Previous: Build Tools, Up: Build Dependencies   [Contents][Index]

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G.1.3 External Packages

The following external packages are required:

BLAS

> Basic Linear Algebra Subroutine library (http://www.netlib.org/blas). Accelerated BLAS libraries such as ATLAS (http://math-atlas.sourceforge.net) are recommeded for better performance.

LAPACK

> Linear Algebra Package (http://www.netlib.org/lapack).

PCRE

> The Perl Compatible Regular Expression library (http://www.pcre.org).

The following external package is optional but strongly recommended:

GNU Readline

> Command-line editing library (www.gnu.org/s/readline).

If you wish to build Octave without GNU readline installed, you must use the `--disable-readline` option when running the configure script.

The following external software packages are optional but recommended:

ARPACK

> Library for the solution of large-scale eigenvalue problems (http://forge.scilab.org/index.php/p/arpack-ng). ARPACK is required to provide the functions `eigs` and `svds`.

cURL

> Library for transferring data with URL syntax (http://curl.haxx.se). cURL is required to provide the `urlread` and `urlwrite` functions and the `ftp` class.

FFTW3

> Library for computing discrete Fourier transforms (http://www.fftw.org). FFTW3 is used to provide better performance for functions that compute discrete Fourier transforms (`fft`, `ifft`, `fft2`, etc.)

FLTK

> Portable GUI toolkit (http://www.fltk.org). FLTK is currently used to provide windows for Octave's OpenGL-based graphics functions.

fontconfig

> Library for configuring and customizing font access (http://www.freedesktop.org/wiki/Software/fontconfig). Fontconfig is used to manage fonts for Octave's OpenGL-based graphics functions.

FreeType

> Portable font engine (http://www.freetype.org). FreeType is used to perform font rendering for Octave's OpenGL-based graphics functions.

GLPK

GNU Linear Programming Kit (http://www.gnu.org/software/glpk). GPLK is required for the function `glpk`.

gl2ps

OpenGL to PostScript printing library (http://www.geuz.org/gl2ps/). gl2ps is required for printing when using the FLTK toolkit.

gnuplot

Interactive graphics program (http://www.gnuplot.info). gnuplot is currently the default graphics renderer for Octave.

GraphicsMagick++

Image processing library (http://www.graphicsmagick.org). GraphicsMagick++ is used to provide the `imread` and `imwrite` functions.

HDF5

Library for manipulating portable data files (http://www.hdfgroup.org/HDF5). `HDF5` is required for Octave's `load` and `save` commands to read and write HDF data files.

LLVM

Compiler framework, (http://www.llvm.org). LLVM is required for Octave's experimental just-in-time (JIT) compilation for speeding up the interpreter.

OpenGL

API for portable 2-D and 3-D graphics (http://www.opengl.org). An OpenGL implementation is required to provide Octave's OpenGL-based graphics functions. Octave's OpenGL-based graphics functions usually outperform the gnuplot-based graphics functions because plot data can be rendered directly instead of sending data and commands to gnuplot for interpretation and rendering.

Qhull

Computational geometry library (http://www.qhull.org). Qhull is required to provide the functions `convhull`, `convhulln`, `delaunay`, `delaunay3`, `delaunayn`, `voronoi`, and `voronoin`.

QRUPDATE

QR factorization updating library (http://sourceforge.net/projects/qrupdate). QRUPDATE is used to provide improved performance for the functions `qrdelete`, `qrinsert`, `qrshift`, and `qrupdate`.

QScintilla

Source code highlighter and manipulator; a Qt port of Scintilla (http://www.riverbankcomputing.co.uk/software/qscintilla). QScintilla is used for syntax highlighting and code completion in the GUI.

Qt

GUI and utility libraries (). Qt is required for building the GUI. It is a large framework, but the only components required are the GUI, core, and network modules.

SuiteSparse

Sparse matrix factorization library (http://www.cise.ufl.edu/research/sparse/SuiteSparse). SuiteSparse is required to provide sparse matrix factorizations and solution of linear equations for sparse systems.

zlib

Data compression library (http://zlib.net). The zlib library is required for Octave's `load` and `save` commands to handle compressed data, including `MATLAB` v5 MAT files.

Previous: Build Tools, Up: Build Dependencies   [Contents][Index]