

## Xref Mode support 🚧

Language	etags	GNU Global gtags with ggtags	Universal CTags	rtags for C/C++ only	Notes	Best choice
Ada	Yes		Yes			
assembler	Yes	Yes	Yes			
autoconf	No		Yes			
automake	No		Yes			
Awk	No	via CTags	Yes			
Basic	No		Yes			
Batch	No	via CTags	Yes			
C	Yes	Yes	Yes	Yes	<ul style="list-style-type: none"><li>etags — declarations create tags for declarations</li></ul>	
C++	Yes	via CTags	Yes	Yes	<ul style="list-style-type: none"><li>etags -Q support class qualification</li><li>etags — declarations create tags for declarations</li></ul>	
C#	Yes	via CTags	Yes			
Clojure	No		Yes			
CMake	No		Yes			
Cobol	Yes	via CTags	Yes			
Common Lisp	Yes	via CTags	Yes			
D	No		Yes			
Eiffel	No		Yes			
Elixir	No		Yes			
Elm	No		Yes			
Emacs Lisp	Yes	via CTags	Yes		<ul style="list-style-type: none"><li>etags supports Emacs Lisp and C, the 2 programming languages used by Emacs.</li><li>creates a TAGS file</li><li>etags can create a TAGS file for files in several directory trees, with files in .gz files.</li><li>tools:<ul style="list-style-type: none"><li><b>etags-el</b>: create TAGS file for 1 directory</li></ul></li></ul>	etags
Erlang	Yes	via CTags	Yes		<ul style="list-style-type: none"><li>etags and ctags produce the same results.</li><li>PEL provides the <b>etags-erl</b> script that supports both but uses etags by default. It also creates tags for Erlang and C files.</li></ul>	<ul style="list-style-type: none"><li>etags comes with Emacs and does not require extra installation of Universal CTags. It's easy to use.</li><li>gtags/global create larger files but provide more features if you are willing to learn global command line.</li></ul>
Falcon	No		Yes			
Flex	No		Yes			
Forth	Yes		No			
Fortran	Yes	via CTags	Yes			
Fypp	No		Yes			
go	Yes		Yes			
Haskell	No		No			
Java	Yes	Yes	Yes		<ul style="list-style-type: none"><li>etags -Q support class qualification</li><li>etags — declarations create tags for declarations</li></ul>	
Javascript	No	via CTags	Yes			
LaTeX	Yes		No			
LFE	No		No			
lua	Yes	via CTags	Yes			
makefile	Yes		Yes			
Matlab	No	via CTags	Yes			
Nim	No		No			
Objective C	Yes		Yes		<ul style="list-style-type: none"><li>etags -Q support class qualification</li><li>etags — declarations create tags for declarations</li></ul>	
OCaml	No	via CTags	Yes			
Pascal	Yes	via CTags	Yes			
Perl	Yes		Yes			
php	Yes		Yes			
Postscript	Yes		No			
proc	Yes		No			
Prolog	Yes		No			
Python	Yes	via CTags	Yes			
R	No		Yes			
REXX	No		Yes			
Ruby	Yes	via CTags	Yes			
Rust	No		Yes			
Scheme	Yes	via CTags	Yes			
SQL	No		Yes			
TCL	No	via CTags	Yes			
Tex	Yes		Yes			
Texinfo	Yes		?			

Language	etags	GNU Global gtags with ggtags	Universal Ctags	rtags for C/C++ only	Notes	Best choice
V	No		No			
Verilog	No	via CTags	Yes			
VHDL	No	via CTags	Yes			
yacc	Yes	Yes	Yes			

### Integration with Language Specific Tools

Tool	Programming Language	xref	auto-complete	company	flycheck	flymake	ivy	helm
rtags	C, C++	Yes	Yes	Yes	Yes	No	Yes	Yes
hashtags	Haskell							
fast-tags	Haskell							

