Installing GD Graphic Libraries
on
Mac OS X 10.4.x

1. - Introduction

The purpose of this document is to provide instructions on how to install the GD Graphics Library on OS X 10.4.x Tiger Server.

You will not find many explanations as to why something is done one way or the other. There are plenty of tutorials on this around on the internet. This document should just help you in getting things done.

The GD Graphic Library depends on other libraries to be installed first. These include: zlib, libpng, libjpeg.

This document will require you to use the command line. If you do not feel comfortable with using the command line, you should look for a ready made installer package or for somebody to assist you.

This document is written for Mac OS X 10.4.x. However, it should apply to 10.3.x as well. Be aware though that I have not done any particular testing of this procedure on 10.3.x.

DISCLAIMER: Whatever you do based on this document, you do it at your own risk! Just in case you haven't understood: Whatever you do based on this document, you do it at your own risk!

This tutorial has been tested on a standard Mac OS X 10.4.x Server installation. If you have already tinkered with your system, be aware that things might differ. It is impossible for me to foresee all changes that one might have applied to a server.

This tutorial contains step-by-step instructions for the terminal. Although you could just type them in line by line, it is recommended you have a basic understanding of the terminal.

2. - Requirements

Before you get started, you need to make sure some basic requirements are met:

- You have made a backup of your system.
- You have the latest version of Apple's Developer Tools
  (Xcode 2.4 or higher) installed.
  Dev Tools are available on your Server DVD and as a free
  download from Apple's Developer Connection.
- X11 is installed (available on your OS X DVD)
- You do have a backup
- You are running 10.4.x
- You have not manually updated anything related to GD, zlib,
  libpng, libjpeg and freetype so far (if you have, you must
  know how to adapt these instructions to the changes you
  made).
- You have a PPC processor

3. - Getting and installing the required components

This chapter will guide you through installing zlib, libpng,
libjpeg. These libraries are required for GD to work.

So let's get going:
Make sure you are logged in as root.

Get and install the latest version of the libraries by issuing
the following commands (*in oblique type*). Issue them one after
the other making sure you do not miss any dots or slashes. Also
note that the download URLs may change in the future. In that
case just replace the URLs in this document with the current
one. Lines wrapping without line spacing are a single command.

(First we create our environment)

gcc_select 3.3
(for PPC. Use "*gcc_select 4.0*" for Intel)

mkdir -p /SourceCache

cd /SourceCache

(Now we get the libraries and unpack them)

curl -O http://www.zlib.net/zlib-1.2.3.tar.gz

*curl -O http://superb-east.dl.sourceforge.net/
sourceforge/libpng/libpng-1.2.12.tar.gz*

curl -O ftp://ftp.uu.net/graphics/jpeg/
jpegsrc.v6b.tar.gz

curl -O http://www.boutell.com/gd/http/gd-2.0.33.tar.gz

tar xzpf zlib-1.2.3.tar.gz

tar xzpf libpng-1.2.12.tar.gz

tar xzpf jpegsrc.v6b.tar.gz

tar xzpf gd-2.0.33.tar.gz

(Now we install zlib)

cd /SourceCache/zlib-1.2.3

./configure --shared

make

make install

(Now we install libpng)

cd /SourceCache/libpng-1.2.12

cp scripts/makefile.darwin Makefile

Now edit the file "Makefile" and make sure the paths are as
follows. Be careful about what is commented and what isn't:
ZLIBLIB=/usr/local/lib
ZLIBINC=/usr/local/include
#ZLIBLIB=../zlib
#ZLIBINC=../zlib

Continue by issuing:

make

(Most of the time issuing "*make*" will have worked without
errors. If you get errors during "*make*", issue "*./configure*"
and try "*make*" again.)

make install

(Now we install libjpeg)

cd /SourceCache/gd-2.0.33

./configure

cp libtool /SourceCache/jpeg-6b
(Ignore any errors. This is just a "trick" to update libjpeg)

cd /SourceCache/jpeg-6b

./configure --enable-shared

make

make install

4. – Installing the GD Graphic Libraries

This chapter will guide you through installing the GD Graphic
Libraries.

So let's get going:
Make sure you are logged in as root.

Install the latest version of GD by issuing the following
commands (*in oblique type*). Issue them one after the other
making sure you do not miss any dots or slashes. Lines wrapping
without line spacing are a single command.

gcc_select 3.3
(for PPC. Use "*gcc_select 4.0*" for Intel)

mkdir -p /SourceCache

ln -s /usr/X11R6/include/fontconfig /usr/local/include
(may cause an error. ignore)

cd /SourceCache/gd-2.0.33

./configure --with-freetype=/usr/X11R6

make

make install

You are now all set and should have the GD and supporting
libraries installed.

For most users the next step would be to integrate the GD
libraries into PHP. A separate tutorial on updating PHP (with GD

support) on OS X 10.4.x Server is available on
http://osx.topicdesk.com/.

5. - Caveats

Not that many. The most important caveat is that if building one
library goes wrong, the rest of the succession will most likely
not work either.

If you have tried to install one of the libraries in the past,
you may have to remove and re-install them (unless you did
install them as described).

If you have modified any paths and or environment variables,
make sure you check them against above instructions.

That's all folks.
Hope this helps.
Have fun,
Alex