# lsp-mode

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# Introduction

lsp-mode is a client/library package that allows Emacs to communicate with language servers <sup>[1]</sup> using Microsoft's Language Server Protocol. lsp-mode aims to plug-in to the vast collection of extensive Emacs tools and packages to provide a familiar, yet powerful interface for programmers. lsp-mode also provides an API for Emacs package developers to provide LSP support to users (see: company-lsp, lsp-treemacs, helm-lsp). It supports a wide array of standard LSP methods, and can be extended with optimally work with non-standard, language-specific functionality as well (see: lsp-java, emacs-ccls).

Out of the box, it supports 25+ programming languages, with various other external packages that provide more specific language features. Adding support for a new language server can be accomplished in a few lines of code, with more fine tuning and configuration options available.

## **Basic Features**

- Focuses on providing an asynchronous/non-blocking interface for as much functionality as possible.
- Real-time diagnostics/linting support (either via flymake for Emacs versions 26 and above, or flycheck, using lsp-ui)
- Code completion support for the (relatively basic) completion-at-point interface in Emacs, documented and asynchronous completion support provided by company-lsp.
- Documentation/highlight on hover: Basic, out of the box support provided using eldoc. Richer and more extensive functionality available in lsp-ui.
- Code Actions: Text based commands that provide refactoring/linting/code fixing. Supported natively with lsp-execute-code-action, and by lsp-ui. Otherwise known as "quick fixes" in Visual Studio Code.
- Code outline/explorer: In-built support for Imenu/ helm-imenu.
- Cross referencing, goto-definition, goto-implementation with Xref.
- · Code/Symbol Highlighting
- Formatting, On-type code formatting
- Debugging support with the Debug Adapter Protocol with dap-mode.
- Helm support using helm-lsp

# Installation

lsp-mode is available as a package on both MELPA and MELPA Stable. If you haven't added either to Emacs' package sources, you can do that with

```
(require 'packages)
(add-to-list 'package-archives
'("melpa" . "https://melpa.org/packages/"))
```

For MELPA, or

```
(require 'package)
(add-to-list 'package-archives
'("melpa-stable" . "https://stable.melpa.org/packages/"))
```

for MELPA Stable.

After updating the package list with M-x package-refresh-contents RET, you can install lsp-mode using M-x package-install RET lsp-mode RET.

# Installing language servers

Because language servers exist outside of Emacs, they need to be installed seperately. A list of language servers is available at https://langserver.org/ and https://microsoft.github.io/language-server-protocol/implementors/servers/. Additionally, this documentation also provides a list of supported languages.

# Configuration

Once lsp-mode is installed, a minimal configuration would consist of installing the language server(s) for your preferred languages, and enabling lsp-mode for the respective major-mode with:

```
(require 'lsp-mode)
  (add-hook '<major-mode-hook> #'lsp)
;; Major mode hooks tend to be named as xxx-mode-hook (python-mode-hook,
;; c++-mode-hook, etc)
```

If lsp-auto-configure and lsp-auto-require-clients are non-nil, then lsp-mode loads all the clients that have been bundled with the package. Otherwise, or if you're using an external package for LSP support, you might need to require it as well. For instance, if you want to use lsp-java:

```
(require 'lsp-mode)
(require 'lsp-java)
(add-hook 'java-mode-hook 'lsp)
```

Alternatively, lsp-mode can be hooked to prog-mode-hook, which will cause it to try initialising LSP support for all supported programming languages.

# use-package

A minimal use-package configuration for lsp-mode might look like this:

```
(use-package lsp-mode
  :commands lsp
  :init
  (setq ...))
```

# **Spacemacs**

lsp-mode is included in Spacemacs' develop branch. Documentation for the lsp layer is available here.

### **Doom Emacs**

lsp-mode is included in the lsp module. Documentation for it is available here.

## lsp-mode settings

• lsp-print-io

Default value: nil

If non-nil, print all messages to and from the language server to lsp-log.

• lsp-print-performance

Default value: nil

If non-nil, print performance info in the logs.



Introduced in lsp-mode 6.1

• lsp-use-native-json

If non-nil, use native json parsing if available.

0

Introduced in lsp-mode 6.1

• lsp-json-use-lists

Default value: nil

If non-nil, use lists instead of vectors when doing json deserialization.

**1** 

Introduced in lsp-mode 6.1

• lsp-log-max

Default value: 1000

Maximum number of lines to keep in the log buffer. If nil, disable message logging. If t, log messages but don't truncate the buffer when it becomes large.

0

Introduced in lsp-mode 6.1

• lsp-io-messages-max

Default value: t

Maximum number of messages that can be locked in a 'lsp-io' buffer.

a

Introduced in lsp-mode 6.1

• lsp-report-if-no-buffer

Default value: t

If non nil the errors will be reported even when the file is not open.

• lsp-keep-workspace-alive

Default value: t

If non nil keep workspace alive when the last workspace buffer is closed.

• lsp-enable-snippet

Default value: nil

Enable/disable snippet completion support.

• lsp-enable-folding

Default value: t

Enable/disable code folding support.

**a** 

Introduced in lsp-mode 6.1

• lsp-folding-range-limit

Default value: nil

The maximum number of folding ranges to receive from the language server.

1

Introduced in lsp-mode 6.1

• lsp-folding-line-folding-only

Default value: nil

If non-nil, only fold complete lines.

**a** 

Introduced in lsp-mode 6.1

• lsp-auto-require-clients

Default value: t

Auto require lsp-clients.

• lsp-auto-guess-root

Default value: nil

Automatically guess the project root using projectile/project.

• lsp-restart

Default value: interactive

Defines how server exited event must be handled.

• lsp-session-file

Default value: "~/.emacs.d/.lsp-session-v1"

Automatically guess the project root using projectile/project.

• lsp-auto-configure

Default value: t

Auto configure 'lsp-mode'. When set to t 'lsp-mode' will auto-configure 'lsp-ui' and 'company-lsp'.

• lsp-disabled-clients

Default value: nil A list of disabled/blacklisted clients. Each entry in the list can be either: a symbol, the server-id for the LSP client, or a cons pair (MAJOR-MODE . CLIENTS), where MAJOR-MODE is the major-mode, and CLIENTS is either a client or a list of clients.

This option can also be used as a file or directory local variable to disable a language server for individual files or directories/projects respectively.

• lsp-before-initialize-hook

Default value: nil

List of functions to be called before a Language Server has been initialized for a new workspace.

• lsp-after-initialize-hook

Default value: nil

List of functions to be called after a Language Server has been initialized for a new workspace.

• lsp-before-open-hook

Default value: nil

List of functions to be called before a new file with LSP support is opened.

• lsp-after-open-hook

Default value: nil

List of functions to be called after a new file with LSP support is opened.

• lsp-enable-file-watchers

Default value: t

If non-nil lsp-mode will watch the files in the workspace if the server has requested that.



Introduced in lsp-mode 6.1

• lsp-file-watch-ignored

```
Default value: ("[/\\]\\.git$" "[/\\]\\.hg$" "[/\\]\\.idea$"
"[/\\]\.ensime_cache$" "[/\\]\\.eunit$" "[/\\]\node_modules$"
"[/\\]\\.fslckout$" "[/\\]\\.tox$" "[/\\]\\.stack-work$"
"[/\\]\\.bloop$" "[/\\]\\.metals$" "[/\\]\target$" "[/\\]\\.deps$"
"[/\\]build-aux$" "[/\\]autom4te.cache$" "[/\\]\\.reference$")
```

List of regexps matching directory paths which won't be monitored when creating file watches.

1

Introduced in lsp-mode 6.1

• lsp-after-uninitialized-hook

Default value: (doom-modeline-update-lsp)

List of functions to be called after a Language Server has been uninitialized.

a

Introduced in lsp-mode 6.1

• lsp-debounce-full-sync-notifications

Default value: t

If non-nil debounce full sync events. This flag affects only server which do not support incremental update.



Introduced in lsp-mode 6.1

• lsp-debounce-full-sync-notifications-interval

Time to wait before sending full sync synchronization after buffer modication.



Introduced in lsp-mode 6.1

• lsp-document-sync-method

Default value: nil

How to sync the document with the language server.

• lsp-auto-execute-action

Default value: t

Auto-execute single action.

• lsp-enable-links

Default value: t

If non-nil, all references to links in a file will be made clickable, if supported by the language server.



