The luatex-type-definitions package

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github.com/Josef-Friedrich/LuaTeX_Lua-API

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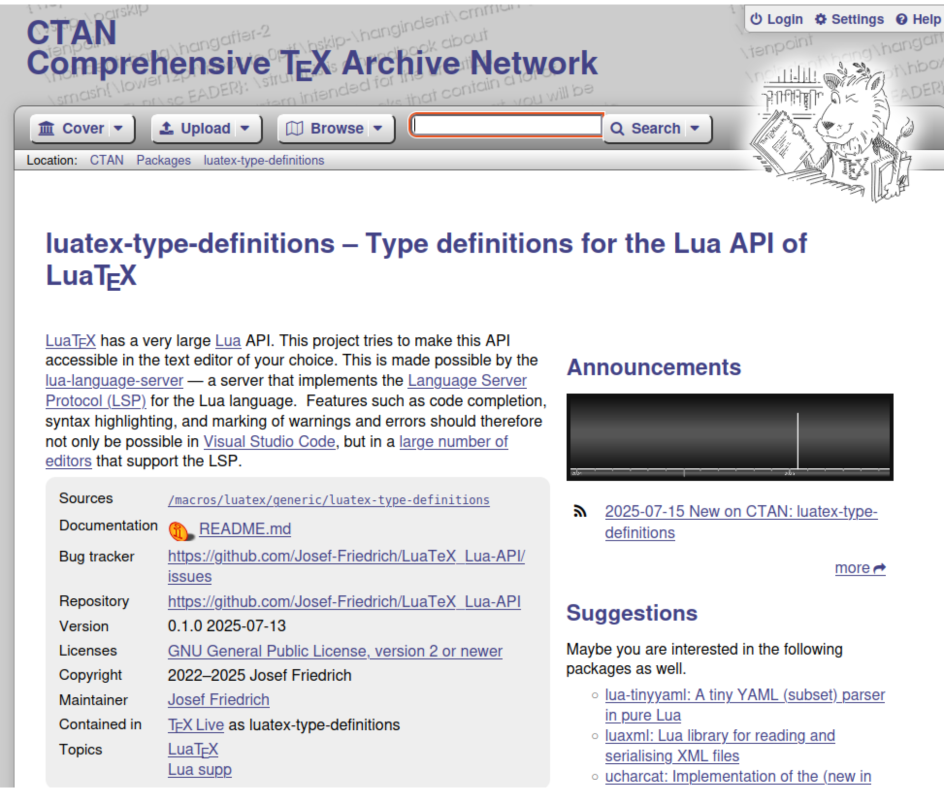
Contents

1 Introduction

LuaTEX has a very large Lua API. This project tries to make this API accessible in the text editor of your choice. This is made possible by the lua-language-server - a server that implements the Language Server Protocol (LSP) for the `Lua` language. Features such as code completion, syntax highlighting and marking of warnings and errors, should therefore not only be possible in Visual Studio Code, but in a large number of editors that support the `LSP`.

2 Distribution …

2.1 via CTAN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Login
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Help
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Upload
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Search
Location: CTAN Packages luatex-type-definitions
Announcements
more
Suggestions

luatex-type-definitions – Type definitions for the Lua API of LuaTEX

LuaTEX has a very large Lua API. This project tries to make this API accessible in the text editor of your choice. This is made possible by the lua-language-server — a server that implements the Language Server Protocol (LSP) for the Lua language. Features such as code completion, syntax highlighting, and marking of warnings and errors should therefore not only be possible in Visual Studio Code, but in a large number of editors that support the LSP.

Sources	`/macros/luatex/generic/luatex-type-definitions`
Documentation	README.md
Bug tracker	https://github.com/Josef-Friedrich/LuaTeX_Lua-API/issues
Repository	https://github.com/Josef-Friedrich/LuaTeX_Lua-API
Version	0.1.0 2025-07-13
Licenses	GNU General Public License, version 2 or newer
Copyright	2022–2025 Josef Friedrich
Maintainer	Josef Friedrich
Contained in	TEX Live as luatex-type-definitions
Topics	LuaTEX Lua supp

2025-07-15 New on CTAN: luatex-type-definitions

Maybe you are interested in the following packages as well.

