

Imagen

for Windows/Linux

Configuration

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Overview

This documents describes the configuration files used by Imagen and its cache.

Imagen Configuration

Imagen configuration is stored in the file `imagen.cfg` found in the directory where Imagen is located.

Configuration File Syntax

Imagen Configuration files are written in a subset of the Imagen Scripts Language. Every configuration file is actually list of assignment expressions as they are defined by the Language Reference document. The files are also preprocessed which means that the `#version` directive must be placed at the begging of the file and that `#include` directives are recognized. The comments are also accepted as they are in Imagen scripts.

Configuration Variables

Initialization

`display_width`

Specifies the default width of the virtual display. It can be changed from the script through the `display_size` function.

`display_height`

Specifies the default height of the virtual display. It can be changed from the script through the `display_size` function.

Restrictions

These options specify restrictions imposed on the script executed.

`timeout`

Integer specifying script timeout value in seconds, after the timeout expiration the execution of the script is terminated. A value of zero ignores this limit. Used to prevent from deadlocks in scripts.

`max_iterations`

Integer specifying the maximum number of iterations loop construct (`while`, `do-while`) can perform. Used to prevent from never-ending loops in scripts.

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max_recursive_function_calls

Specifies the maximum number of nested function calls. Used to prevent from too many recursive invocations.

max_display_width

Specifies the maximum width of the virtual display that the `display_size` function accepts.

max_display_height

Specifies the maximum height of the virtual display that the `display_size` function accepts.

max_display_area

Specifies the maximum area of the virtual display that the `display_size` function allows. This is the maximum number of pixels that the display surface can hold.

Error logging

When error occurs Imagen can output the error to standard output with content type text/plain, it can also store in log file and send a mail.

Error messages are classified into the following categories:

Severity code	Explanation
SEVERITY_INFO	Informational message (minimal severity level)
SEVERITY_NOTE	Note about something that is in almost all cases OK
SEVERITY_WARNING	Something in the script is valid, but probably is not the intent (may be logical error).
SEVERITY_ERROR	The script is invalid according to some rule (i.e. syntax error, or attempt to load image that does not exist).
SEVERITY_INTERNAL	Internal error. These are errors in Imagen. (maximal severity level)

According to the current state of the scripts (development or release) it is possible for some messages to not be needed. This is in most cases true for informational messages that are used mainly for script debugging. It's also possible messages with some severity to be dispatched only to specific location. For example sending email may not be necessary for warnings and below.

Each of the sections below describes one of the possible targets for outputting error messages.

Dumping to Standard Output

The options here specify what messages have to be returned to standard output instead of the expected image. This method for error dumping allows rapid development of scripts: Typing the URL in a web browser leads either to the resulting image or to text describing what's wrong.

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min_display_severity

Specifies the minimal severity that causes dump to standard output. This is very useful because allows viewing the error directly from the web browser.

Logging Into Files

Messages can also be stored into log files for later reference. For each script there is a log file that stores all messages produced by the script. The log file resides in special directory and has the name of the script with appended `.error` suffix.

log_enabled

Specifies whether per-script log files should be stored. A value different from zero turns file logging on.

log_path

Specifies the directory where log files will be stored. The directory is relative to the location of Imagen, unless absolute path is specified. Make sure you have given *read* and *write* access to that directory.

dump_header

Specifies whether additional header will be dumped when appending to the log. The header contains environment specific information like current time and requesting IP address. Should be left on unless when auto testing. The `autotest` script temporarily disables header dumps, since it needs to compare the output logs.

Value different from zero turns header dumping on.

min_log_severity

Specifies the minimal severity that causes log to be stored

Sending Mail

mailing_enabled

Specifies whether mail should be sent in case of error. A value different from zero turns mailing on.

smtp_server

Specifies the SMTP server to which to send the mail.

Note: The SMTP server in the sample configuration file “`imagen.cfg`” has to be changed to the SMTP server you use.

from_email

Specifies source email

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from_name

Specifies name of sender

to

Specifies to whom the email has to be sent

min_mail_severity

Specifies the minimal severity that causes email to be sent

Profiling

Imagen has built in profiling of scripts that allows finding speed bottlenecks in scripts. When profiling is turned on Imagen will store a file containing the total script time as long as the time spent inside all executed statements. The file is named as the script, but with appended '.profile' suffix and is located in a directory as specified below.

Profiling should be turned on only during script development since it slows down script execution and creates large files.

profiling_enabled

Specifies whether profiling should be performed. A value different from zero turns profiling on.

profile_path

Specifies the directory where profile results to be stored. The directory is relative to the location of Imagen, unless absolute path is specified. Make sure you have given *read* and *write* access to that directory.

