

# Cook

## A File Construction Tool

# Reference Manual

Peter Miller  
*[pmiller@opensource.org.au](mailto:pmiller@opensource.org.au)*

This document describes Cook version 2.34  
and was prepared 25 July 2019.

This document describing the Cook program, and the Cook program itself, are  
Copyright © 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999,  
2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 Peter Miller

This program is free software; you can redistribute it and/or modify it under the terms of  
the GNU General Public License as published by the Free Software Foundation; either  
version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY  
WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS  
FOR A PARTICULAR PURPOSE. See the GNU General Public License for more  
details.

You should have received a copy of the GNU General Public License along with this  
program. If not, see <<http://www.gnu.org/licenses/>>. *cook* – a file construction tool The  
*cook* program is a tool for constructing files, and maintaining referential integrity  
between files. It is given a set of files to create, and recipes of how to create and maintain  
them. In any non-trivial program there will be prerequisites to performing the actions  
necessary to creating any file, such as include files. The *cook* program provides a  
mechanism to define these. When a program is being developed or maintained, the  
programmer will typically change one file of several which comprise the program. The  
*cook* program examines the last-modified times of the files to see when the prerequisites  
of a file have changed, implying that the file needs to be recreated as it is logically out of  
date. The *cook* program also provides a facility for implicit recipes, allowing users to  
specify how to form a file with a given suffix from a file with a different suffix. For  
example, to create *filename.o* from *filename.c*

- Cook is a replacement for the traditional *make(1)* tool.
  - Cook is more powerful than the traditional *make* tool.
  - Cook has true variables, not simple macros.
  - Cook has user defined functions.
  - Cook can build in parallel.
  - Cook can distribute builds across your LAN.
  - Cook is able to use fingerprints to supplement file modification times. This allows build optimization without contorted rules.
  - In addition to walking the dependency graph, Cook can turn the input rules into a shell script, or a web page.
  - Cook runs on almost any flavor of UNIX. The source distribution is self configuring using a GNU Autoconf generated configure script.
- If you are putting together a source-code distribution and planning to write a makefile, consider writing a cookbook instead. Although Cook takes a day or two to learn, it is much more powerful and a bit more intuitive than the traditional *make(1)* tool. And Cook doesn't interpret tab differently to 8 space characters!
- The latest version of *cook* is available on the Web from:
- There is a *make2cook* utility included in the distribution to help convert makefiles into cookbooks.
  - Cook has a simple but powerful string-based description language with many built-in functions. This allows sophisticated filename specification and manipulation without loss of readability or performance.
  - Cook is able to build your project with multiple parallel threads, with support for rules which must be single threaded. It is possible to distribute parallel builds over your LAN, allowing you to turn your network into a virtual parallel build engine.
  - Cook can be configured with an explicit list of primary source files. This allow the dependency graph to be constructed faster by not going down dead ends, and also allows better error messages when the graph can't be constructed. This requires an accurate source file manifest.
  - Cook has special *cascade* dependencies, allowing powerful include dependency specification, amongst other things.

*REFERENCES*