Introduced in lsp-mode 6.1

• lsp-links-check-internal

Default value: 0.1

The interval for updating document links.

• lsp-eldoc-enable-hover

Default value: t

If non-nil, eldoc will display hover info when it is present.

• lsp-eldoc-enable-signature-help

Default value: t

If non-nil, eldoc will display signature help when it is present.

• lsp-eldoc-prefer-signature-help

If non-nil, eldoc will display signature help when both hover and signature help are present.

• lsp-eldoc-render-all

Default value: nil

Define whether all of the returned by document/onHover will be displayed. If 'lsp-eldoc-render-all' is set to nil 'eldoc' will show only the symbol information.

• lsp-signature-render-all

Default value: t

Define whether all of the returned by textDocument/signatureHelp will be displayed. If 'lsp-signature-render-all' is set to nil 'eldoc' will show only the active signature.

0

Introduced in lsp-mode 6.1

• lsp-enable-completion-at-point

Default value: t

Enable 'completion-at-point' integration.

• lsp-enable-symbol-highlighting

Default value: t

Highlight references of the symbol at point.

• lsp-enable-xref

Default value: t

Enable xref integration.

• lsp-enable-indentation

Default value: t

Indent regions using the file formatting functionality provided by the language server.

• lsp-enable-on-type-formatting

Default value: t

Enable 'textDocument/onTypeFormatting' integration.

• lsp-before-save-edits

Default value: t

If non-nil, 'lsp-mode' will apply edits suggested by the language server before saving a document.

• lsp-after-diagnostics-hook

Default value: nil

Hooks to run after diagnostics are received.

• lsp-workspace-folders-changed-hook

Default value: nil

Hooks to run after the folders has changed. The hook will receive two parameters list of added and removed folders.

• lsp-on-hover-hook

Default value: nil

The hooks that run after on hover and signature information has been loaded. The hook is called with two params: the signature information and hover data.

• lsp-eldoc-hook

Default value: (lsp-hover)

Hooks to run for eldoc.

• lsp-response-timeout

Default value: 10

Number of seconds to wait for a response from the language server before timing out.

• lsp-prefer-flymake

Auto-configure to prefer 'flymake' over 'lsp-ui' if both are present. If set to ':none' neither of two will be enabled.



Introduced in lsp-mode 6.1

• lsp-lens-check-interval

Default value: 0.1

The interval for checking for changes in the buffer state.

• lsp-lens-debounce-interval

Default value: 0.7

Debounce interval for loading lenses.

• lsp-symbol-highlighting-skip-current

Default value: nil

If non-nil skip current symbol when setting symbol highlights.

• lsp-document-highlight-delay

Default value: 0.2

Seconds of idle time to wait before showing symbol highlight.

# Using lsp-mode

# **Workspace/Session Management**

For a language server to work with a file, it needs to know the **project root**, a (usually higher-level) directory, containing the project to which the file belongs to.

On opening a file in a new project, lsp-mode will try to guess the project root, and present you with several options:

- Import the root directory lsp-mode guessed.
- Select a project root directory interactively (ask the user), and import it.
- Blacklist the guessed root directory, and ignore it in the future.
- Select a project root directory interactively, and blacklist it.

• Do nothing, but try importing the project again when any other file in the project is opened.

The root directory is then known to lsp-mode as a workspace, and every file in the project is associated with it.

The list of imported/whitelisted and blacklisted directories is stored in a **Session File**, located at ~/.emacs.d/.lsp-session-v1 by default. Its location can be changed by modifying lsp-session-file.

lsp-mode will try using Projectile (if installed), or the in-built project library project.el to guess the root.

#### Logging

By default, lsp-mode will log everything to the the lsp-log buffer. This can be controlled using [lsp-log-max], which is set to message-log-max by default. Additionally, lsp-mode can log all LSP requests, responses and notifications sent and received from a language server.

## **Workspace Management Commands**

#### lsp-workspace-folders-remove PROJECT-ROOT

If called interactively (through M-x lsp-workspace-folders-remove RET), it will ask the user to select a directory from a list of project roots that lsp-mode has yet imported. The selected directory will be removed from the session file, and currently opened workspaces under it will be shut down (they will no longer be associated with a language server, and wouldn't support lsp-mode features). This only removes the directory from the session file, and opening any file from the removed project will cause lsp-mode to ask the user about importing/blacklisting the directory again.

#### Function: lsp-workspace-folders-add PROJECT-ROOT

If called interactively, it will ask the user to select a directory, and import it as a project root. All files located under the directory will be treated as belonging to the project rooted at this directory.

#### Function: lsp-workspace-folders-open PROJECT-ROOT

If called interactively, it asks the user to choose from a list of imported project roots, and opens the selected directory in dired.

#### Function: lsp-workspace-shutdown WORKSPACE

If called interactively, it asks the user to select an opened project, and shuts down the workspace and the language server associated with it.

#### Function: lsp-workspace-restart WORKSPACE

If called interactively, it asks the user to select an opened project, and restarts the workspace and the language server associated with it.

Function: lsp-workspace-blacklist-remove WORKSPACE

If called interactively, it asks the user to select a blacklisted project, and remove the project folder from the blacklist.

# **Common Issues/Fixes**

## File watches

Some language servers request file notifications from Emacs using workspace/didChangeWatchedFiles, in which case lsp-mode will monitor every file in the path recursively for changes. If your project contains a large number of files, this might slow lsp-mode down. In this case, you can either disable file notifications entirely via lsp-enable-file-watchers, or disable it for a specific project using Directory Variables.

# Frequent freezes/stuttering

lsp-mode in Emacs versions < 27 uses the json.el library bundled with Emacs to parse and encode JSON objects in order to communicate with a language server. When working with large objects, this can create a significant garbage collection overhead which slows down Emacs significantly. This can be either fixed by setting gc-cons-threshold to a large enough value (like 30000000, causing it to start a garbage collection cycle on every 30 MB of allocated memory), or using Emacs 27 compiled with native JSON support (--with-json).

If you're using company-lsp, setting company-lsp-cache-candidates to either 'auto or t can help reduce freezes when performing code completion.

# Adding support for new languages

Adding support for new languages/language servers is fairly straightforward:

```
(lsp-register-client
  (make-lsp-client :new-connection <connection-plist>
  :major-modes '(<supported-major-modes>)
  :server-id <server-id>))
```

# **Creating a connection**

A connection-plist is a property list that tells lsp-mode how to launch and connect to a language server process. For most language servers, you do not need to create an actual list yourself, as helper functions lsp-stdio-connection or lsp-tcp-connection can be used to create one.

## **Helper functions**

#### Function: lsp-stdio-connection COMMAND

Returns a connection property list using COMMAND, for launching a language server instance that sends and receives messages over standard I/O. COMMAND can be:

- A string, denoting the command to launch the language server.
- A list of strings, denoting an executable with its command line arguments.
- A function, that either returns a string or a list of strings.

#### Function: lsp-tcp-connection COMMAND-FN

Returns a connection property list similar to lsp-stdio-connection, but COMMAND-FN can only be a function that takes a single argument, a port number. It should return a command for launches a language server process listening for TCP connections on the provided port.

# Other arguments to make-lsp-client

- :server-id: A unique symbol that represents the client object created by make-lsp-client. Examples include 'clangd, 'pyls, 'css-ls, etc.
- :major-modes: A list of major-modes supported by the language server.
- :activation-fn: Function that returns t if the client can manage given buffer. It should take a single argument (the buffer object). Can be used instead of :major-modes.
- :language-id: Function that should take a single buffer as an argument, and return the language identifier (languageId) for that buffer.
- :add-on: If non-nil, the client will be started even when there is another server handling the same mode/buffer.
- :ignore-regexps: A list of regular expressions. If any incoming data from the language server matches any of these regexps, it will be ignored. This is useful for filtering out unwanted messages, such as servers that send extraneous non-LSP messages.
- :notification-handlers: Hash table mapping notification method strings to functions handling them. See: Method handlers.
- :request-handlers: Hash table mapping request method strings to functions handling them. See: Method handlers.
- :prefix-function: A prefix function takes no arguments, and return the bounds for the entity under point as a cons pair (START . END), where both START and END are point values. The prefix function is used to compute the bounds for the entity being completed during completion, specifically, the start and end values in the list returned by Completion functions.
- :uri-handlers: Hash table mapping non-standard file URI schemes to a function that opens the file pointed to by the URI. The function should accept a single string (the file URI).
- :action-handlers: Hash table mapping code action strings to a function that executes them. While executing a code action, it is used to determine whether a particular code action should be executed by a client, or sent to the server. The function should take a single string (the code action) as an argument.

