LassoSoft

8.5

Building ImageMagick

Building ImageMagick

This guide provides instructions for how to create a custom build of ImageMagick and the Lasso Module which implements the image tags.

- *Background* includes background information about ImageMagick.
- *Download* includes instructions for downloading ImageMagick and the required delegates.
- *Building ImageMagick on Mac OS X* includes detailed instructions for building ImageMagick.
- *Building ImageMagick on Windows* includes detailed instructions for building ImageMagick.
- *Building ImageMagick on Red Hat Linux* includes detailed instructions for building ImageMagick.

Background

A pre-built version of ImageMagick is included with Lasso. This version of ImageMagick will work without any additional configuration for most users. Each update to Lasso will include the latest version of ImageMagick.

However, ImageMagick is updated frequently and its releases will probably not coincide with those of Lasso. If you want to take advantage of the latest version of ImageMagick you can follow the instructions in this document to build ImageMagick for use with Lasso. This will allow you to keep your ImageMagick installation up to date between Lasso updates.

Download

You can download the latest version of ImageMagick from the following FTP repository. The download will include the source code for ImageMagick. You should download the latest gzipped tar file for Mac OS X or Red Hat Linux and the latest zip file for Windows.

> ftp://ftp.imagemagick.org/pub/ImageMagick/

For example, ImageMagick-6.3.2-1.tar.gz contains version 6.3.2 of ImageMagick for Mac OS X or Linux. ImageMagick-6.3.2-1.zip contains version 6.3.2 of ImageMagick for Windows.

Delegates

There are five delegates that are required for use with Lasso on Mac OS X and Red Hat Linux. They are: png, tiff, jpeg, jasper, and freetype. Required versions and download links can be found in the following table.

Windows Note: These delegates are included in the Windows zip file. There is no need to download these delegate files on Windows.

Table 1: Required Downloads

Library	Details
ImageMagick	Version 6.2.5 or higher ftp://ftp.imagemagick.org/pub/ImageMagick/
libpng	Version 1.2.14 http://sourceforge.net/project/showfiles.php?group_id=5624
libfreetype	Version 2.1.10 http://download.savannah.gnu.org/releases/freetype/freetype-2.1.10.tar.gz
libjpeg	Version 6b http://www.reviewpost.com/jpegsrc.v6b.tar.gz
libtiff	Version 3.8.2 http://dl.maptools.org/dl/libtiff/tiff-3.8.2.zip
libjasper	Version 1.701.0 http://www.ece.uvic.ca/%7Emdadams/jasper/software/jasper-1.701.0.zip

Building ImageMagick on Mac OS X

In order to build ImageMagick, you must first build each of the five delegates, build ImageMagick itself, and then rebuild the Lasso module which implements the image tags. You must have the Mac OS X Developer Tools installed in order to build ImageMagick. You can find these on the Mac OS X install DVD or download them from Apple by signing up for a free developer license.

http://developer.apple.com/

Building Delegates

1   Download the source archives from the links in the table above.

2   Create a Builds folder on your desktop and decompress each archive into it. The folder should contain the following five folders.

```
libpng-1.2.14
freetype-2.1.10
jpeg-6b
tiff-3.8.2
jasper-1.701.0
```

3   Open the Mac OS X Terminal application from the Utilities folder.

4   Execute the following commands to build the delegates. Note that the folder names may vary depending on the versions of the delegates which you have downloaded.

```
# Build libpng
cd ~/Desktop/Builds/libpng-1.2.14
make clean
./configure CPPFLAGS=-I/LassoImageMagick.6/include LDFLAGS=-L/LassoImageMagick.6/lib \
    --prefix=/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install

# Build libfreetype
cd ~/Desktop/Builds/freetype-2.1.10
make clean
./configure CPPFLAGS=-I/LassoImageMagick.6/include LDFLAGS=-L/LassoImageMagick.6/lib \
    --prefix=/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install
```

```
cd /LassoImageMagick.6/include
sudo ln -s freetype2/freetype

# Build libjpeg
cd ~/Desktop/Builds/jpeg-6b
make clean
cp /usr/share/libtool/config.sub .
cp /usr/share/libtool/config.guess .
sudo mkdir /LassoImageMagick.6/man/man1
./configure CPPFLAGS=-I/LassoImageMagick.6/include LDFLAGS=-L/LassoImageMagick.6/lib \
    --prefix=/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install

# Build libtiff
cd ~/Desktop/Builds/tiff-3.8.2
make clean
./configure CPPFLAGS=-I/LassoImageMagick.6/include LDFLAGS=-L/LassoImageMagick.6/lib \
    --prefix=/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install

# Build libjasper
cd ~/Desktop/Builds/jasper-1.701.0
make clean
./configure CPPFLAGS=-I/LassoImageMagick.6/include LDFLAGS=-L/LassoImageMagick.6/lib \
    --prefix=/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
sudo make install
make
```

Building ImageMagick

Download ImageMagick and decompress it into the Builds directory. Follow these instructions to build ImageMagick:

1   Open the Mac OS X Terminal application from the Utilities folder.

2   Execute the following command in the Terminal to open magick-config.h in a text editor. These commands will open the file in BBEdit, but any text editor can be used.

```
cd ~/Desktop/Builds/ImageMagick-6.3.1/magick/
bbedit magick-config.h
```

Make sure that WORDS_BIGENDIAN is defined as 0 and save the file.