### PEL script Tools to help with tag creation programs

Tool	PEL Tool	Description
GNU Global gtags with ggtags	envfor-gtags	<p>A shell script that must be sourced: add an alias to turn this into a shell command. I call the alias: <i>use-gtags</i></p> <ul style="list-style-type: none"> <li>It sets up environment variables required by gtags. <ul style="list-style-type: none"> <li>You will have to update it to conform to your environment.</li> </ul> </li> <li>Run it before issuing the gtags command to create the Global tag files.</li> </ul> <p>👉</p> <p>Unlike etags/ctags, gtags creates 3 files that can then be used on the command line by the <b>global command line tool</b> which provides a large set of searching capabilities. Inside Emacs the Global database is accessed via the ggtags Emacs external package. But you can also learn global command line and use it from the command line to perform more complex operations.</p> <ul style="list-style-type: none"> <li>From within Emacs access global man page with <code>&lt;f11&gt; ? m global RET</code></li> </ul>
etags	etags-c	<p>Build a etags TAGS file for C source code files.</p> <ul style="list-style-type: none"> <li>Type it without arguments to get help.</li> </ul>
	etags-cpp	<p>Build a etags TAGS file for C++ source code files.</p> <ul style="list-style-type: none"> <li>Type it without arguments to get help.</li> </ul>
	etags-el	<p>Build a etags TAGS file for Emacs Lisp source code files.</p> <ul style="list-style-type: none"> <li>Type it without arguments to get help.</li> </ul>
	etags-erl	<p>Build a etags TAGS file for Erlang source code files.</p> <ul style="list-style-type: none"> <li>Type it without arguments to get help.</li> </ul>
	etags-lisp	<p>Build a etags TAGS file for Common Lisp source code files.</p> <ul style="list-style-type: none"> <li>Type it without arguments to get help.</li> </ul>
	etags-py	<p>Build a etags TAGS file for Python source code files.</p> <ul style="list-style-type: none"> <li>Type it without arguments to get help.</li> </ul>
Universal Ctags		<p>The above etags-XX commands also support the Universal CTags.</p> <ul style="list-style-type: none"> <li>To use them with Universal CTags set the <b>ETAGS_USE_UCTAGS</b> environment variable in the shell before running the etags-XX command.</li> <li>For shells that support ability to set the environment variable for the duration of the next command you can issue the command like this at the root of a Python source code directory tree:</li> </ul> <p><b>ETAGS_USE_UCTAGS=1 etags-py .</b></p>

### xref-backend-functions

		local	Global	
C	c-mode		<ul style="list-style-type: none"> <li>etags--xref-backend</li> </ul>	With nothing activated
			<ul style="list-style-type: none"> <li>dumb-jump-xref-activate</li> <li>etags--xref-backend</li> </ul>	With pel-use-dumb-jump = t
		<ul style="list-style-type: none"> <li>ggtags--xref-backend</li> <li>t</li> </ul>	<ul style="list-style-type: none"> <li>etags--xref-backend</li> </ul>	with ggtags-mode active in buffer
Python			<ul style="list-style-type: none"> <li>etags--xref-backend</li> </ul>	With nothing activated
		<ul style="list-style-type: none"> <li>ggtags--xref-backend</li> <li>t</li> </ul>	<ul style="list-style-type: none"> <li>etags--xref-backend</li> </ul>	with ggtags-mode active in buffer
Erlang		<ul style="list-style-type: none"> <li>erlang-etags--xref-backend</li> <li>t</li> </ul>	etags--xref-backend	With nothing activated
		<ul style="list-style-type: none"> <li>ggtags--xref-backend</li> <li>erlang-etags--xref-backend</li> <li>t</li> </ul>		with ggtags-mode active in buffer. Tested a little on jabbed source, but could not get many hits.
Rust	rust-mode		etags--xref-backend	With nothing activated

		local	Global	
		<ul style="list-style-type: none"> <li>ggtags--xref-backend</li> <li>t</li> </ul>	etags--xref-backend	with ggtags-mode active in buffer
Javascript	js-mode		etags--xref-backend	With nothing activated
				with ggtags-mode active in buffer

GGTags Programming Language Support

Language	Modules	Types	Classes	Functions/Macros	Symbols		
C	<ul style="list-style-type: none"> <li>Header files:</li> </ul>			<ul style="list-style-type: none"> <li>functions: yes</li> <li>pre-processor macros: yes</li> </ul>	<ul style="list-style-type: none"> <li>pre-processor symbols:</li> </ul>		
C++							
Erlang							