

CWL - Common Workflow Language - Data Serialization Support

Operation	Keystroke	Function	Note																								
Editing CWL files		The CWL format is a subset of YAML . The external package cwl-mode provides a major mode for CWL files. The minor modes and commands that help manage YAML files also help manage CWL files. <ul style="list-style-type: none"> Aside from the first 2 key bindings listed to access help and customization buffers for YAML, the key bindings listed in this page and their related commands are also described in other PEL PDF pages. The links to these pages are on the first column. 																									
See also: YAML		<p> The cwl-mode external package provides a major mode support for CWL. PEL provides access to it when the <code>pel-use-cwl</code> user-option is turned on (set to t).</p> <ul style="list-style-type: none"> PEL associates the following file extensions with cwl-mode: <code>.cwl</code>. 																									
Last updated on:	2025-12-16																										
Open this PDF file. See also: Help/Info	<code><f11> SPC M-c <f1></code> <code><f12> <f1></code>	(pel-help-pdf &optional OPEN-WEB-PAGE)	Open the MCWL local PDF. If the prefix argument (like <code>C-u</code> or <code>M--</code>) is used, then it opens the remote GitHub hosted raw PDF instead. If the <code>pel-flip-help-pdf-arg</code> user-option is set it's the other way around.																								
Customize PEL CWL control	<code><f11> SPC M-c <f2></code> <code><f12> <f2></code>	(pel-customize-pel &optional OTHER-WINDOW)	Customize PEL CWL support. <ul style="list-style-type: none"> If OTHER-WINDOW is non-nil (use <code>C-u</code>), display in other window. 																								
Customize Emacs CWL control	<code><f11> SPC M-c <f3></code> <code><f12> <f3></code>	(pel-customize-library &optional OTHER-WINDOW)	Customize Emacs CWL support groups: yaml, fly check, indent-tools and smartparens <ul style="list-style-type: none"> If OTHER-WINDOW is non-nil (use <code>C-u</code>), display in other window. 																								
Flycheck		Flycheck is a minor mode for on-the-fly syntax checking. The flycheck external package is activated by PEL when the <code>pel-use-flycheck</code> user-option is turned on or another activated PEL user-option requires it. Aside from the following 2 key bindings that PEL provides to toggle the flycheck mode, flycheck key prefix is <code>C-c !</code> as set by its <code>flycheck-keymap-prefix</code> user-option. You can change it for a different key prefix.																									
See also: SyntaxCheck																											
Toggle flycheck mode for current buffer	<code><f11> ! !</code>	(<code>flycheck-mode</code> &optional ARG)	Toggle flycheck minor-mode for the current buffer.																								
Toggle flycheck mode for all buffers	<code><f11> ! M-!</code>	(<code>global-flycheck-mode</code> &optional ARG)	Toggle Flycheck mode in all buffers. <ul style="list-style-type: none"> Flycheck mode is enabled in all buffers where 'flycheck-mode-on-safe' would do it. 																								
• Flycheck buffer/file																											
Syntax Check current buffer	<code>c-c ! c</code>	(<code>flycheck-buffer</code>)	Start checking syntax in the current buffer. <ul style="list-style-type: none"> Get a syntax checker for the current buffer with 'flycheck-get-checker-for-buffer', and start it. 																								
Check syntax of current file	<code>c-c ! C-c</code>	(<code>flycheck-compile</code> CHECKER)	Run CHECKER via 'compile'. <ul style="list-style-type: none"> CHECKER must be a valid syntax checker. Interactively, prompt for a syntax checker to run. Instead of highlighting errors in the buffer, this command pops up a separate buffer with the entire output of the syntax checker tool, just like 'compile'. 																								
Highlight current column		The following command provide a vertical line across the entire window at the cursor location. <ul style="list-style-type: none"> Useful when creating tables or checking indentation manually. vline also provides the vline-global-mode to activate the vertical line in all buffers; PEL has no binding for it because it slows Emacs too much. 																									
