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CWL - Common Workflow Language - Data Serialization Support

Operation	Keystroke	Function	Note
Editing CWL files See also: Ⓓ **YAML** Last updated on:	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. • 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. 📦 The **cwl-mode** external package provides a major mode support for CWL. PEL provides access to it when the **pel-use-cwl** user-option is turned on (set to **t**). • PEL associates the following file extensions with **cwl-mode**: `.cwl`. 2025-12-16		
Open this PDF file. See also: Σ **Help/Info**	`<f11> SPC M-c <f1>` `<f12> <f1>`	(**pel-help-pdf** &optional OPEN-WEB-PAGE)	Open the **M CWL** local PDF. If the prefix argument (like `C-u` or `M--`) is used, then it opens the remote GitHub hosted raw PDF instead. If the **pel-flip-help-pdf-arg** user-option is set it's the other way around.
Σ **Customize PEL CWL control**	`<f11> SPC M-c <f2>` `<f12> <f2>`	(**pel-customize-pel** &optional OTHER-WINDOW)	Customize PEL CWL support. • If OTHER-WINDOW is non-nil (use `C-u`), display in other window.
Σ **Customize Emacs CWL control**	`<f11> SPC M-c <f3>` `<f12> <f3>`	(**pel-customize-library** &optional OTHER-WINDOW)	Customize Emacs CWL support groups: yaml, fly check, indent-tools and smartparens • If OTHER-WINDOW is non-nil (use `C-u`), display in other window.
Flycheck See also: Σ **SyntaxCheck**	Flycheck is a minor mode for on-the-fly syntax checking. 📦 The **flycheck** external package is activated by PEL when the **pel-use-flycheck** 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 `C-c !` as set by its **flycheck-keymap-prefix** user-option. You can change it for a different key prefix.		
Toggle flycheck mode for current buffer	`<f11> ! !`	(**flycheck-mode** &optional ARG)	Toggle flycheck minor-mode for the current buffer.
Toggle flycheck mode for all buffers	`<f11> ! M-!`	(**global-flycheck-mode** &optional ARG)	Toggle Flycheck mode in all buffers. • Flycheck mode is enabled in all buffers where 'flycheck-mode-on-safe' would do it.
• **Flycheck buffer/file**			
Syntax Check current buffer	`C-c ! c`	(**flycheck-buffer**)	Start checking syntax in the current buffer. • Get a syntax checker for the current buffer with 'flycheck-get-checker-for-buffer', and start it.
Check syntax of current file	`C-c ! C-c`	(**flycheck-compile** CHECKER)	Run CHECKER via 'compile'. • 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. • 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: • Σ **Highlight** • Σ **Hide/Show**	• `<f11> h |` • `<f11> 9`	(**vline-mode** &optional ARG)	Toggle the display of a vertical line spanning the entire window at the cursor column. 📦 Requires: **vline.el** PEL activates it when **pel-use-vline** user option is **t**.
Indented Text Folding	The following command folds (hide or show) all lines that are indented more than the current line. • You can also use the `f` key inside the indent-tools Hydra, shown below, to fold indented sections.		
Toggle hiding lines more indented than current line See also: Σ **Hide/Show**	`<f11> H I`	(**pel-toggle-hide-indent**)	Toggle hiding lines more indented than current line. • 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. • It provides a minor mode and a key **hydra** that provides all of these commands. 📦 The **indent-tools** external package PEL activates it when the **pel-use-indent-tools** user-option is turned on (set to **t**). • This also automatically activates the **hydra** external package. 🎛 PEL provide a global key binding to its key hydra and provides the ability to activate the proposed key binding globally and for python mode: • **pel-indent-tools-key-bound** : activates the `C-c >` key binding either globally or for python-mode only.		
Open the indent-tools hydra See also: Σ **Indentation**	• `<f11> <tab> <f7>` • `<f7> <tab>` • `C-c >`	(**indent-tools-hydra/body**)	Activate the body in the "indent-tools-hydra" hydra. 🎛 With PEL, this key binding is only available when: • globally, when **pel-indent-tools-key-bound** is set to **globally**, • in python-mode only when **pel-indent-tools-key-bound** is set to **python**. • The actual key is selected by indent-tools **indent-tools-keymap-prefix** user-option, the default is `C-c >`
The indent-tools hydra provide keys you can use to navigate across the indented CWL elements. See also: Σ **Hide/Show**	The heads for the associated hydra are: `>`: 'indent-tools-indent', `<`: 'indent-tools-demote', `E`: 'indent-tools-indent-end-of-defun', `c`: 'indent-tools-comment', `U`: 'indent-tools-uncomment', `P`: 'indent-tools-indent-paragraph', `l`: 'indent-tools-indent-end-of-level', `K`: 'indent-tools-kill-tree', `C`: 'indent-tools-copy-hydra/body', `s`: 'indent-tools-select', `e`: 'indent-tools-goto-end-of-tree', `u`: 'indent-tools-goto-parent', `d`: 'indent-tools-goto-child', `S`: 'indent-tools-select-end-of-tree', `n`: 'indent-tools-goto-next-sibling', `p`: 'indent-tools-goto-previous-sibling', `i`: 'helm-imenu', `j`: 'forward-line', `k`: 'previous-line', `SPC`: 'indent-tools-indent-space', `_`: 'undo-tree-undo', `L`: 'recenter-top-bottom', `f`: 'yafolding-toggle-element', `q`: exit		Indent | Navigation | Actions `>` indent | `j` ∨ | `K` kill `<` de-indent | `k` ∧ | `i` imenu `l` end of level | `n` next sibling | `C` Copy… `E` end of fn | `p` previous sibling | `c` comment `P` paragraph | `u` up parent | `U` uncomment (paragraph) `SPC` space | `d` down child | `f` fold `_` undo | `e` end of tree | `q` quit ☝ The **f** key toggles the element folding. Press once to hide the sub-tree, press-again to display it back.

Operation	Keystroke	Function	Note
Smartparens Mode • Smartparens manual See also: 𝕀 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**. • Smartparents 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. • 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. • 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 fontified 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, Spacemac, Vanilla. • 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. • 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. • 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. • 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 See also: 𝕀 **Indentation**	The **smart-shift** external package simplifies shifting a complete line or region of lines right or left but also up or down. • 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: 📦 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.		
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. • Activate the line-shift key bindings listed below, in the current buffer. • 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)	• 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	• `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	• `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	• `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	• `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.

	• **CWL home page**
	  • CWL User Guide
	  • CWL YAML Guide