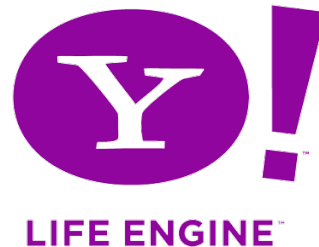


VIM for (PHP) Programmers

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- ~ vim is incredibly powerful
- ~ but you have to speak its language
- ~ and it will do everything you can imagine
- ~ languages in general are messy, ambiguous, and hard
- ~ yet fantastically brilliant, for they allow us to communicate

- ~ learn how to get help effectively
- ~ `:help` is your friend
- ~ use `CTRL-V` before a `CTRL` sequence command
- ~ use `i_` and `v_` prefixes to get help for `CTRL` sequences in `Insert` and `Visual` modes
- ~ use `CTRL-]` (jump to tag) and `CTRL-T` (go back) in help window

- ~ how well do you know vim's language?
- ~ what is the alphabet?
- ~ look at your keyboard
- ~ can you name what every key does?
- ~ modes - what are they?
- ~ how many do you know?
- ~ how many do you use?

if you don't like the language, change it

example: how do you quit vim quickly?

`ZZ` (exit with saving)

`ZQ` (exit without save)

or

```
:nmap ,w :x<CR>
```

```
:nmap ,q :q!<CR>
```

tip: set `showcmd` to see partial commands as you type them

where am i?

How do you tell where you are?

- ~ simple - `CTRL-G`
- ~ detailed - `gCTRL-G`
- ~ do yourself a favor and `set ruler`
- ~ shows line, column, and percentage in status line
- ~ or configure it however you want with `'rulerformat'`

- ~ do you use **h/j/k/l** for moving?
- ~ or are you stuck in GUI arrowy world?
- ~ if you are, re-learn
- ~ save yourself countless miles of movement between home row and arrows

How do you move to:

- ~ start/end of buffer? `gg` and `G`
- ~ line `n`? `nG` or `ngg`
- ~ `n%` into the file? `n%`
- ~ the first non-blank character in the line? `^`
- ~ first non-blank character on next line? `<CR>`
- ~ first non-blank character on previous line? `-`

marks

- ~ we can bookmark locations in the buffer
- ~ `m<letter>` sets mark named `<letter>` at current location
- ~ ``<letter>` jumps precisely to that mark
- ~ `'<letter>` jumps to the line with the mark
- ~ lowercase letter: mark is local to the buffer
- ~ uppercase letter: mark is global, your buffer will be switched to the file with the mark
- ~ `:marks` shows you your current marks

- ~ marks are very handy for changing text
- ~ set a mark (let's say **ma**)
- ~ then you can do:
 - ~ **c`a** - change text from cursor to mark **a**
 - ~ **d`a** - delete text from cursor to mark **a**
 - ~ **= 'a** - reformat lines from current one to the one with mark **a**

- ~ let's say you jump somewhere
- ~ how do you go back?
- ~ ``` moves you between the last two locations
- ~ you can set ``` (the context mark) explicitly:
 - ~ `m``, jump elsewhere, then come back with ```

tip: `CTRL-O` and `CTRL-I` move between positions in the full jump history, but can't be used as motions

`' .` and `` .` - jump to the line or exact location of the last modification

insert

- ~ how many ways do you know of entering Insert mode?
- ~ Let's see: **i I a A o O s S c C**
- ~ Add **r R** for good measure
- ~ And that's just single letter ones

~ Chuck Norris has counted to infinity. Twice. ~

insert

- ~ `gi` - incredibly handy
- ~ goes to `Insert` mode where you left it last time
- ~ scenario: edit something, exit `Insert`, go look at something else, then `gi` back to restart editing

Some more goodies:

- ~ **CTRL-Y** and **CTRL-E** (avoid work if you can)
 - ~ inserts chars from above or below the cursor
- ~ **CTRL-A** (oops, i want to do that again)
 - ~ inserts previously inserted text
- ~ **CTRL-R=<expr>** (built-in calculator)
 - ~ inserts anything vim can calculate
- ~ **CTRL-T** and **CTRL-D** (tab and de-tab)
 - ~ inserts or deletes one shiftwidth of indent at the start of the line

set your `<Backspace>` free

```
:set backspace=start,indent,eol
```

lets you backspace past the start of edit, auto-indenting, and even start of the line

- ~ searching is essential
- ~ movement and information
- ~ how do you search?
- ~ f / F / t / T anyone?
- ~ how about * and #?