- :multi-root: Non-nil if the client supports multi-root workspaces.
- :initialization-options: A JSON-encodable object, or a function that returns one. The value will be used for additional initialization options for the initialize request.
- before-file-open-fn: Function called before a LSP-managed file (by this client) is opened. Should accept a single argument, the currently active workspace.
- initialized-fn: Function called right after a workspace has been initialized. Should accept a single argument, the newly initialized workspace.
- completion-in-comments?: Non-nil if the client supports completion within comments.

## **Method handlers**

A method handler is a function that takes two arguments, a <code>lspDworkspace</code> object and the method parameters as a deserialized object. A defined client can use method handlers to support language specific features that aren't specified in the official LSP specification. For instance, method handlers are used by the <code>lsp-rust</code> rls client to support <code>progress</code> indicators sent from the server to the editor:

```
(defun lsp-clients--rust-window-progress (_workspace params)
   ;; Minimal implementation - we could show the progress as well.
   (lsp-log (gethash "title" params)))
(defvar lsp-rust-notification-handlers (make-hash-table :test 'equal))
(puthash "window/progress" #'lsp-clients--rust-window-progress lsp-rust-notification-handlers)

(lsp-register-client
   (make-lsp-client :notification-handlers lsp-rust-notification-handlers
   <other-arguments>))
```

# Languages/Language servers supported by lsp-mode

| Language                  | Language Server          | Support      | Installation command                                | Debugger          |
|---------------------------|--------------------------|--------------|---|-------------------|
| Bash                      | bash-language-<br>server | Built-in     | npm i -g bash-<br>language-server                   |                   |
| C++                       | ccls                     | emacs-ccls   | ccls  | Yes (gdb or lldb) |
| C++                       | clangd                   | Built-in     | clangd  | Yes (gdb or lldb) |
| C++                       | cquery                   | emacs-cquery | cquery  | Yes (gdb or lldb) |
| Clojure                   | clojure-lsp              | Built-in     | clojure-lsp   |                   |
| CSS/LessCSS/SASS/<br>SCSS | CSS                      | Built-in     | npm install -g<br>vscode-css-<br>languageserver-bin |                   |

| Language                  | Language Server                                 | Support     | Installation command  | Debugger                |
|---------------------------|---|-------------|---|-------------------------|
| Dart                      | dart_language_ser<br>ver                        | Built-in    | <pre>pub global activate dart_language_serv er</pre>  |                         |
| Elixir                    | elixir-ls                                       | Built-in    | elixir-ls   | Yes                     |
| Elm                       | elmLS   | Built-in    | Clone the repository, run npm install in the root, then run tsc in the server directory. Set [lsp-elm- server-install-dir] to wherever you cloned the repo. |                         |
| Erlang                    | erlang_ls                                       | Built-in    | erlang_ls   |                         |
| F#                        | FsAutoComplete                                  | Built-in    | Clone the repository, run ./build.sh LocalRelease. Set lsp-fsharp-serverpath, and lsp-fsharp-serverruntime.   |                         |
| Fortran                   | fortran-language-<br>server                     | Built-in    | <pre>pip install fortran-language- server</pre>   | Yes                     |
| Go                        | gopls   | Built-in    | <pre>go get -u golang.org/x/tools /cmd/gopls</pre>  | Yes                     |
| Go                        | bingo   | Built-in    | bingo   | Yes                     |
| Groovy                    | groovy-language-<br>server                      | Built-in    | groovy-language-<br>server  |                         |
| Hack                      | hhvm  | Built-in    | hhvm  |                         |
| HTML                      | html  | Built-in    | npm install -g<br>vscode-html-<br>languageserver-bin  |                         |
| Haskell                   | IDE engine                                      | lsp-haskell | IDE engine  |                         |
| Java                      | Eclipse JDT LS                                  | lsp-java    | lsp-java  | Yes                     |
| JavaScript/TypeScr<br>ipt | typescript-<br>language-server<br>(recommended) | Built-in    | <pre>npm i -g typescript- language-server; npm i -g typescript</pre>  | Yes<br>(Firefox/Chrome) |

| Language                  | Language Server                               | Support        | Installation command                                  | Debugger                        |
|---------------------------|---|----------------|---|---------------------------------|
| JavaScript/TypeScr<br>ipt | javascript-<br>typescript-stdio               | Built-in       | npm i -g<br>javascript-<br>typescript-<br>langserver  | Yes<br>(Firefox/Chrome)         |
| JavaScript Flow           | flow (add-on if<br>working on a Flow<br>file) | Built-in       | flow  | Yes<br>(Firefox/Chrome)         |
| Julia                     | lsp-julia                                     | lsp-julia      | LanguageServer.jl                                     |                                 |
| Kotlin                    | kotlin-language-<br>server                    | Built-in       | kotlin-language-<br>server                            |                                 |
| Ocaml                     | ocaml-language-<br>server                     | Built-in       | ocaml-language-<br>server                             |                                 |
| PHP(recommende d)         | intelephense                                  | Built-in       | npm i intelephense<br>-g                              | Yes                             |
| PHP                       | php-language-<br>server                       | Built-in       | php-language-<br>server                               | Yes                             |
| Powershell                | PowerShellEditorS ervices                     | lsp-powershell | Automatic by lsp-<br>powershell                       |                                 |
| Python                    | pyls  | Built-in       | <pre>pip install 'python-language- server[all]'</pre> | Yes                             |
| Python(Microsoft)         | Microsoft Python<br>Language Server           | lsp-python-ms  | lsp-python-ms   | Yes                             |
| Ruby                      | solargraph                                    | Built-in       | gem install<br>solargraph                             | Yes                             |
| Rust                      | rls   | Built-in       | rls   | Yes                             |
| Scala                     | Metals  | Built-in       | Metals  |                                 |
| Swift                     | sourcekit-LSP                                 | lsp-sourcekit  | sourcekit-LSP   | Yes (via llvm<br>debug adapter) |
| Vue                       | vue-language-<br>server                       | Built-in       | npm install -g<br>vue-language-<br>server             | Yes<br>(Firefox/Chrome)         |
| XML                       | lsp4xml                                       | Built-in       | Download from lsp4xml releases                        |                                 |

# Clangd support: lsp-clangd

lsp-clangd provides support for C-like languages (C, C, Objective-C/) using clangd.

#### lsp-clangd settings

• lsp-clients-clangd-executable

Default value: "clangd"

The clangd executable to use. Leave as just the executable name to use the default behavior of finding the executable with 'exec-path'.

• lsp-clients-clangd-args

Default value: nil

Extra arguments for the clangd executable.

# Clojure support: lsp-clojure

lsp-clangd provides support for Clojure/ClojureScript clojure-lsp.

## lsp-clojure settings

• lsp-clojure-server-command

Default value: ("bash" "-c" "clojure-lsp")

The clojure-lisp server command.

## CSS support: lsp-css

lsp-css provides support for CSS using vscode-css-languageserver.

## lsp-css settings

• lsp-css-experimental-custom-data

Default value: nil

A list of JSON file paths that define custom CSS data that loads custom properties, at directives, pseudo classes / elements.

• lsp-css-completion-trigger-property-value-completion

Default value: t

By default, VS Code triggers property value completion after selecting a CSS property. Use this setting to disable this behavior.

• lsp-css-validate

Enables or disables all validations.

• lsp-css-lint-compatible-vendor-prefixes

Default value: "ignore"

When using a vendor-specific prefix make sure to also include all other vendor-specific properties.

• lsp-css-lint-vendor-prefix

Default value: "warning"

When using a vendor-specific prefix, also include the standard property.

• lsp-css-lint-duplicate-properties

Default value: "ignore"

Do not use duplicate style definitions.

• lsp-css-lint-empty-rules

Default value: "warning"

Do not use empty rulesets.

• lsp-css-lint-import-statement

Default value: "ignore"

Import statements do not load in parallel.