Toggle Vline Mode See also: • Highlight • Hide/Show	<code><f11> h </code> <code><f11> 9</code>	(<code>vline-mode</code> &optional ARG)	Toggle the display of a vertical line spanning the entire window at the cursor column. Requires: vline.el PEL activates it when <code>pel-use-vline</code> user option is t.																								
Indented Text Folding		The following command folds (hide or show) all lines that are indented more than the current line. <ul style="list-style-type: none"> You can also use the <code>f</code> key inside the indent-tools Hydra, shown below, to fold indented sections. 																									
Toggle hiding lines more indented than current line See also: Hide/Show	<code><f11> H I</code>	(pel-toggle-hide-indent)	Toggle hiding lines more indented than current line. <ul style="list-style-type: none"> Affects the entire buffer. Not syntax sensitive. Can be used anywhere. Do not modify the buffer while lines are hidden, it's allowed but its using selective display and you don't see what you change.																								
Indent-tools		The indent-tools external package provides several commands to indent, un-indent and navigate across indented text levels. <ul style="list-style-type: none"> It provides a minor mode and a key <code>hydra</code> that provides all of these commands. 																									
		The indent-tools external package PEL activates it when the <code>pel-use-indent-tools</code> user-option is turned on (set to t). <ul style="list-style-type: none"> This also automatically activates the hydra external package. 																									
		PEL provide a global key binding to its key <code>hydra</code> and provides the ability to activate the proposed key binding globally and for python mode: <ul style="list-style-type: none"> <code>pel-indent-tools-key-bound</code> : activates the <code>C-c ></code> key binding either globally or for python-mode only. 																									
Open the indent-tools hydra See also: Indentation	<code><f11> <tab> <f7></code> <code><f7> <tab></code> <code>C-c ></code>	(<code>indent-tools-hydra/body</code>)	Activate the body in the "indent-tools-hydra" hydra. With PEL, this key binding is only available when: <ul style="list-style-type: none"> globally, when <code>pel-indent-tools-key-bound</code> is set to <code>globally</code>, in python-mode only when <code>pel-indent-tools-key-bound</code> is set to <code>python</code>. The actual key is selected by indent-tools <code>indent-tools-keymap-prefix</code> user-option, the default is <code>C-c ></code> 																								
The indent-tools hydra provide keys you can use to navigate across the indented CWL elements.		The heads for the associated hydra are: <ul style="list-style-type: none"> <code>>:</code> 'indent-tools-indent', <code><:</code> 'indent-tools-demote', <code>E:</code> 'indent-tools-indent-end-of-defun', <code>C:</code> 'indent-tools-comment', <code>U:</code> 'indent-tools-uncomment', <code>P:</code> 'indent-tools-indent-paraph', <code>I:</code> 'indent-tools-indent-end-of-level', <code>K:</code> 'indent-tools-kill-tree', <code>C:</code> 'indent-tools-copy-hydra/body', <code>S:</code> 'indent-tools-select', <code>e:</code> 'indent-tools-goto-end-of-tree', <code>u:</code> 'indent-tools-goto-parent', <code>d:</code> 'indent-tools-goto-child', <code>S:</code> 'indent-tools-select-end-of-tree', <code>n:</code> 'indent-tools-goto-next-sibling', <code>p:</code> 'indent-tools-goto-previous-sibling', <code>i:</code> 'helm-imenu', <code>j:</code> 'forward-line', <code>k:</code> 'previous-line', <code>SPC:</code> 'indent-tools-indent-space', <code>_:</code> 'undo-tree-undo', <code>L:</code> 'recenter-top-bottom', <code>f:</code> 'yaftolding-toggle-element', <code>q:</code> exit 	<table border="1"> <thead> <tr> <th>Indent</th> <th>Navigation</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td><code>> indent</code></td> <td><code>j v</code></td> <td><code>K kill</code></td> </tr> <tr> <td><code>< de-indent</code></td> <td><code>k A</code></td> <td><code>i imenu</code></td> </tr> <tr> <td><code>I end of level</code></td> <td><code>n next sibling</code></td> <td><code>C Copy...