Search within the line:

- ~ **f/F<char>** jumps to the first **<char>** to the right/left and places cursor on it
- ~ **t/T<char>** jumps does the same, but stops one character short of it
- ~ **df;** - delete text from cursor to the first **;** to the right
- ~ **cT\$** - change text from cursor up to the first **\$** to the left

- ~ often you want to find other instances of word under the cursor
 - ~ `*/#` - find next/previous instance of whole word
 - ~ `g*/g#` - find next/previous instance of partial word
- ~ or find lines with a certain word:
 - ~ `[I` and `]I` - list lines with word under the cursor
 - ~ more convenient to use a mapping to jump to a line:

```
:map <F5> [I:let nr = input("Which one: ")  
<Bar>exe "normal " . nr . "[\t"<CR>
```

- ~ of course, there's always regexp search
- ~ `/<pattern>` - search forward for `<pattern>`
- ~ `?<pattern>` - search backward for `<pattern>`
- ~ `n` repeats the last search
- ~ `N` repeats it in the opposite direction
- ~ vim regexp language is too sophisticated to be covered here

~ Chuck Norris doesn't churn butter.

He roundhouse kicks the cows and the butter comes straight out. ~

Control your search options

- ~ `:set wrapscan` - to make search wrap around
- ~ `:set incsearch` - incremental search, `<Enter>` accepts, `<Esc>` cancels
- ~ `:set ignorecase` - case-insensitive search, or use this within the pattern:
 - ~ `\c` - force case-insensitive search
 - ~ `\C` - force case-sensitive search

- ~ remember that every search/jump can be used as a motion argument
- ~ `d/^#` - delete everything up to the next comment
- ~ `y/^class/;?function` - copy everything from current point to the first “function” before the first “class”

replace

- ~ `: [range]s /<pattern> /<replace> / {flags}`
is the substitute command
- ~ used mainly with range addresses
- ~ range addresses are very powerful (read the manual)
- ~ but who wants to count out lines and do something like `:-23, 'ts/foo/bar/`
- ~ in reality you almost always use a couple of shortcuts and **Visual** mode for the rest

replace.

- ~ useful range addresses:
 - ~ % - equal to 1, \$ (the entire file)
 - ~ . - current line
 - ~ /<pattern>/ or ?<pattern>? - line where <pattern> matches
- ~ :%s/foo/bar/ - replace first foo in each matching line with bar in the entire file
- ~ :., /<\ /body>/s,
,
, gc - fix br tags from current line until the one with </body> in it, asking for confirmation (c - 'cautious' mode)

replace.

- ~ **&** - repeat last substitution on current line
- ~ **: &&** - repeat it with the flags that were used
- ~ **g&** - repeat substitution globally, with flags

~ The opening scene of the movie "Saving Private Ryan" is loosely based on games of dodgeball Chuck Norris played in second grade. ~

text objects.

- ~ better know what they are
- ~ since they are fantastically handy
- ~ can be used after an operator or in **Visual** mode
- ~ come in “**inner**” and “**ambient**” flavors
- ~ inner ones always select less text than ambient ones

text objects

- ~ **aw**, **aW** - ambient word or WORD (see docs)
- ~ **iw**, **iW** - inner word or WORD (see docs)
- ~ **as**, **is** - ambient or inner sentence
- ~ **ap**, **ip** - ambient or inner paragraph
- ~ **a{**, **i{** - whole {...} block or text inside it
- ~ **a(**, **i(** - whole (..) block or just text inside it
- ~ **a<**, **i<** - whole <.> block or just text inside it

text objects

- ~ there are some cooler ones
- ~ `a'`, `i'` - single-quoted string or just the text inside
- ~ `a"`, `i"` - double-quoted string or just the text inside
 - ~ note that these are smart about escaped quotes inside strings
- ~ `at`, `it` - whole tag block or just text inside (HTML and XML tags)

text objects

examples:

das - delete the sentence, including whitespace after

ci(- change text inside (..) block

yat - copy the entire closest tag block the cursor is inside

gUi' - uppercase text inside the single-quoted string

vip - select the paragraph in Visual mode, without whitespace after

copy/delete/paste.