• lsp-css-lint-box-model

Default value: "ignore"

nil

• lsp-css-lint-universal-selector

Default value: "ignore"

nil

• lsp-css-lint-zero-units

Default value: "ignore" No unit for zero needed. • lsp-css-lint-font-face-properties Default value: "warning" nil • lsp-css-lint-hex-color-length Default value: "error" Hex colors must consist of three or six hex numbers. • lsp-css-lint-arguments-in-color-function Default value: "error" Invalid number of parameters. • lsp-css-lint-unknown-properties Default value: "warning" Unknown property. • lsp-css-lint-valid-properties Default value: nil A list of properties that are not validated against the 'unknownProperties' rule. • lsp-css-lint-ie-hack Default value: "ignore" IE hacks are only necessary when supporting IE7 and older. • lsp-css-lint-unknown-vendor-specific-properties Default value: "ignore"

• lsp-css-lint-property-ignored-due-to-display

Unknown vendor specific property.

Default value: "warning"
nil

• lsp-css-lint-important

Default value: "ignore"
nil

• lsp-css-lint-float

Default value: "ignore"

• lsp-css-lint-id-selector

nil

Default value: "ignore"

Selectors should not contain IDs because these rules are too tightly coupled with the HTML.

• lsp-css-lint-unknown-at-rules

Default value: "warning"

Unknown at-rule.

• lsp-css-trace-server

Default value: "off"

Traces the communication between VS Code and the CSS language server.

# Dart support: lsp-dart

lsp-dart provides support for Dart using the Dart Language Server.

## lsp-dart settings

• lsp-clients-dart-server-command

Default value: "~/.pub-cache/bin/dart\_language\_server"

The dart\_language\_server executable to use.

# Elixir support: lsp-css

lsp-elixir provides support for Elixir using ElixirLS.

#### lsp-elixir settings

• lsp-clients-elixir-server-executable

Default value: "language\_server.sh"

The elixir-language-server executable to use. Leave as just the executable name to use the default behavior of finding the executable with 'exec-path'.

# Erlang support: lsp-erlang

lsp-erlang provides support for Erlang via erlang\_ls.

#### lsp-erlang settings

• lsp-erlang-server-install-dir

Default value: "."

Path to the Erlang Language Server installation dir.

## Flow support: lsp-flow

lsp-flow provides support for the Flow Javascript type checker.

## lsp-flow settings

• lsp-clients-flow-server

Default value: "flow"

The Flow executable to use. Leave as just the executable name to use the default behavior of finding the executable with variable 'exec-path'.

• lsp-clients-flow-server-args

Default value: ("lsp")

Extra arguments for starting the Flow language server.

# Fortran support: lsp-fortran

lsp-fortran provides support for Fortran using the Fortran Language Server.

#### lsp-fortran settings

• lsp-clients-fortls-executable

Default value: "fortls"

The fortls executable to use. Leave as just the executable name to use the default behavior of finding the executable with 'exec-path'.

• lsp-clients-fortls-args

Default value: nil

Extra arguments for the fortls executable

# F# support: lsp-fsharp

lsp-fsharp provides support for F# using FsAutoComplete.

## lsp-fsharp settings

• lsp-fsharp-server-runtime

Default value: net-core

The .NET runtime to use.

a

Introduced in lsp-mode 6.1

• lsp-fsharp-server-path

Default value: nil

The path to fsautocomplete.

a

Introduced in lsp-mode 6.1

• lsp-fsharp-server-args

Default value: nil

Extra arguments for the F# language server.

A

Introduced in lsp-mode 6.1

# **Groovy support:** lsp-groovy

lsp-groovy provides support for Groovy using Palantir's groovy-language-server.

#### lsp-groovy settings

• lsp-groovy-server-install-dir

```
Default value: "~/.emacs.d/groovy-language-server/"
```

Install directory for groovy-language-server. A slash is expected at the end. This directory should contain a file matching groovy-language-server-\*.jar

# Hack support: lsp-css

lsp-hack provides support for Hack using HHVM.

#### 1sp-hack settings

• lsp-clients-hack-command

```
Default value: ("hh_client" "lsp" "--from" "emacs")
```

Command to start hh\_client.

## HTML support: lsp-html

lsp-html provides support for HTML using vscode-html-languageserver.

## lsp-html settings

• lsp-html-experimental-custom-data

Default value: nil

A list of JSON file paths that define custom tags, properties and other HTML syntax constructs. Only workspace folder setting will be read.



Introduced in lsp-mode 6.1

• lsp-html-format-enable

Enable/disable default HTML formatter.



Introduced in lsp-mode 6.1

• lsp-html-format-wrap-line-length

Default value: 120

Maximum amount of characters per line (0 = disable).

0

Introduced in lsp-mode 6.1

• lsp-html-format-unformatted

Default value: "wbr"

nil

- **a**
- Introduced in lsp-mode 6.1
- lsp-html-format-content-unformatted

Default value: "pre, code, textarea"

nil

- A
- Introduced in lsp-mode 6.1
- lsp-html-format-indent-inner-html

Default value: nil

nil

1

Introduced in lsp-mode 6.1

• lsp-html-format-preserve-new-lines

Controls whether existing line breaks before elements should be preserved. Only works before elements, not inside tags or for text.



Introduced in lsp-mode 6.1

• lsp-html-format-max-preserve-new-lines

Default value: nil

nil



Introduced in lsp-mode 6.1

• lsp-html-format-indent-handlebars

Default value: nil

nil



Introduced in lsp-mode 6.1

• lsp-html-format-end-with-newline

Default value: nil

End with a newline.



Introduced in lsp-mode 6.1

• lsp-html-format-extra-liners

Default value: "head, body, /html"

nil

0

Introduced in lsp-mode 6.1

• lsp-html-format-wrap-attributes

Default value: "auto"

Wrap attributes.



Introduced in lsp-mode 6.1

• lsp-html-suggest-html5

Default value: t

Controls whether the built-in HTML language support suggests HTML5 tags, properties and values.

8

Introduced in lsp-mode 6.1

• lsp-html-validate-scripts

Default value: t

Controls whether the built-in HTML language support validates embedded scripts.

0

Introduced in lsp-mode 6.1

• lsp-html-validate-styles

Default value: t

Controls whether the built-in HTML language support validates embedded styles.



Introduced in lsp-mode 6.1

• lsp-html-auto-closing-tags

Default value: t

Enable/disable autoclosing of HTML tags.

a

Introduced in lsp-mode 6.1

• lsp-html-trace-server

Default value: "off"

Traces the communication between VS Code and the HTML language server.

**a** 

Introduced in lsp-mode 6.1

• lsp-html-server-command

Default value: ("html-languageserver" "--stdio")

Command to start html-languageserver.

a

Introduced in lsp-mode 6.1

# PHP support: lsp-intelephense

lsp-php provides support for PHP using Intelephense.

#### lsp-intelephense settings

• lsp-intelephense-files-max-size

Default value: 1000000

Maximum file size in bytes.

a

Introduced in lsp-mode 6.1

• lsp-intelephense-files-associations

Default value: ["\*.php" "\*.phtml" ]

Configure glob patterns to make files available for language server features.

**a** 

Introduced in lsp-mode 6.1

• lsp-intelephense-files-exclude

```
Default value: ["**/.git/**" "**/.svn/**" "**/.hg/**" "**/CVS/**"
"**/.DS_Store/**" "**/node_modules/**" "**/bower_components/**"
"**/vendor/**/{Test,test,Tests,tests}/**"]
```

Configure glob patterns to exclude certain files and folders from all language server features.



#### Introduced in lsp-mode 6.1

• lsp-intelephense-stubs

Default value: ["apache" "bcmath" "bz2" "calendar" "com\_dotnet" "Core" "csprng" "ctype" "curl" "date" "dba" "dom" "enchant" "exif" "fileinfo" "filter" "fpm" "ftp" "gd" "hash" "iconv" "imap" "interbase" "intl" "json" "ldap" "libxml" "mbstring" "mcrypt" "mssql" "mysql" "mysqli" "oci8" "odcb" "openssl" "password" "pcntl" "pcre" "PDO" "pdo\_ibm" "pdo\_mysql" "pdo\_pgsql" "pdo\_sqlite" "pgsql" "Phar" "posix" "pspell" "readline" "recode" "Reflection" "regex" "session" "shmop" "SimpleXML" "snmp" "soap" "sockets" "sodium" "SPL" "sqlite3" "standard" "superglobals" "sybase" "sysvmsg" "sysvsem" "sysvshm" "tidy" "tokenizer" "wddx" "xml" "xmlreader" "xmlrpc" "xmlwriter" "Zend OPcache" "zip" "zlib" ]

Configure stub files for built in symbols and common extensions. The default setting includes PHP core and all bundled extensions.



