cfx. On Linux and Solaris, this directory would be /opt/coldfusionmx/cfx.
 3. ColdFusion also requires you to register the tag using the ColdFusion Administrator. The registration dialog will look similar to the following:

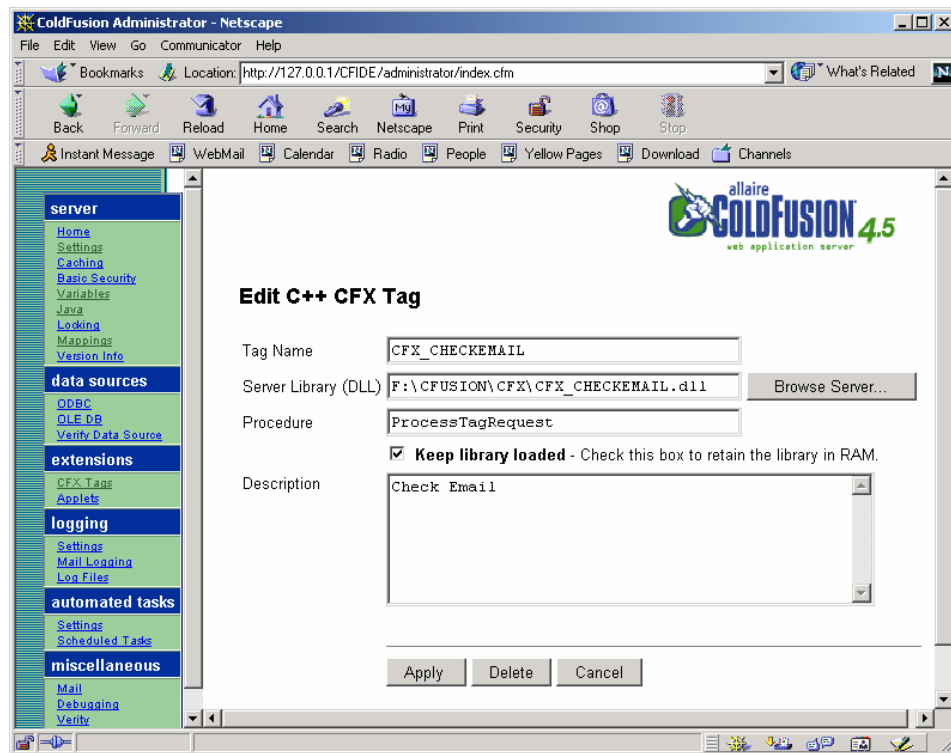


Figure 2- Registering CFX_CHECKEMAIL

You should name the tag as shown in the **Figure 2**. You must tell ColdFusion where the executable is stored. For performance reasons you should select “Keep library loaded” however this is not required if the tag will not be in heavy use. You can enter a description as shown above. For Windows, if you do not check the “Keep library loaded” checkbox, the dll is reloaded each time the tag is executed. Therefore, if you install a new version of the dll, it is automatically refreshed at runtime. On Linux and Solaris, if you install a new version of the executable, you must stop and start the Coldfusion server to refresh the executable.

That’s it! The entire installation process should take only a few minutes to complete.

3.2. Performance Issues

The primary issue impacting performance will be the selection of the installation option “Keep library loaded”, see **Figure 2**. If this option is not selected, the CFX_CHECKEMAIL dll is loaded each time the tag is referenced. Therefore, the major issue impacting performance of the tag will be I/O speed of your ColdFusion server.

3.3. Minimum System Requirements

These offerings have been tested on Windows 2000, Linux (Red Hat) and Solaris 8 platforms. The Windows version should function properly on all Win32 platforms. The Linux version should function on all Intel versions of Linux. The Solaris offering should function on Solaris 8 and 9.

The ColdFusion tag versions of this offering requires that it be installed on a system using a properly configured copy of ColdFusion 4.0, 4.5, 5.0 or MX.

4. OTHER STUFF

4.1. Software License

Demonstration tags contain expiration dates that expire in 30 days. Purchased tags have no expiration date. The tag is licensed on a per system basis. The license agreement is contained in the product distribution zip file. Please read this pdf file for detailed license information.

CFX_CHECKEMAIL will not check the syntax of the email address on systems whose license has expired.

4.2. Export Limitations

None.

4.3. Future Possible Extensions

Please send us your suggestions. We are particularly interested in your feedback as to creative ways to use the CFX_CHECKEMAIL capability.

4.4. Support

Support is provided for this offering via the CFXWorks web site www.CFXWorks-Coldfusion.com. A Q&A forum is maintained and CFXWorks will attempt to respond to emails addressed to support@cfxworks.com on this forum.

4.5. Warranty

Please read the license file “license.pdf” in the distribution zip file.

APPENDIX A. TAG PARAMETERS

| <u>Parameter</u> | <u>Default Value</u> | <u>Description</u> |
|---------------------------|----------------------|---|
| ADDRESS = "email address" | NONE | Email address |
| DOMAINE= 0-3 | 1 | 0 – don't check top level domain name 1 – check common top level domain names 2 – check common and restricted 3 – check common, restricted and international country codes |
| DISPLAY = 0 or 1 | 0 | 0 – display or log nothing 1 – display log 2 – write log to disk |

(1) The log is written to the current working directory of ColdFusion using the filename "md5.log". This directory most likely is c:\winnt\system32. If you execute the tag using DISPLAY=1, the current working directory will be displayed.

APPENDIX B. ERROR CODES

| <u>RC</u> | <u>Description</u> |
|-----------|--|
| 0 | OK |
| 1 | Email address blank! |
| 2 | Email address does not contain the '@' symbol! |
| 3 | Email address contains the '@' symbol more than once! |
| 4 | Email address cannot end with the '@' symbol! |
| 5 | Email address cannot start with the '@' symbol! |
| 6 | Email address cannot contain the symbol pairs ".@" or "@.!" |
| 7 | Email address must contain a '.' symbol! |
| 8 | Email address cannot end with the '.' symbol! |
| 9 | Email address cannot start with the '.' symbol! |
| 10 | Email address contains an invalid symbol! |
| 11 | Email top level domain name is not valid! |
| 12 | Email address contains an ASCII CTL, SPACE, DEL, or non-ASCII character! |
| 13 | Email address cannot contain the symbol pair "..!" |
| 98 | Undefined error! |
| 99 | License error! |

APPENDIX C. SAMPLES

Error! Reference source not found. illustrates just how simple it is to use this tag.

```
<CFX_CHECKEMAIL  
  ADDRESS="dpeavy@universaladvertising.com"  
  USFORMAT=1  
>
```

Figure 3 - Samples

The CFX_CHECKEMAIL distribution file contains the following sample program.

“EMAIL0.cfm”

This sample program provides a very simple working demo of the tag.

“EMAIL1.cfm”

Is called from EMAIL0.cf