- ~ you should already know these
- ~ **y** - yank (copy), **d** - delete, **p** - paste after, **P** - paste before
- ~ **]p**, **]P** - paste after/before but adjust the indent
- ~ Useful mappings to paste *and* reformat/reindent
 - :nno`remap` <Esc>P P' [v']=**
 - :nno`remap` <Esc>p p' [v']=**

registers

- ~ registers: your multi-purpose clipboard
- ~ you use them without even knowing
- ~ every **y** or **d** command copies to a register
- ~ unnamed or named
- ~ "**<char>** before a copy/delete/paste specifies register named **<char>**

registers

- ~ copying to uppercase registers append to their contents
 - ~ useful for picking out bits from the buffers and pasting as a chunk
- ~ **wyy** - copy current line into register **w**
- ~ **WD** - cut the rest of the line and append it to the contents of register **W**
- ~ **wp** - paste the contents of register **w**
- ~ **CTRL-Rw** - insert the contents of register **w** (in Insert mode)

registers

~ there are some special registers

~ "0 - text from last copy command that didn't use a register

~ "1 - text from last delete command that didn't use a register
(and was longer than one line, "– is used then)

~ "2 through "9 - text from delete commands before last one

~ "." - last inserted text

~ "% - name of the current file

~ "_ - black hole register (using it does not affect other registers)

registers

- ~ you can record macros into registers
 - ~ `q<char>` - start recording typed text into register `<char>`
 - ~ next `q` stops recording
 - ~ `@<char>` executes macro `<char>`
 - ~ `@@` repeats last executed macro
- ~ use `:reg` to see what's in your registers

undo.

- ~ original vi had only one level of undo
- ~ yikes!
- ~ vim has unlimited (limited only by memory)
- ~ set `'undolevels'` to what you need (1000 default)

~ In an average living room there are 1,242 objects
Chuck Norris could use to kill you, including the room itself. ~

undo

- ~ simple case: **u** - undo, **CTRL-R** - redo
- ~ vim 7 introduces branched undo
- ~ if you undo something, and make a change, a new branch is created
- ~ **g-**, **g+** - go to older/newer text state (through branches)

- ~ you can travel through time
 - ~ **:earlier Ns,m,h** - go to text state as it was N seconds, minutes, hours ago
 - ~ **:later Ns,m,h** - go to a later text state similarly
- ~ **:earlier 10m** - go back 10 minutes, before I drank a can of Red Bull and made all these crazy changes. Whew.

visual mode

- ~ use it, it's much easier than remembering obscure range or motion commands
- ~ start selection with:
 - ~ **v** - characterwise,
 - ~ **V** - linewise
 - ~ **CTRL-V** - blockwise
- ~ use any motion command to change selection
- ~ can execute any normal or **:** command on the selection

visual mode

- ~ Visual block mode is awesome
- ~ especially for table-like text

tip: **o** switches cursor to the other corner, continue selection from there

- ~ Once you are in block mode:
 - ~ **I**<text><Esc> - insert <text> before block on every line
 - ~ **A**<text><Esc> - append <text> after block on every line
 - ~ **c**<text><Esc> - change every line in block to <text>
 - ~ **r**<char><Esc> - replace every character with <char>

windows

- ~ learn how to manipulate windows
- ~ learn how to move between them
- ~ **:new**, **:sp** should be at your fingertips
- ~ **CTRL-W** commands - learn essential ones for resizing and moving between windows

~ When Chuck Norris goes to donate blood, he declines the syringe,
and instead requests a hand gun and a bucket. ~

tab pages.

- ~ vim 7 supports tab pages
- ~ `:tabe <file>` to edit file in a new tab
- ~ `:tabc` to close
- ~ `:tabn`, `:tabp` (or `gt`, `gT` to switch)
- ~ probably want to map these for easier navigation (if `gt`, `gT` don't work for you)

completion

- ~ vim is very completion friendly
- ~ just use `<Tab>` on command line
 - ~ for filenames, set `'wildmenu'` and `'wildmode'` (I like `"list:longest,full"`)
 - ~ `:new ~/dev/fo<Tab>` - complete filename
 - ~ `:help 'comp<Tab>` - complete option name
 - ~ `:re<Tab>` - complete command
- ~ hit `<Tab>` again to cycle, `CTRL-N` for next match, `CTRL-P` for previous

completion

- ~ `CTRL-X` starts completion mode in Insert mode
- ~ follow with `CTRL-` combos (`:help ins-completion`)
- ~ i mostly use filename, identifier, and omni completion
- ~ when there are multiple matches, a nice completion windows pops up

completion

- ~ CTRL-X CTRL-F to complete filenames
- ~ CTRL-X CTRL-N to complete identifiers
- ~ hey, that's so useful I'll remap <Tab>

```
" Insert <Tab> or complete identifier
" if the cursor is after a keyword character
function MyTabOrComplete()
    let col = col('.')-1
    if !col || getline('.')[col-1] !~ '\k'
        return "\<tab>"
    else
        return "\<C-N>"
    endif
endfunction

inoremap <Tab> <C-R>=MyTabOrComplete(<><CR>
```

completion.