#### Introduced in lsp-mode 6.1

• lsp-intelephense-completion-insert-use-declaration

Default value: t

Use declarations will be automatically inserted for namespaced classes, traits, interfaces, functions, and constants.



#### Introduced in lsp-mode 6.1

• lsp-intelephense-completion-fully-qualify-global-constants-and-functions

Default value: nil

Global namespace constants and functions will be fully qualified (prefixed with a backslash).



Introduced in lsp-mode 6.1

• lsp-intelephense-format-enable

Default value: t

**Enables formatting** 

- **a**
- Introduced in lsp-mode 6.1
- lsp-intelephense-trace-server

Default value: "off"

Traces the communication between VSCode and the intelephense language server.

- 1
- Introduced in lsp-mode 6.1
- lsp-intelephense-storage-path

Default value: "~/.emacs.d/lsp-cache"

Optional absolute path to storage dir.

- a
- Introduced in lsp-mode 6.1
- lsp-intelephense-server-command

Default value: ("intelephense" "--stdio")

Command to start Intelephense.

**a** 

Introduced in lsp-mode 6.1

# Kotlin support: lsp-kotlin

lsp-kotlin provides support for Kotlin using KotlinLanguageServer.

lsp-kotlin settings

# Ocaml support: lsp-ocaml

lsp-ocaml provides support for Ocaml using ocaml-language-server.

#### lsp-ocaml settings

• lsp-ocaml-lang-server-command

```
Default value: ("ocaml-language-server" "--stdio")
```

Command to start ocaml-language-server.

# PHP support: lsp-php

lsp-css provides support for CSS using PHP Language Server.

#### lsp-php settings

• lsp-clients-php-server-command

```
Default value: ("php" "~/.composer/vendor/felixfbecker/language-server/bin/php-language-server.php")
```

Install directory for php-language-server.

# Python support: lsp-pyls

lsp-pyls provides support for Python using pyls

## lsp-pyls settings

• lsp-clients-python-library-directories

```
Default value: ("/usr/")
```

List of directories which will be considered to be libraries.



Introduced in lsp-mode 6.1

• lsp-pyls-server-command

Default value: ("pyls")

Command to start pyls.



Introduced in lsp-mode 6.1

• lsp-pyls-configuration-sources

Default value: ["pycodestyle" ]

List of configuration sources to use.

**a** 

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-jedi-completion-enabled

Default value: t

Enable or disable the plugin.

1

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-jedi-completion-include-params

Default value: t

Auto-completes methods and classes with tabstops for each parameter.

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-jedi-definition-enabled

Default value: t

Enable or disable the plugin.

**a** 

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-jedi-definition-follow-imports

Default value: t

The goto call will follow imports.

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-jedi-definition-follow-builtin-imports

Default value: t

If follow\_imports is True will decide if it follow builtin imports.

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-jedi-hover-enabled

Default value: t

Enable or disable the plugin.

- **a**
- Introduced in lsp-mode 6.1
- lsp-pyls-plugins-jedi-references-enabled

Default value: t

Enable or disable the plugin.

- 1
- Introduced in lsp-mode 6.1
- lsp-pyls-plugins-jedi-signature-help-enabled

Default value: t

Enable or disable the plugin.

- a
- Introduced in lsp-mode 6.1
- lsp-pyls-plugins-jedi-symbols-enabled

Default value: t

Enable or disable the plugin.

- a
- Introduced in lsp-mode 6.1
- lsp-pyls-plugins-jedi-symbols-all-scopes

Default value: t

If True lists the names of all scopes instead of only the module namespace.

- a
- Introduced in lsp-mode 6.1
- lsp-pyls-plugins-mccabe-enabled

Enable or disable the plugin.

1

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-mccabe-threshold

Default value: 15

The minimum threshold that triggers warnings about cyclomatic complexity.

1

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-preload-enabled

Default value: t

Enable or disable the plugin.

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-preload-modules

Default value: nil

List of modules to import on startup

A

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pylint-enabled

Default value: t

Enable or disable the plugin.

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pycodestyle-enabled

Enable or disable the plugin.

**a** 

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pycodestyle-exclude

Default value: nil

Exclude files or directories which match these patterns.

**1** 

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pycodestyle-filename

Default value: nil

When parsing directories, only check filenames matching these patterns.

- Introduced in lsp-mode 6.1
- lsp-pyls-plugins-pycodestyle-select

Default value: nil

Select errors and warnings

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pycodestyle-ignore

Default value: nil

Ignore errors and warnings

**a** 

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pycodestyle-hang-closing

Hang closing bracket instead of matching indentation of opening bracket's line.

0

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pycodestyle-max-line-length

Default value: nil

Set maximum allowed line length.

1

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-enabled

Default value: nil

Enable or disable the plugin.

A

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-convention

Default value: nil

Choose the basic list of checked errors by specifying an existing convention.

A

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-add-ignore

Default value: nil

Ignore errors and warnings in addition to the specified convention.

**a** 

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-add-select

Select errors and warnings in addition to the specified convention.

0

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-ignore

Default value: nil

Ignore errors and warnings

1

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-select

Default value: nil

Select errors and warnings

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-match

Default value: "(?!test\_).\*\\.py"

Check only files that exactly match the given regular expression; default is to match files that don't start with 'test\_' but end with '.py'.

a

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pydocstyle-match-dir

Default value: "[^\\..\*"]

Search only dirs that exactly match the given regular expression; default is to match dirs which do not begin with a dot.

0

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-pyflakes-enabled

Enable or disable the plugin.

8

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-rope-completion-enabled

Default value: t

Enable or disable the plugin.

1

Introduced in lsp-mode 6.1

• lsp-pyls-plugins-yapf-enabled

Default value: t

Enable or disable the plugin.

•

Introduced in lsp-mode 6.1

• lsp-pyls-rope-extension-modules

Default value: nil

Builtin and c-extension modules that are allowed to be imported and inspected by rope.

a

Introduced in lsp-mode 6.1

• lsp-pyls-rope-rope-folder

Default value: nil

The name of the folder in which rope stores project configurations and data. Pass 'null' for not using such a folder at all.

0

Introduced in lsp-mode 6.1

## Rust support: lsp-rust

lsp-rust provides support for Rust using the Rust Language Server.

### lsp-rust settings

• lsp-rust-library-directories

Default value: ("~/.cargo/registry/src" "~/.rustup/toolchains")

List of directories which will be considered to be libraries.

a

Introduced in lsp-mode 6.1

• lsp-rust-sysroot

Default value: nil

If non-nil, use the given path as the sysroot for all rustc invocations instead of trying to detect the sysroot automatically.

8

Introduced in lsp-mode 6.1

• lsp-rust-target

Default value: nil

If non-nil, use the given target triple for all rustc invocations.

0

Introduced in lsp-mode 6.1

• lsp-rust-rustflags

Default value: nil

Flags added to RUSTFLAGS.

0

Introduced in lsp-mode 6.1

• lsp-rust-clear-env-rust-log

Default value: t

Clear the RUST\_LOG environment variable before running rustc or cargo.

a

Introduced in lsp-mode 6.1

• lsp-rust-build-lib

If non-nil, checks the project as if you passed the '--lib' argument to cargo. Mutually exclusive with, and preferred over, 'lsp-rust-build-bin'. (Unstable)

0

Introduced in lsp-mode 6.1

• lsp-rust-build-bin

Default value: nil

If non-nil, checks the project as if you passed -- bin <build\_bin> argument to cargo. Mutually exclusive with 'lsp-rust-build-lib'. (Unstable)

8

Introduced in lsp-mode 6.1

• lsp-rust-cfg-test

Default value: nil

If non-nil, checks the project as if you were running 'cargo test' rather than cargo build. I.e., compiles (but does not run) test code.

a

Introduced in lsp-mode 6.1

• lsp-rust-unstable-features

Default value: nil

Enable unstable features.

A

Introduced in lsp-mode 6.1

• lsp-rust-wait-to-build

Default value: nil

Time in milliseconds between receiving a change notification and starting build. If not specified, automatically inferred by the latest build duration.

a

Introduced in lsp-mode 6.1

• lsp-rust-show-warnings

Show warnings.