</code></td> </tr> <tr> <td><code>E end of fn</code></td> <td><code>p previous sibling</code></td> <td><code>c comment</code></td> </tr> <tr> <td><code>P paragraph</code></td> <td><code>u up parent</code></td> <td><code>U uncomment (paragraph)</code></td> </tr> <tr> <td><code>SPC space</code></td> <td><code>d down child</code></td> <td><code>f fold</code></td> </tr> <tr> <td><code>_ undo</code></td> <td><code>e end of tree</code></td> <td><code>q quit</code></td> </tr> </tbody> </table>	Indent	Navigation	Actions	<code>> indent</code>	<code>j v</code>	<code>K kill</code>	<code>< de-indent</code>	<code>k A</code>	<code>i imenu</code>	<code>I end of level</code>	<code>n next sibling</code>	<code>C Copy...</code>	<code>E end of fn</code>	<code>p previous sibling</code>	<code>c comment</code>	<code>P paragraph</code>	<code>u up parent</code>	<code>U uncomment (paragraph)</code>	<code>SPC space</code>	<code>d down child</code>	<code>f fold</code>	<code>_ undo</code>	<code>e end of tree</code>	<code>q quit</code>
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See also: Hide/Show			The <code>f</code> key toggles the element folding. Press once to hide the sub-tree, press-again to display it back.																								

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Smartparens Mode • Smartparens manual See also: Smartparens		Simplify insertion of matching pairs with the smartparens minor mode. PEL binds a set of keys, described below, to toggle activation of that mode.  This uses the smartparens external package.  PEL activates it when pel-use-smartparens is set to t . <ul style="list-style-type: none">• Smartparens enhances the behaviour of certain keys, namely those that are part of any pair or tag.• Mode line lighter: smartparens-mode: SP smartparens-strict-mode: SP/S	
Help on smartparens	<f11> (?	(sp-cheat-sheet &optional ARG)	Generate a cheat sheet of all the smartparens interactive functions. Shows inside Emacs buffer. <ul style="list-style-type: none">• Without a prefix argument, print only the short documentation and examples.• With non-nil prefix argument ARG, show the full documentation for each function.• You can follow the links to the function or variable help page.<ul style="list-style-type: none">• To get back to the full list, use M-x help-go-back.• You can use ‘beginning-of-defun’ and ‘end-of-defun’ to jump to the previous/next entry.• Examples are fortified using the ‘font-lock-string-face’ for better orientation.
Describe user system	<f11> (M-?	(sp-describe-system STARTERKIT)	Describe user’s system. Prompt for starter kit: Evil, Spacemacs, Vanilla. <ul style="list-style-type: none">• The output of this function can be used in bug reports.
Toggle smartparens mode	<f11> (((smartparens-mode &optional ARG)	Toggle smartparens mode.
Toggle smartparens-strict mode	<f11> ()	(smartparens-strict-mode &optional ARG)	Toggle the strict smartparens mode. <ul style="list-style-type: none">• When strict mode is active, ‘delete-char’, ‘kill-word’ and their backward variants will skip over the pair delimiters in order to keep the structure always valid (the same way as ‘paredit-mode’ does). This is accomplished by remapping them to ‘sp-delete-char’ and ‘sp-kill-word’. There is also function ‘sp-kill-symbol’ that deletes symbols instead of words, otherwise working exactly the same (it is not bound to any key by default).• When strict mode is active, this is indicated with “/s” after the smartparens indicator in the mode list
Toggle smartparens mode	<f11> (M-((smartparens-global-mode &optional ARG)	Toggle Smartparens mode in all buffers. <ul style="list-style-type: none">• With prefix ARG, enable Smartparens-Global mode if ARG is positive; otherwise, disable it.• Smartparens mode is enabled in all buffers where ‘turn-on-smartparens-mode’ would do it.