- ~ omni completion is heuristics-based
- ~ guesses what you want to complete
- ~ specific to the file type you're editing
- ~ more on it later

- ~ incredibly powerful
- ~ ...sometimes dangerous
- ~ ...almost always obscure
- ~ ...but consistently useful
- ~ teach vim your own lingo
- ~ `:help key-mapping`

maps

~ maps for every mode and then some

~ tired of changing text inside quotes?

```
:nmap X ci"
```

~ make vim more browser-like?

```
:nmap <Space> <PageDown>
```

~ insert your email quickly?

```
:imap ;EM me@mydomain.com
```

~ make `<Backspace>` act as `<Delete>` in Visual mode?

```
:vmap <BS> x
```

options.

- ~ vim has hundreds of options
- ~ learn to control the ones you need
- ~ `:options` lets you change options interactively
- ~ `:options | resize` is better (since there are so many)

~ Chuck Norris ordered a Big Mac at Burger King, and got one. ~

- ~ a session keeps the views for all windows, plus the global settings
- ~ you can save a session and when you restore it later, the window layout looks the same.
- ~ `:mksession <file>` to write out session to a file
- ~ `:source <file>` to load session from a file
- ~ `vim -S <file>` to start editing a session

miscellaneous

- ~ `gf` - go to file under cursor (`CTRL-W CTRL-F` for new window)
- ~ `:read` in contents of file or process
 - ~ `:read foo.txt` - read in `foo.txt`
 - ~ `:read !wc %:h` - run `wc` on current file and insert result into the text
- ~ filter text: `:%!sort`, `:%!grep`, or use `:!` in visual mode
 - ~ i like sorting lists like this: `vip:!sort`

miscellaneous

- ~ use command-line history
- ~ **:** and **/** followed by up/down arrows move through history
- ~ **:** and **/** followed by prefix and arrows restrict history to that prefix
- ~ **q:** and **q/** for editable history (**<Enter>** executes, **CTRL-C** copies to command line)

miscellaneous

- ~ **CTRL-A** and **CTRL-X** to increment/decrement numbers under the cursor (hex and octal too)
- ~ **ga** - what is this character under my cursor?
- ~ **:set number** to turn line numbers on
- ~ or use this to toggle line numbers:

```
:nmap <silent> <F6> set number!<CR>
```
- ~ **:set autowrite** - stop vim asking if you want to write the file before leaving buffer
- ~ **CTRL-E/CTRL-Y** - scroll window down/up without moving cursor

miscellaneous

- ~ `:set scrolloff=N` to start scrolling when cursor is `N` lines from the top/bottom edge
- ~ `:set updatecount=50` to write swap file to disk after 50 keystrokes
- ~ `:set showmatch matchtime=3` - when bracket is inserted, briefly jump to the matching one
- ~ in shell: `fc` invokes vim on last command, and runs it after vim exits (or `fc N` to edit command `N` in history)
- ~ `vimdiff` in shell (`:help vimdiff`)

miscellaneous

- ~ map **CTRL-L** to piece-wise copying of the line above the current one

```
imap <C-L> @@@<ESC>hhkywj1?@@@<CR>P/@@@<CR>3s
```

- ~ The show Survivor had the original premise of putting people on an island with Chuck Norris. There were no survivors and the pilot episode tape has been burned. ~

customization

- ~ customize vim by placing files in you `~/.vim` dir
- ~ filetype plugin on, filetype indent on

```
.vimrc - global settings
.vim/
  after/          - files that are loaded at the very end
    ftplugin/
    plugin/
    syntax/
    ...
  autoload/      - automatically loaded scripts
  colors/        - custom color schemes
  doc/           - plugin documentation
  ftdetect/      - filetype detection scripts
  ftplugin/      - filetype plugins
  indent/        - indent scripts
  plugin/        - plugins
  syntax/        - syntax scripts
```

php: linting.