Introduced in lsp-mode 6.1

• lsp-rust-use-crate-blacklist

Default value: t

Don't index crates on the crate blacklist.



Introduced in lsp-mode 6.1

• lsp-rust-build-on-save

Default value: nil

Only index the project when a file is saved and not on change.

0

Introduced in lsp-mode 6.1

• lsp-rust-features

Default value: [ ]

A list of Cargo features to enable.



Introduced in lsp-mode 6.1

• lsp-rust-all-features

Default value: nil

Enable all Cargo features.



Introduced in lsp-mode 6.1

• lsp-rust-no-default-features

Default value: nil

Do not enable default Cargo features.



• lsp-rust-racer-completion

Default value: t

Enables code completion using racer.



Introduced in lsp-mode 6.1

• lsp-rust-clippy-preference

Default value: "opt-in"

Controls eagerness of clippy diagnostics when available. Valid values are (case-insensitive): - "off": Disable clippy lints. - "opt-in": Clippy lints are shown when crates specify '#![warn(clippy)]'. - "on": Clippy lints enabled for all crates in workspace. You need to install clippy via rustup if you haven't already.



Introduced in lsp-mode 6.1

• lsp-rust-jobs

Default value: nil

Number of Cargo jobs to be run in parallel.

8

Introduced in lsp-mode 6.1

• lsp-rust-all-targets

Default value: t

Checks the project as if you were running cargo check --all-targets (I.e., check all targets and integration tests too).



Introduced in lsp-mode 6.1

• lsp-rust-target-dir

Default value: nil

When specified, it places the generated analysis files at the specified target directory. By default it is placed target/rls directory.



• lsp-rust-rustfmt-path

Default value: nil

When specified, RLS will use the Rustfmt pointed at the path instead of the bundled one

8

Introduced in lsp-mode 6.1

• lsp-rust-build-command

Default value: nil

EXPERIMENTAL (requires 'unstable\_features') If set, executes a given program responsible for rebuilding save-analysis to be loaded by the RLS. The program given should output a list of resulting .json files on stdout. Implies 'rust.build\_on\_save': true.

8

Introduced in lsp-mode 6.1

• lsp-rust-full-docs

Default value: nil

Instructs cargo to enable full documentation extraction during save-analysis while building the crate.

0

Introduced in lsp-mode 6.1

• lsp-rust-show-hover-context

Default value: t

Show additional context in hover tooltips when available. This is often the type local variable declaration.

a

Introduced in lsp-mode 6.1

• lsp-rust-rls-server-command

Default value: ("rls")

Command to start RLS.

8

## Metals support: lsp-metals

lsp-metals provides support for Scala using Metals.

#### lsp-metals settings

• lsp-metals-server-command

Default value: "metals-emacs"

The command to launch the Scala language server.

8

Introduced in lsp-mode 6.1

• lsp-metals-server-args

Default value: nil

Extra arguments for the Scala language server.

8

Introduced in lsp-mode 6.1

• lsp-metals-java-home

Default value: ""

The Java Home directory used for indexing JDK sources and locating the 'java' binary.

a

Introduced in lsp-mode 6.1

• lsp-metals-scalafmt-config-path

Default value: ""

Optional custom path to the .scalafmt.conf file. Should be relative to the workspace root directory and use forward slashes / for file separators (even on Windows).

0

Introduced in lsp-mode 6.1

• lsp-metals-sbt-script

Optional absolute path to an 'sbt' executable to use for running 'sbt bloopInstall'. By default, Metals uses 'java -jar sbt-launch.jar' with an embedded launcher while respecting '.jvmopts' and '.sbtopts'. Update this setting if your 'sbt' script requires more customizations like using environment variables.



Introduced in lsp-mode 6.1

• lsp-metals-gradle-script

Default value: ""

Optional absolute path to a 'gradle' executable to use for running 'gradle bloopInstall'. By default, Metals uses gradlew with 5.3.1 gradle version. Update this setting if your 'gradle' script requires more customizations like using environment variables.



Introduced in lsp-mode 6.1

# Ruby support: lsp-solargraph

lsp-solargraph provides support for Ruby using Solargraph.

### lsp-solargraph settings

• lsp-solargraph-completion

Default value: t

**Enable completion** 



Introduced in lsp-mode 6.1

• lsp-solargraph-hover

Default value: t

Enable hover



Introduced in lsp-mode 6.1

• lsp-solargraph-diagnostics

**Enable diagnostics** 



Introduced in lsp-mode 6.1

• lsp-solargraph-autoformat

Default value: nil

Enable automatic formatting while typing (WARNING: experimental)



Introduced in lsp-mode 6.1

• lsp-solargraph-formatting

Default value: t

Enable document formatting

1

Introduced in lsp-mode 6.1

• lsp-solargraph-symbols

Default value: t

Enable symbols

A

Introduced in lsp-mode 6.1

• lsp-solargraph-definitions

Default value: t

Enable definitions (go to, etc.)

a

Introduced in lsp-mode 6.1

• lsp-solargraph-rename

Default value: t

Enable symbol renaming

a

• lsp-solargraph-references

Default value: t

Enable finding references

8

Introduced in lsp-mode 6.1

• lsp-solargraph-folding

Default value: t

Enable folding ranges

1

Introduced in lsp-mode 6.1

• lsp-solargraph-log-level

Default value: "warn"

Level of debug info to log. 'warn' is least and 'debug' is most.

1

Introduced in lsp-mode 6.1

# Typescript support: lsp-typescript

lsp-typescript provides support for TypeScript, using Theia/Typefox's TypeScript Language Server

## lsp-typescript settings

• lsp-clients-typescript-server

Default value: "typescript-language-server"

The typescript-language-server executable to use. Leave as just the executable name to use the default behavior of finding the executable with variable 'exec-path'.

• lsp-clients-typescript-server-args

Default value: ("--stdio")

Extra arguments for the typescript-language-server language server.

## Typescript support: lsp-typescript-javascript

lsp-javascript-typescript provides support for Javascript and TypeScript, using Sourcegraph's JavaScript/TypeScript language server

### lsp-typescript-javascript settings

• lsp-clients-javascript-typescript-server

Default value: "javascript-typescript-stdio"

The javascript-typescript-stdio executable to use. Leave as just the executable name to use the default behavior of finding the executable with variable 'exec-path'.

• lsp-clients-typescript-javascript-server-args

Default value: nil

Extra arguments for the typescript-language-server language server.

# Vue support: lsp-vetur

lsp-vetur provides support for Vue using the Vue Language Server.

### lsp-vetur settings

• lsp-vetur-use-workspace-dependencies

Default value: nil

Use dependencies from workspace. Currently only for TypeScript.

0

Introduced in lsp-mode 6.1

• lsp-vetur-completion-auto-import

Default value: t

Include completion for module export and auto import them

a

Introduced in lsp-mode 6.1

• lsp-vetur-completion-use-scaffold-snippets

Enable/disable Vetur's built-in scaffolding snippets

1

Introduced in lsp-mode 6.1

• lsp-vetur-completion-tag-casing

Default value: "kebab"

Casing conversion for tag completion

0

Introduced in lsp-mode 6.1

• lsp-vetur-grammar-custom-blocks

Default value: ((docs . "md") (i18n . "json"))

Mapping from custom block tag name to language name. Used for generating grammar to support syntax highlighting for custom blocks.

a

Introduced in lsp-mode 6.1

• lsp-vetur-validation-template

Default value: t

Validate vue-html in <template> using eslint-plugin-vue

0

Introduced in lsp-mode 6.1

• lsp-vetur-validation-style

Default value: t

Validate css/scss/less/postcss in <style>

8

Introduced in lsp-mode 6.1

• lsp-vetur-validation-script

Validate js/ts in <script>



Introduced in lsp-mode 6.1

• lsp-vetur-format-enable

Default value: t

Enable/disable the Vetur document formatter.

**a** 

Introduced in lsp-mode 6.1

• lsp-vetur-format-options-tab-size

Default value: 2

Number of spaces per indentation level. Inherited by all formatters.

0

Introduced in lsp-mode 6.1

• lsp-vetur-format-options-use-tabs

Default value: nil

Use tabs for indentation. Inherited by all formatters.