- lua-tinyyaml: A tiny YAML (subset) parser in pure Lua
- luaxml: Lua library for reading and serialising XML files
- ucharcat: Implementation of the (new in

The type definitions are published on CTAN as a single file to avoid cluttering the CTAN directory with many individual Lua files. Since this one file is just under 1.5 MB in size, a configuration must be made so that the language server can load the file. The following configuration example sets the preload file size to a maximum of 5000 kB.

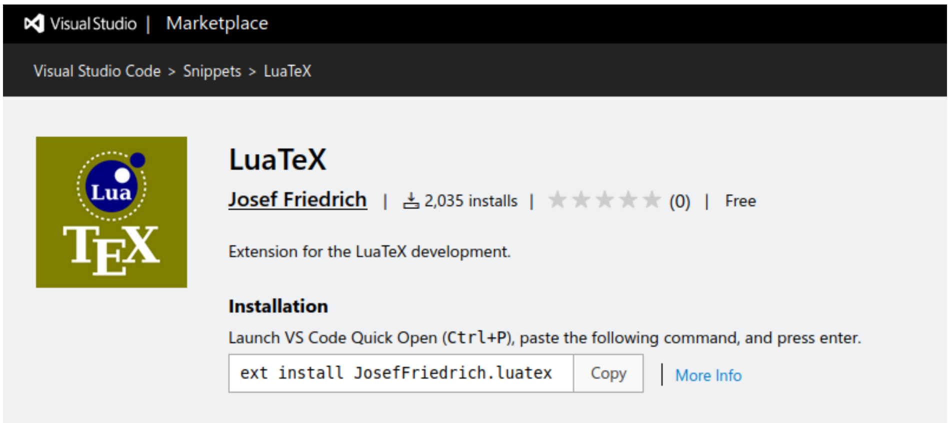
```
{
  "Lua.workspace.preloadFileSize": 5000,
}
```

There are several ways to include the type definitions in a project. The easiest way is to copy the file into the project folder. Or you can use the configuration

`Lua.workspace.library`:

```
{
    "Lua.workspace.library": ["/path/to/luatex-type-definitions.lua"]
}
```

2.2 via Visual Studio Code Extension


Visual Studio | Marketplace
Visual Studio Code > Snippets > LuaTeX
Lua
TEX
Copy
More Info

LuaTeX

Josef Friedrich | 2,035 installs | (0) | Free

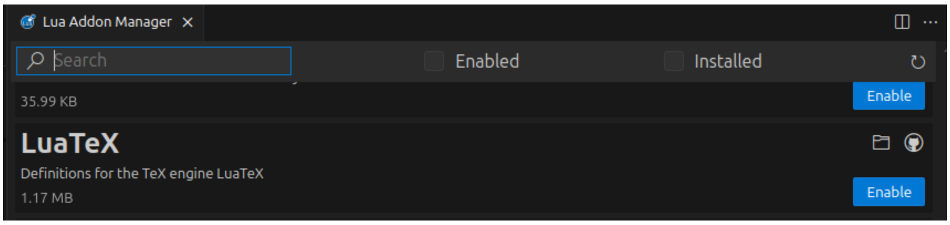
Extension for the LuaTeX development.

Installation

Launch VS Code Quick Open (`Ctrl+P`), paste the following command, and press enter.

```
ext install JosefFriedrich.luatex
```

2.3 via Lua Addon Manager (in Visual Studio Code)