- ~ vim supports arbitrary build/lint commands
- ~ if we set 'makeprg' and 'errorformat' appropriately..
 - `:set makeprg=php\ -l\ %`
 - `:set errorformat=%m\ in\ %f\ on\ line\ %l`
- ~ now we just type `:make` (and `<Enter>` a couple of times)
- ~ cursor jumps to line with syntax error

php: match pairs.

- ~ you should be familiar with `%` command (moves cursor to matching item)
- ~ used with `()`, `{}`, `[]`, etc
- ~ but can also be used to jump between PHP and HTML tags
- ~ use `matchit.vim` plugin
- ~ but `syntax/php.vim` has bugs and typos in the matching rule
- ~ i provide my own

php: block objects.

- ~ similar to vim's built-in objects
 - ~ **aP** - PHP block including tags
 - ~ **iP** - text inside PHP block

examples:

- ~ **vaP** - select current PHP block (with tags)
- ~ **ciP** - change text inside current PHP block
- ~ **yaP** - copy entire PHP block (with tags)
- ~ provided in my **.vim/ftplugin/php.vim** file

php: syntax options.

- ~ vim comes with a very capable syntax plugin for PHP
- ~ provides a number of options
 - ~ `let php_sql_query=1` to highlight SQL syntax in strings
 - ~ `let php_htmlInStrings=1` to highlight HTML in string
 - ~ `let php_noShortTags = 1` to disable short tags
 - ~ `let php_folding = 1` to enable folding for classes and functions

php: folding.

- ~ learn to control folding
 - ~ **zo** - open fold (if the cursor is on the fold line)
 - ~ **zc** - close closest fold
 - ~ **zR** - open all folds
 - ~ **zM** - close all folds
 - ~ **zj** - move to the start of the next fold
 - ~ **zk** - move to the end of the previous fold

php: tags.

- ~ for vim purposes, tags are PHP identifiers (classes, functions, constants)
- ~ you can quickly jump to the definition of each tag, if you have a **tags** file
- ~ install Exuberant Ctags
- ~ it can scan your scripts and output **tags** file, containing identifier info
- ~ currently does not support class membership info (outputs methods as functions)
- ~ have to apply a third-party patch to fix

php: tags.

- ~ use mapping to re-build tags file after editing

```
nmap <silent> <F4>  
  \ :!ctags-ex -f %:p:h/tags  
  \ --langmap="php:+.inc"  
  \ -h ".php.inc" -R --totals=yes  
  \ --tag-relative=yes --PHP-kinds="+cf-v %:p:h<CR>  
  
set tags=./tags,tags
```

- ~ all PHP files in current file's directory and under it recursively will be scanned

php: tags.

- ~ `CTRL-]` - jump to tag under cursor
- ~ `CTRL-W CTRL-]` - jump to tag in a new window
- ~ `:tag <ident>` - jump to an arbitrary tag
- ~ `:tag /<regexp>` - jump to or list tags matching `<regexp>`
- ~ if multiple matches - select one from a list
- ~ `:tselect <ident> or /<regexp>` - list tags instead of jumping
- ~ `CTRL-T` - return to where you were
- ~ See also [taglist.vim](#) plugin

php: completion

- ~ vim 7 introduces powerful heuristics-based **omni** completion
- ~ **CTRL-X CTRL-O** starts the completion (i map it to **CTRL-F**)
- ~ completes classes, variables, methods in a smart manner, based on context

php: completion

- ~ completes built-in functions too
- ~ function completion shows prototype preview
 - ~ `array_<CTRL-X><CTRL-O>` shows list of array functions
 - ~ select one from the list, and the prototype shows in a preview window
 - ~ `CTRL-W CTRL-Z` to close preview window

php: completion

- ~ switches to HTML/CSS/Javascript completion outside PHP blocks
- ~ see more:
 - ~ `:help ins-completion`
 - ~ `:help popupmenu-completion`
 - ~ `:help popupmenu-keys`

plugins.