Cache Configuration

Web Server Configuration

The Imagen Cache is configurable through an outside text file. For the standalone application or ISAPI extension, the configuration should be in the **cache.cfg** file in the executable directory. The config file for the Apache module is set in the Apache configuration (httpd.conf or .htaccess files) via the per-directory command **ConfigFile**:

```
<Directory /any/directory>
    SetHandler imagen-cache
    ConfigFile /path/cache.cfg
</Directory>
```

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Instead of these above you can also set into the Apache configuration file (httpd.conf) the following lines

```
<Directory /any/directory>
# set some extension for Imagen script files
# for example .img
    <Files *.img>
        Options      +ExecCGI
                    SetHandler  imagen-cache
        ConfigFile  /path/cache.cfg
    </Files>
</Directory>
```

And now all .img files accessed from <http://your.server/any/directory> recursively will be passed to the Cache Module.

Variables

Here are the variables you may set in the cache configuration file:

max_disk_space

Max allowed disk space for the cache files (in bytes).

percents_to_free

Percents to free when the number above is reached (0 – 100).

executable

Imagen executable. You may specify a library file (.dll under Windows or .so under Linux) if want to use Cache plugin. Please refer to the *Imagen Cache Notes* document for the Cache Plugin API description.

lib_arg

Used to pass a string argument to the init routine of the Cache plugin (only if a library is specified by the *executable* variable above). This variable can be used to pass the plugin its configuration filename, etc.

max_executables

Max count of running Imagen copies at one time. 0 means no restriction.

cache_root

Cache files root directory. Make sure you have given *read* and *write* access to that directory.

locks_root

Locks files root directory. Make sure you have given *read* and *write* access to that directory.

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log_file

Imagen Cache log file. Make sure you have given *read* and *write* access to that file.

stats_file

Statistics file (used also for keeping information about the disk space usage). Make sure you have given *read* and *write* access to that file.

smtp_server

The SMTP server, used for sending emails for fatal errors

smtp_from

The email, used as a sender of an email

smtp_from_name

The name, used for the sender of an email

smtp_to

The recipient of an email

translate_dir_to CGI

(NOTE: The translation related parameters are for Apache web servers only.) This is a boolean variable. It must be 0 or 1. When the value is 1 it means that the translation is enabled. The translation represents a conversion of URLs like *http://server/script.img/param1=value1/param2=value2/...* into <http://server/script.img?param1=value1¶m2=value2...>

translate_hostname

As the translation is triggered on the filename translation in the Apache web server. This is before the virtual hostname. That's why a hostname is needed to know URLs for which host must be translated.

translate_script_suffix

Usually the value is *.img!*. This is used to know where the parameters start and where the translation must occur.

Paths Convention

This section describes what paths should be used for files and directories specified in the configuration file according to the environment:

- Apache Module - absolute paths because the cache folder is undefined
- Standalone under Linux - relative to the current dir (which means to the Cache executable) or absolute paths

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- ISAPI Extension – relative to the Cache DLL or absolute path
- Standalone under NT - relative to the Cache executable or absolute path

Dispatcher Configuration

Dispatcher is configurable through an outside text file. Under Windows, it is called **dispatcher.cfg** and should be located in the directory of the Dispatcher library file. Under Linux, the filename is specified by the **lib_arg** variable in the Cache configuration.

Variables

http_proxy

The HTTP proxy to use when downloading the remote Imagen output. If this variable does not exist, no proxy is used (default).

log_file

Imagen Dispatcher log file. Make sure you have given *read* and *write* access to that file.

sync_file

Filename used for inter-process communications (under Linux only). Should be existing filename with absolute path. Make sure the nobody user has full access on it. It is recommended to put this file in some temp directory.

local_executable

Local executable file to use after all rings are passed.

action_timeout

The timeout for performing the HTTP request. If the HTTP request fails, the `local_executable` is used, but without using this timeout anymore.

hostN.url

The URL of the N-th remote Imagen.

hostN.type

The type of the N-th URL. 0 for standalone Imagen version, 1 for web server plugin.

hostN.ring

Ring number of the N-th URL. The first ring is 0.

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hostN.priority

An integer for the priority of the N-th URL. Please refer to the *Algorithms* section for the priorities description.

Note: N above is a number from 1 to the URLs count. The Dispatcher searches first for host1.url, then for host2.url and so on, until the variable does not exist.

Sample Configuration File

```
# HTTP proxy to use for download remote Imagen outputs
http_proxy = "http://proxy.server.bg:8080"

# local Imagen executable, when all remote fail
local_executable = "imagen.exe"

# dispatcher log file
log_file = "/tmp/dispatcher-log"

# host1 description (type: 0-standalone, 1-plugin)
host1.url = "http://server1.com/folder/imagenc.cgi"
host1.type = 0
host1.ring = 0
host1.priority = 4

# host2 description (type: 0-standalone, 1-plugin)
host2.url = "http://server2.com/folder/ "
host2.type = 1
host2.ring = 0
host2.priority = 3
```

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