**a** 

Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-html

Default value: "prettyhtml"

Default formatter for <template> region

a

Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-css

Default value: "prettier"

Default formatter for <style> region

a

• lsp-vetur-format-default-formatter-postcss

Default value: "prettier"

Default formatter for <style lang='postcss'> region

8

Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-scss

Default value: "prettier"

Default formatter for <style lang='scss'> region

1

Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-less

Default value: "prettier"

Default formatter for <style lang='less'> region

**a** 

Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-stylus

Default value: "stylus-supremacy"

Default formatter for <style lang='stylus'> region

a

Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-js

Default value: "prettier"

Default formatter for <script> region

A

Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-ts

Default value: "prettier"

Default formatter for <script> region



Introduced in lsp-mode 6.1

• lsp-vetur-format-default-formatter-options

```
Default value: ((js-beautify-html (wrap_attributes . "force-expand-multiline")) (prettyhtml (printWidth . 100) (singleQuote . :json-false) (wrapAttributes . :json-false) (sortAttributes . :json-false)))
```

Options for all default formatters

8

Introduced in lsp-mode 6.1

• lsp-vetur-format-style-initial-indent

Default value: nil

Whether to have initial indent for <style> region

0

Introduced in lsp-mode 6.1

• lsp-vetur-format-script-initial-indent

Default value: nil

Whether to have initial indent for <script> region

a

Introduced in lsp-mode 6.1

• lsp-vetur-trace-server

Default value: "off"

Traces the communication between VS Code and Vue Language Server.

a

Introduced in lsp-mode 6.1

• lsp-typescript-tsdk

Specifies the folder path containing the tsserver and lib\*.d.ts files to use.

8

Introduced in lsp-mode 6.1

• lsp-typescript-disable-automatic-type-acquisition

Default value: nil

Disables automatic type acquisition. Automatic type acquisition fetches '@types' packages from npm to improve IntelliSense for external libraries.

1

Introduced in lsp-mode 6.1

• lsp-typescript-npm

Default value: nil

Specifies the path to the NPM executable used for Automatic Type Acquisition. Requires using TypeScript 2.3.4 or newer in the workspace.

1

Introduced in lsp-mode 6.1

• lsp-typescript-check-npm-is-installed

Default value: t

Check if NPM is installed for Automatic Type Acquisition.

1

Introduced in lsp-mode 6.1

• lsp-javascript-references-code-lens-enabled

Default value: nil

Enable/disable references CodeLens in JavaScript files.

a

Introduced in lsp-mode 6.1

• lsp-typescript-references-code-lens-enabled

Enable/disable references CodeLens in TypeScript files.



Introduced in lsp-mode 6.1

• lsp-typescript-implementations-code-lens-enabled

Default value: nil

Enable/disable implementations CodeLens. This CodeLens shows the implementers of an interface.

8

Introduced in lsp-mode 6.1

• lsp-typescript-tsserver-log

Default value: "off"

Enables logging of the TS server to a file. This log can be used to diagnose TS Server issues. The log may contain file paths, source code, and other potentially sensitive information from your project.

a

Introduced in lsp-mode 6.1

• lsp-typescript-tsserver-plugin-paths

Default value: nil

Additional paths to discover Typescript Language Service plugins. Requires using TypeScript 2.3.0 or newer in the workspace.



Introduced in lsp-mode 6.1

• lsp-typescript-tsserver-trace

Default value: "off"

Enables tracing of messages sent to the TS server. This trace can be used to diagnose TS Server issues. The trace may contain file paths, source code, and other potentially sensitive information from your project.



Introduced in lsp-mode 6.1

• lsp-javascript-suggest-complete-function-calls

Complete functions with their parameter signature.

**a** 

Introduced in lsp-mode 6.1

• lsp-typescript-suggest-complete-function-calls

Default value: nil

Complete functions with their parameter signature.

1

Introduced in lsp-mode 6.1

• lsp-typescript-report-style-checks-as-warnings

Default value: t

Report style checks as warnings.

0

Introduced in lsp-mode 6.1

• lsp-typescript-validate-enable

Default value: t

Enable/disable TypeScript validation.

a

Introduced in lsp-mode 6.1

• lsp-typescript-format-enable

Default value: t

Enable/disable default TypeScript formatter.

a

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-comma-delimiter

Default value: t

Defines space handling after a comma delimiter.

a

• lsp-typescript-format-insert-space-after-constructor

Default value: nil

Defines space handling after the constructor keyword. Requires using TypeScript 2.3.0 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-semicolon-in-for-statements

Default value: t

Defines space handling after a semicolon in a for statement.

**a** 

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-before-and-after-binary-operators

Default value: t

Defines space handling after a binary operator.

**a** 

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-keywords-in-control-flow-statements

Default value: t

Defines space handling after keywords in a control flow statement.

a

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-function-keyword-for-anonymous-functions

Default value: t

Defines space handling after function keyword for anonymous functions.

A

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-before-function-parenthesis

Defines space handling before function argument parentheses.

8

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-opening-and-before-closing-nonempty-parenthesis

Default value: nil

Defines space handling after opening and before closing non-empty parenthesis.

1

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-opening-and-before-closing-nonempty-brackets

Default value: nil

Defines space handling after opening and before closing non-empty brackets.

a

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-opening-and-before-closing-nonempty-braces

Default value: t

Defines space handling after opening and before closing non-empty braces. Requires using TypeScript 2.3.0 or newer in the workspace.

8

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-opening-and-before-closing-template-string-braces

Default value: nil

Defines space handling after opening and before closing template string braces.

0

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-opening-and-before-closing-jsx-expression-braces

Defines space handling after opening and before closing JSX expression braces.

1

Introduced in lsp-mode 6.1

• lsp-typescript-format-insert-space-after-type-assertion

Default value: nil

Defines space handling after type assertions in TypeScript. Requires using TypeScript 2.4 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-typescript-format-place-open-brace-on-new-line-for-functions

Default value: nil

Defines whether an open brace is put onto a new line for functions or not.

**a** 

Introduced in lsp-mode 6.1

• lsp-typescript-format-place-open-brace-on-new-line-for-control-blocks

Default value: nil

Defines whether an open brace is put onto a new line for control blocks or not.

A

Introduced in lsp-mode 6.1

• lsp-javascript-validate-enable

Default value: t

Enable/disable JavaScript validation.

a

Introduced in lsp-mode 6.1

• lsp-javascript-format-enable

Enable/disable default JavaScript formatter.

a

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-comma-delimiter

Default value: t

Defines space handling after a comma delimiter.

0

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-constructor

Default value: nil

Defines space handling after the constructor keyword. Requires using TypeScript 2.3.0 or newer in the workspace.

a

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-semicolon-in-for-statements

Default value: t

Defines space handling after a semicolon in a for statement.

1

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-before-and-after-binary-operators

Default value: t

Defines space handling after a binary operator.

0

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-keywords-in-control-flow-statements

Defines space handling after keywords in a control flow statement.

1

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-function-keyword-for-anonymous-functions

Default value: t

Defines space handling after function keyword for anonymous functions.

1

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-before-function-parenthesis

Default value: nil

Defines space handling before function argument parentheses.

- introduced in lsp-mode 6.1
- lsp-javascript-format-insert-space-after-opening-and-before-closing-nonempty-parenthesis

Default value: nil

Defines space handling after opening and before closing non-empty parenthesis.

1

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-opening-and-before-closing-nonempty-brackets

Default value: nil

Defines space handling after opening and before closing non-empty brackets.

- i Introduced in lsp-mode 6.1
- lsp-javascript-format-insert-space-after-opening-and-before-closing-nonempty-braces

Defines space handling after opening and before closing non-empty braces. Requires using TypeScript 2.3.0 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-opening-and-before-closing-template-string-braces

Default value: nil

Defines space handling after opening and before closing template string braces.

0

Introduced in lsp-mode 6.1

• lsp-javascript-format-insert-space-after-opening-and-before-closing-jsx-expression-braces

Default value: nil

Defines space handling after opening and before closing JSX expression braces.