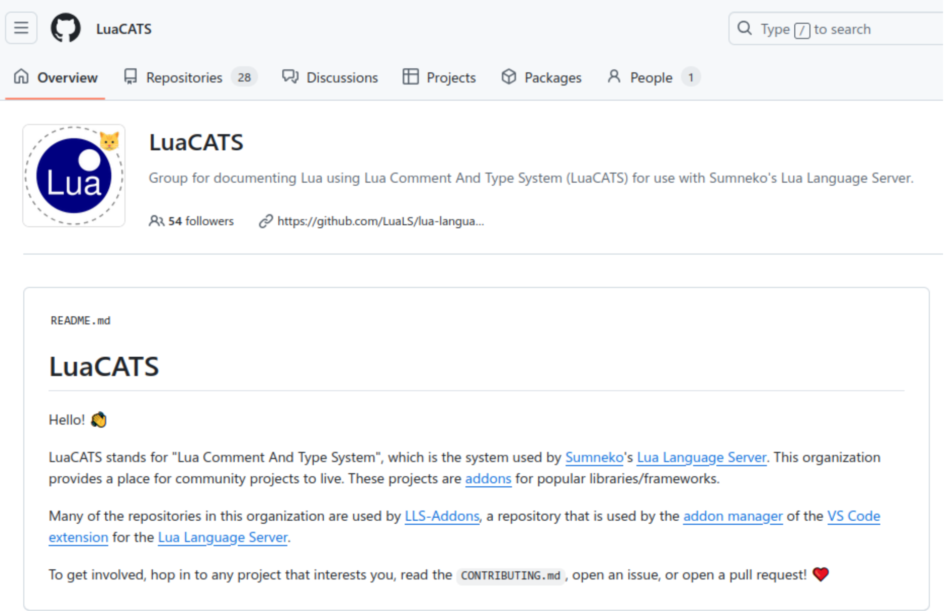


LuaTeX

Definitions for the TeX engine LuaTeX

1.17 MB

2.4 via LuaCATS git respositories



LuaCATS

Group for documenting Lua using Lua Comment And Type System (LuaCATS) for use with Sumneko's Lua Language Server.

54 followers https://github.com/LuaLS/lua-langua...

README.md

LuaCATS

Hello! 👋

LuaCATS stands for "Lua Comment And Type System", which is the system used by Sumneko's Lua Language Server. This organization provides a place for community projects to live. These projects are addons for popular libraries/frameworks.

Many of the repositories in this organization are used by LLS-Addons, a repository that is used by the addon manager of the VS Code extension for the Lua Language Server.

To get involved, hop in to any project that interests you, read the `CONTRIBUTING.md`, open an issue, or open a pull request! ❤️

LuaCATS is a Github organisation and stands for *“Lua Comment And Type System”*. This organization provides a place for community projects to live. These projects are addons for popular libraries/frameworks. The repositories in this organization are used by LLS-Addons, a repository that is used by the addonmanager of the VSCodeextension for the Lua Language Server.

2.4.1 All related LuaCATS repositories

This repositories in LuaCATS are related to this project:

- lmathx
- lpeg
- luafilesystem
- luaharfbuzz
- luasocket
- luazip
- lzlib
- md5
- slnunicode
- tex-lualatex
- tex-lualibs
- tex-luametatex
- tex-luatex

2.4.2 Upstream LuaCATS repositories

The following repositories are *upstream* projects. This means: The type definitions are developed in a LuaCATS repository and *pulled* in by this project.

- LuaCATS: lmathx → library/luametatex/lmathx.lua
- LuaCATS: lpeg → library/luatex/lpeg.lua
- LuaCATS: luaharfbuzz → library/luatex/luaharfbuzz.lua
- LuaCATS: luasocket → library/luatex/socket.lua → library/luatex/mime.lua
- LuaCATS: luazip → library/luatex/zip.lua
- LuaCATS: lzlib → library/luatex/zlib.lua
- LuaCATS: md5 → library/luatex/md5.lua
- LuaCATS: slnunicode → library/luatex/unicode.lua

2.4.3 Downstream LuaCATS repositories

The following repositories are *downstream* projects. This means: The type definitions are developed in this project. They are then *pushed* into a LuaCATS repository.

- LuaCATS: tex-lualatex ← library/lualatex
- LuaCATS: tex-luatex ← library/luatex
- LuaCATS: tex-lualibs ← library/lualibs
- LuaCATS: tex-luametatex ← library/luametatex

3 Directory structure of the repository

In the subfolder `library` are files named after the global libraries they document. For example, the `library/tex.lua` file contains the documentation for the `tex` library. These *Lua* files don't contain real *Lua* code. They consist only of function bodies and empty tables. The main focus is in the docstrings.

The API documentation is written in a well documented annotation format. This format is based on the EmmyLua format. Unfortunately, the *Lua* community has not yet been able to agree on a standarized annotation format. Many *Lua* project are documented in the LDoc format. However, the differences between these formats are marginal.

3.1 Directory `library`

The actual definitions are located in the directory `library`. This directory is divided into further subdirectories. In the folder `luatex` you will find the definitions that the engine *LuaTEX* provides. The folder `lualibs` documents the extension library of the same name. If you use `lualatex`, you may be interested in the folder of the same name.

3.2 Directory `resources`

The folder `resources` contains *TEX* manuals and *HTML* online documentation converted into *Lua* docstrings.

3.3 Directory `examples`

The `example` folder contains *TEX* and *Lua* files for demonstrating and testing the documented *Lua* API.