3   Execute the following commands in the Terminal:

```
cd ~/Desktop/Builds/ImageMagick-6.3.1/
./configure CPPFLAGS=-I/LassoImageMagick.6/include LDFLAGS="-L/LassoImageMagick.6/lib" \
    --prefix=/LassoImageMagick.6 --enable-shared --disable-dependency-tracking \
    --x-libraries=/Developer/SDKs/MacOSX10.4u.sdk/usr/X11R6/lib --with-jpeg=yes \
    --with-tiff=yes --with-freetype=yes --with-png=yes --with-jasper=yes
make
sudo make install
```

Congratulations! You have successfully built ImageMagick and the required delegates for Mac OS X.

Building the ImageTag Module

Now that the ImageMagick and its delegates have been compiled, the ImageTag modules must be built. To create the module:

1 Open the Mac OS X Terminal application from the Utilities folder.

2 Execute the following commands in the Terminal:

```
cd /Applications/Lasso\ Professional\ 8/Documentation/3\ -\ Language\ Guide/Examples/LCAPI/Tags/ImageTag
make
```

3 When it finishes compiling, move the ImageTag.dylib to the LassoModules directory in the Finder or with this command:

```
mv ImageTag.dylib /Applications/Lasso\ Professional\ 8/LassoModules/`
```

4 Restart Lasso Service.

Building ImageMagick on Windows

To build ImageMagick on Windows, a current version of Microsoft Visual Studio is required. Building ImageMagick for use with Lasso requires two steps. First, ImageMagick itself must be built. Then, the Lasso Module which implements the image tags must be built. Finally, ImageMagick and the new Lasso Module must be installed.

Download the latest zipped version of ImageMagick from the link provided in the table above. The Visual Studio project contains all the required delegates, so there is no need to download the individual libraries. Detailed instructions for building ImageMagick on Windows can be found here:

```
http://www.imagemagick.com/www/install-source.html#windows
```

Or, follow these steps:

1 Create an ImageMagick folder on the C drive.

```
C:\ImageMagick
```

2 Within that folder, create the following two folders:

```
bin
Source
```

3 Unzip the ImageMagick source into the C:\ImageMagick\Source folder.

4 Rename folder to ImageMagick.

5 Open Visual Studio.

6 Select "Open Project" and open the following file:

```
C:\ImageMagick\Source\ImageMagick-6.3.1\VisualMagick\configure\configure.sln
```

7 Select Build -> Build Solution

8 Run the following program:

```
C:\ImageMagick\Source\ImageMagick-6.3.1\VisualMagick\configure\configure.exe
```

9 Select "Dynamic Multi-threaded DLL runtimes" and hit "Next".

10 Change the "Exe and DLL directory" to the following:

```
C:\ImageMagick\bin\
```

11 Change "Library Directory" to the following:

```
C:\ImageMagick\lib
```

12 Click "Finish".

13 Close the solution.

14   Open the following project:

> C:\ImageMagick\Source\ImageMagick-6.3.1\VisualMagick\VisualStaticMT.sln

15   Make sure that project is set to build "Release"

16   Select Build > Build Solution

17   Close the solution

Congratulations! You have successfully built ImageMagick and the required delegates for Windows.

Building the ImageTag Module

Once ImageMagick and its delegates have been successfully compiled, the ImageTag module can be compiled. Building the module on Windows also requires Visual Studio. To build the module:

1   Navigate to the following directory:

> C:\Program Files\OmniPilot Software\Lasso Professional 8\Documentation\3 – Language Guide\Examples\LCAPI\Tags\ ImageTag

2   Open the following project:

> ImageMagick.vcproj

3   Set the build type to "Release".

4   Select: Project -> Properties.

5   Select C/C++ -> General.

6   Edit "Additional Include Directories".

7   Change "../../LassoService.8/" to "../../LCAPI" and "../../../iconv/include" to "../../LCAPI/iconv/include"

8   Hit "OK "then hit "Apply".

9   Select Linker->General

10   Edit "Additional Library Directories"

11   Change "../../LassoService.8/Release" to "../../LCAPI"

12   Select Build -> Build Solution

13   Close the solution

Installing ImageMagick and the ImageTag Module

1   Copy the contents of the "C:\ImageMagick\bin" folder directly into the Lasso Professional application folder. The contents consists of several dozen files.