- ~ vim can be infinitely customized and expanded via plugins
- ~ there are thousands already written
- ~ installation is very easy, usually just drop them into `.vim/plugin`
- ~ read instructions first though

- ~ makes it possible to read, write, and browse remote directories and files
- ~ i usually use it over ssh connections via scp
- ~ need to run ssh-agent to avoid continuous prompts for passphrase
- ~ don't use passphrase-less keys!
- ~ once set up:
 - ~ `vim scp://hostname/path/to/file`
 - ~ `:new scp://hostname/path/to/dir/`

NERDTree

- ~ similar to netrw browser but looks more like a hierarchical explorer
- ~ does not support remote file operations
 - ~ `:nmap <silent> <F7> :NERDTreeToggle<CR>`

~ James Cameron wanted Chuck Norris to play the Terminator. However, upon reflection, he realized that would have turned his movie into a documentary, so he went with Arnold Schwarzenegger. ~

- ~ provides an overview of the source code
- ~ provides quick access to classes, functions, constants
- ~ automatically updates window when switching buffers
- ~ can display prototype and scope of a tag
- ~ requires Exuberant Ctags

~ stick this in `~/.vim/after/plugin/general.vim`

```
let Tlist_Ctags_Cmd = "/usr/local/bin/ctags-ex"  
let Tlist_Inc_Winwidth = 1  
let Tlist_Exit_OnlyWindow = 1  
let Tlist_File_Fold_Auto_Close = 1  
let Tlist_Process_File_Always = 1  
let Tlist_Enable_Fold_Column = 0  
let tlist_php_settings = 'php;c:class;d:constant;f:function'  
if exists('loaded_taglist')  
    nmap <silent> <F8> :TlistToggle<CR>  
endif
```

snippetsEmu

- ~ emulates some of the functionality of TextMate snippets
- ~ supports many languages, including PHP/HTML/CSS/Javascript
- ~ by default binds to **<Tab>** but that's annoying
- ~ need to remap the key after it's loaded
- ~ put this in `~/.vim/after/plugin/general.vim`

```
if exists('loaded_snippet')
    imap <C-B> <Plug>Jumper
endif
inoremap <Tab> <C-R>=MyTabOrComplete()<CR>
```

php documentor

- ~ inserts PHP Documentor blocks automatically
- ~ works in single or multi-line mode
- ~ doesn't provide mappings by default
- ~ read documentation to set up default variables for copyright, package, etc
- ~ put this in `~/.vim/ftplugin/php.vim`

```
inoremap <buffer> <C-P> <Esc>:call PhpDocSingle()<CR>i
nnoremap <buffer> <C-P> :call PhpDocSingle()<CR>
vnoremap <buffer> <C-P> :call PhpDocRange()<CR>
let g:pdv_cfg_Uses = 1
```


xdebug/ger

- ~ allows debugging with xdebug through DBGp protocol
- ~ fairly basic, but does the job
- ~ vim needs to be compiled with **+python** feature
- ~ see resources section for documentation links

vcsc`command`

- ~ provides interface to CVS/SVN
- ~ install it, then `:help vcsccommand`

conclusion.

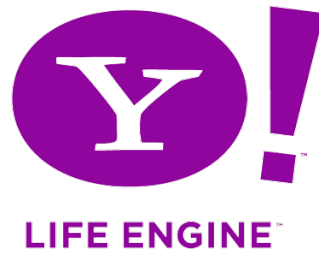
- ~ vim rules
- ~ this has been only a partial glimpse
- ~ from my very subjective point of view
- ~ don't be stuck in an editor rut
- ~ keep reading and trying things out

resources

- ~ vim tips: <http://www.vim.org/tips/>
- ~ vim scripts: <http://www.vim.org/scripts/index.php>
- ~ Exuberant Ctags: <http://ctags.sourceforge.net>
- ~ PHP patch for ctags: <http://www.live-emotion.com/memo/index.php?plugin=attach&refer=%CA%AA%C3%D6&openfile=ctags-5.6j-php.zip>
- ~ article on xdebug and vim: <http://2bits.com/articles/using-vim-and-xdebug-dbgp-for-debugging-drupal-or-any-php-application.html>
- ~ more cool plugins:
 - ~ Surround: http://www.vim.org/scripts/script.php?script_id=1697
 - ~ ShowMarks: http://www.vim.org/scripts/script.php?script_id=152
 - ~ Vim Outliner: http://www.vim.org/scripts/script.php?script_id=517
 - ~ Tetris: http://www.vim.org/scripts/script.php?script_id=172
- ~ Top 100 Chuck Norris Facts: http://reviews.ebay.com/Top-100-Chuck-Norris-Facts_W0QQugidZ10000000000690883

"As with everything, best not to
look too deeply into this."
— me, i think

Thank You!



<http://www.gravitonic.com/talks/>