Toggle smartparens-strict mode	<f11> (M-)	(smartparens-global-strict-mode &optional ARG)	Toggle Smartparens-Strict mode in all buffers. <ul style="list-style-type: none">• With prefix ARG, enable Smartparens-Global-Strict mode if ARG is positive; otherwise, disable it.• Smartparens-Strict mode is enabled in all buffers where ‘turn-on-smartparens-strict-mode’ would do it.
Smart-shift	The smart-shift external package simplifies shifting a complete line or region of lines right or left but also up or down. <ul style="list-style-type: none">• It is implemented as a minor or global minor mode that must be enabled first. You can identify the smart-shift-mode inside one of the pel-<mode>-activates-minor-modes user-options to activate it automatically. You can also use the commands manually or through the key bindings provided by PEL to activate the smart-shift-mode in the current buffer or globally for all buffers.• PEL controls it through customization user-options:<ul style="list-style-type: none"> The smart-shift external package  PEL activates it when the pel-use-smart-shift user-option is turned on (set to t). PEL also provides the pel-smart-shift-keybinding user-option that allows you to select additional alternative key bindings for the smart-shift commands that shift line(s). By default the key bindings are using C-c as a key prefix. With PEL you can also use a control key for the cursor or change the prefix key to use the <f9> key. The 3 possible key bindings are shown below but only one of them will be available at any given time. The one available is the one selected by the user-option value.		
See also: Indentation			
Toggle smart-shift mode in current buffer	<f11> <tab> s	(smart-shift-mode &optional ARG)	Activate/de-activate the smart-shift mode in the current buffer. <ul style="list-style-type: none">• Activate the line-shift key bindings listed below, in the current buffer.<ul style="list-style-type: none">• With PEL, the actual key binding selected for the line shift commands depend on the value of the pel-smart-shift-keybinding user-option.
Toggle smart-shift mode globally	<f11> <tab> S	(global-smart-shift-mode &optional ARG)	<ul style="list-style-type: none">• Toggle Smart-Shift mode in all buffers.• With prefix ARG, enable Global Smart-Shift mode if ARG is positive; otherwise, disable it.• Smart-Shift mode is enabled in all buffers where ‘smart-shift-mode-on’ would do it.
Shift line or region right	<ul style="list-style-type: none">• C-c <right>• C-c C-<right>• <f9> <right>	(smart-shift-right &optional ARG)	Shift the line or region to the ARG times to the right.  With PEL one of the extra key bindings can be enabled via the pel-smart-shift-keybinding user-option. So unlike other cells only one of the last 2 key bindings is available in the smart-shift minor mode.
Shift line or region left	<ul style="list-style-type: none">• C-c <left>• C-c C-<left>• <f9> <left>	(smart-shift-left &optional ARG)	Shift the line or region to the ARG times to the left.  With PEL one of the extra key bindings can be enabled via the pel-smart-shift-keybinding user-option. So unlike other cells only one of the last 2 key bindings is available in the smart-shift minor mode.
Shift line or region up	<ul style="list-style-type: none">• C-c <up>• C-c C-<up>• <f9> <up>	(smart-shift-up &optional ARG)	Shift the line or region to the ARG times to the upwards.  With PEL one of the extra key bindings can be enabled via the pel-smart-shift-keybinding user-option. So unlike other cells only one of the last 2 key bindings is available in the smart-shift minor mode.
Shift line or region down	<ul style="list-style-type: none">• C-c <down>• C-c C-<down>• <f9> <down>	(smart-shift-down &optional ARG)	Shift the line or region to the ARG times to the downwards  With PEL one of the extra key bindings can be enabled via the pel-smart-shift-keybinding user-option. So unlike other cells only one of the last 2 key bindings is available in the smart-shift minor mode.

CWL & Emacs – References

Description & URL	Notes
Common Workflow Language	Common Workflow Language (CWL) uses a subset of YAML and provides YAML supporting tools. <ul style="list-style-type: none">• CWL home page<ul style="list-style-type: none">• CWL User Guide• CWL YAML Guide