> C:\Program Files\OmniPilot Software\Lasso Professional 8\

2   Copy the ImageTag.dll module from the following location:

> C:\Program Files\OmniPilot Software\Lasso Professional 8\Documentation\3 – Language Guide\LCAPI\LassoModules\

> Into the LassoModules folder:

> C:\Program Files\OmniPilot Software\Lasso Professional 8\LassoModules\

3   Restart Lasso Service using the Services control panel.

Building ImageMagick on Linux

In order to build ImageMagick, you must first build each of the five delegates, build ImageMagick itself, and then rebuild the Lasso module which implements the image tags.

Building Delegates

1 Download the source archives from the links in the table above.

2 Create a Builds folder on your desktop and decompress each archive into it. The folder should contain the following five folders.

```
libpng-1.2.14
freetype-2.1.10
jpeg-6b
tiff-3.8.2
jasper-1.701.0
```

To configure ImageMagick with X11 support, you will need to install the xorg-x11-devel rpm, which also requires the fontconfig-devel and freetype-devel rpms.

3 Open a Terminal window.

4 Execute the following commands to build the delegates. Note that the folder names may vary depending on the versions of the delegates which you have downloaded.

```
# Build libpng
cd ~/Desktop/Builds/libpng-1.2.14
make clean
./configure CPPFLAGS=-I/usr/local/LassoImageMagick.6/include LDFLAGS=-L/usr/local/LassoImageMagick.6/lib \
    --prefix=/usr/local/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install

# Build libfreetype
cd ~/Desktop/Builds/freetype-2.1.10
make clean
./configure CPPFLAGS=-I/usr/local/LassoImageMagick.6/include LDFLAGS=-L/usr/local/LassoImageMagick.6/lib \
    --prefix=/usr/local/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install

cd /usr/local/LassoImageMagick.6/include
sudo ln -s freetype2/freetype

# Build libjpeg
cd ~/Desktop/Builds/jpeg-6b
make clean
sudo mkdir /LassoImageMagick.6/man/man1
./configure CPPFLAGS=-I/usr/local/LassoImageMagick.6/include LDFLAGS=-L/usr/local/LassoImageMagick.6/lib \
    --prefix=/usr/local/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install

# Build libtiff
cd ~/Desktop/Builds/tiff-3.8.2
make clean
./configure CPPFLAGS=-I/usr/local/LassoImageMagick.6/include LDFLAGS=-L/usr/local/LassoImageMagick.6/lib \
    --prefix=/usr/local/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
make
sudo make install
```

```
# Build libjasper
cd ~/Desktop/Builds/jasper-1.701.0/
make clean
./configure CPPFLAGS=-I/usr/local/LassoImageMagick.6/include LDFLAGS=-L/usr/local/LassoImageMagick.6/lib \
    --prefix=/usr/local/LassoImageMagick.6 --enable-shared --disable-dependency-tracking
sudo make install
make
```

Building ImageMagick

Download ImageMagick and decompress it into the Builds directory. Follow these instructions to build ImageMagick:

1 Open the Mac OS X Terminal application from the Utilities folder.

2 Execute the following command in the Terminal to open magick-config.h in a text editor. These commands will open the file in pico, but any text editor can be used.

```
cd ~/Desktop/Builds/ImageMagick-6.3.1/magick/
pico magick-config.h
```

Make sure that WORDS_BIGENDIAN is defined as 0 and save the file.

3 Execute the following commands in the Terminal:

```
cd ~/Desktop/Builds/ImageMagick-6.3.1/
make clean
./configure CPPFLAGS=-I/usr/local/LassoImageMagick.6/include LDFLAGS=-L/usr/local/LassoImageMagick.6/lib \
    --prefix=/usr/local/LassoImageMagick.6 --enable-shared --disable-dependency-tracking \
    --with-jpeg=yes --with-tiff=yes --with-freetype=yes --with-png=yes --with-jasper=yes
make
sudo make install
```

Congratulations! You have successfully built ImageMagick and the required delegates for Red Hat Linux.

Building the ImageTag Module

Now that the ImageMagick and its delegates have been compiled, the ImageTag modules must be built. To create the module:

1 Open a Terminal window.

2 Execute the following commands in the Terminal:

```
cd /usr/local/Lasso\ Professional\ 8/Documentation/3\ -\ Language\ Guide/Examples/LCAPI/Tags/ImageTag
make
```

3 When it finishes compiling, move the ImageTag.dylib to the LassoModules directory with this command:

```
mv ImageTag.dylib /usr/local/Lasso\ Professional\ 8/LassoModules/`
```

4 Restart Lasso Service.