0

Introduced in lsp-mode 6.1

• lsp-javascript-format-place-open-brace-on-new-line-for-functions

Default value: nil

Defines whether an open brace is put onto a new line for functions or not.

a

Introduced in lsp-mode 6.1

• lsp-javascript-format-place-open-brace-on-new-line-for-control-blocks

Default value: nil

Defines whether an open brace is put onto a new line for control blocks or not.

a

Introduced in lsp-mode 6.1

• lsp-javascript-implicit-project-config-check-js

Enable/disable semantic checking of JavaScript files. Existing jsconfig.json or tsconfig.json files override this setting. Requires using TypeScript 2.3.1 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-javascript-implicit-project-config-experimental-decorators

Default value: nil

nil

0

Introduced in lsp-mode 6.1

• lsp-javascript-suggest-names

Default value: t

Enable/disable including unique names from the file in JavaScript suggestions.

0

Introduced in lsp-mode 6.1

• lsp-typescript-tsc-auto-detect

Default value: "on"

Controls auto detection of tsc tasks.

8

Introduced in lsp-mode 6.1

• lsp-javascript-suggest-paths

Default value: t

Enable/disable suggestions for paths in import statements and require calls.

8

Introduced in lsp-mode 6.1

• lsp-typescript-suggest-paths

Enable/disable suggestions for paths in import statements and require calls.

**a** 

Introduced in lsp-mode 6.1

• lsp-javascript-suggest-auto-imports

Default value: t

Enable/disable auto import suggestions. Requires using TypeScript 2.6.1 or newer in the workspace.

8

Introduced in lsp-mode 6.1

• lsp-typescript-suggest-auto-imports

Default value: t

Enable/disable auto import suggestions. Requires using TypeScript 2.6.1 or newer in the workspace.

8

Introduced in lsp-mode 6.1

• lsp-javascript-suggest-complete-js-docs

Default value: t

Enable/disable suggestion to complete JSDoc comments.

0

Introduced in lsp-mode 6.1

• lsp-typescript-suggest-complete-js-docs

Default value: t

Enable/disable suggestion to complete JSDoc comments.

0

Introduced in lsp-mode 6.1

• lsp-typescript-locale

nil



Introduced in lsp-mode 6.1

• lsp-javascript-suggestion-actions-enabled

Default value: t

Enable/disable suggestion diagnostics for JavaScript files in the editor. Requires using TypeScript 2.8 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-typescript-suggestion-actions-enabled

Default value: t

Enable/disable suggestion diagnostics for TypeScript files in the editor. Requires using TypeScript 2.8 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-javascript-preferences-quote-style

Default value: "auto"

nil

0

Introduced in lsp-mode 6.1

• lsp-typescript-preferences-quote-style

Default value: "auto"

nil

0

Introduced in lsp-mode 6.1

• lsp-javascript-preferences-import-module-specifier

Default value: "auto"

Preferred path style for auto imports.

**a** 

Introduced in lsp-mode 6.1

• lsp-typescript-preferences-import-module-specifier

Default value: "auto"

Infer the shortest path type.

**a** 

Introduced in lsp-mode 6.1

• lsp-javascript-preferences-rename-shorthand-properties

Default value: t

Enable/disable introducing aliases for object shorthand properties during renames. Requires using TypeScript 3.4 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-typescript-preferences-rename-shorthand-properties

Default value: t

Enable/disable introducing aliases for object shorthand properties during renames. Requires using TypeScript 3.4 or newer in the workspace.

1

Introduced in lsp-mode 6.1

• lsp-typescript-update-imports-on-file-move-enabled

Default value: "prompt"

Enable/disable automatic updating of import paths when you rename or move a file in VS Code. Requires using TypeScript 2.9 or newer in the workspace.

a

Introduced in lsp-mode 6.1

• lsp-javascript-update-imports-on-file-move-enabled

Default value: "prompt"

Prompt on each rename.



Introduced in lsp-mode 6.1

• lsp-typescript-auto-closing-tags

Default value: t

Enable/disable automatic closing of JSX tags. Requires using TypeScript 3.0 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-javascript-auto-closing-tags

Default value: t

Enable/disable automatic closing of JSX tags. Requires using TypeScript 3.0 or newer in the workspace.

0

Introduced in lsp-mode 6.1

• lsp-javascript-suggest-enabled

Default value: t

Enabled/disable autocomplete suggestions.

A

Introduced in lsp-mode 6.1

• lsp-typescript-suggest-enabled

Default value: t

Enabled/disable autocomplete suggestions.

0

Introduced in lsp-mode 6.1

• lsp-typescript-surveys-enabled

Enabled/disable occasional surveys that help us improve VS Code's JavaScript and TypeScript support.

0

Introduced in lsp-mode 6.1

• lsp-vetur-server-command

Default value: ("vls")

Command to start vetur.

8

Introduced in lsp-mode 6.1

## XML support: lsp-xml

lsp-xml provides support for XML using lsp4xml

#### lsp-xml settings

• lsp-xml-trace-server

Default value: "off"

Traces the communication between VS Code and the XML language server.

a

Introduced in lsp-mode 6.1

• lsp-xml-catalogs

Default value: nil

Array of XML Catalogs

0

Introduced in lsp-mode 6.1

• lsp-xml-logs-client

Default value: t

Should the server log to client output

A

• lsp-xml-format-split-attributes

Default value: nil

Split multiple attributes each onto a new line

0

Introduced in lsp-mode 6.1

• lsp-xml-format-join-cdata-lines

Default value: nil

Join lines in a CDATA tag's content

1

Introduced in lsp-mode 6.1

• lsp-xml-format-join-comment-lines

Default value: nil

Join comment content on format

0

Introduced in lsp-mode 6.1

• lsp-xml-format-space-before-empty-close-tag

Default value: t

Insert space before end of self closing tag. Example: <tag/> → <tag />

0

Introduced in lsp-mode 6.1

• lsp-xml-format-join-content-lines

Default value: nil

Normalize the whitespace of content inside an element. Newlines and excess whitespace are removed.

a

Introduced in lsp-mode 6.1

• lsp-xml-format-preserve-empty-content

Preserve empty content/whitespace in a tag.

8

Introduced in lsp-mode 6.1

• lsp-xml-format-enabled

Default value: t

Enable/disable ability to format document

**a** 

Introduced in lsp-mode 6.1

• lsp-xml-format-quotations

Default value: "doubleQuotes"

Which type of quotes to use for attribute values when formatting.

- Introduced in lsp-mode 6.1
- lsp-xml-file-associations

Default value: nil

Allows XML schemas to be associated to file name patterns. Example: [{ "systemId":"path/to/file.xsd","pattern": "file1.xml" },{ "systemId": "http://www.w3.org/2001/XMLSchema.xsd","pattern": "\*/.xsd" }]

- Introduced in lsp-mode 6.1
- lsp-xml-completion-auto-close-tags

Default value: t

Enable/disable autoclosing of XML tags. IMPORTANT: Turn off editor.autoClosingTags for this to work

- Introduced in lsp-mode 6.1
- lsp-xml-server-vmargs

Default value: "-noverify -Xmx64M\n -XX:+UseG1GC -XX:+UseStringDeduplication"

Specifies extra VM arguments used to launch the XML Language Server. Eg. use '-noverify -Xmx1G -XX:+UseG1GC -XX:+UseStringDeduplication' to bypass class verification, increase the heap size to 1GB and enable String deduplication with the G1 Garbage collector

Introduced in lsp-mode 6.1

• lsp-xml-server-work-dir

Default value: "~/.lsp4xml"

Set a custom folder path for cached XML Schemas. An absolute path is expected, although the ~ prefix (for the user home directory) is supported.

Introduced in lsp-mode 6.1

• lsp-xml-validation-no-grammar

Default value: "hint"

The message severity when a document has no associated grammar.

Introduced in lsp-mode 6.1

• lsp-xml-validation-enabled

Default value: t

Enable/disable all validation.

Introduced in lsp-mode 6.1

• lsp-xml-validation-schema

Default value: t

Enable/disable schema based validation. Ignored if "xml.validation.enabled": false.

Introduced in lsp-mode 6.1

• lsp-xml-jar-file

Default value: "~/.emacs.d/org.eclipse.lsp4xml-0.3.0-uber.jar"

Xml server jar command.



Introduced in lsp-mode 6.1

• lsp-xml-server-command

```
Default value: ("java" "-jar" "~/.emacs.d/org.eclipse.lsp4xml-0.3.0-uber.jar")
```

Xml server command.



Introduced in lsp-mode 6.1

[1] A stand-alone, editor-agnostic program that provides IDE-like functionality (completion, references, error checking, etc) over a defined protocol. irony-mode and rls are both language servers that use different protocols to communicate.