Sublime Text Unofficial Documentation

Release 3.0

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Backers 2014

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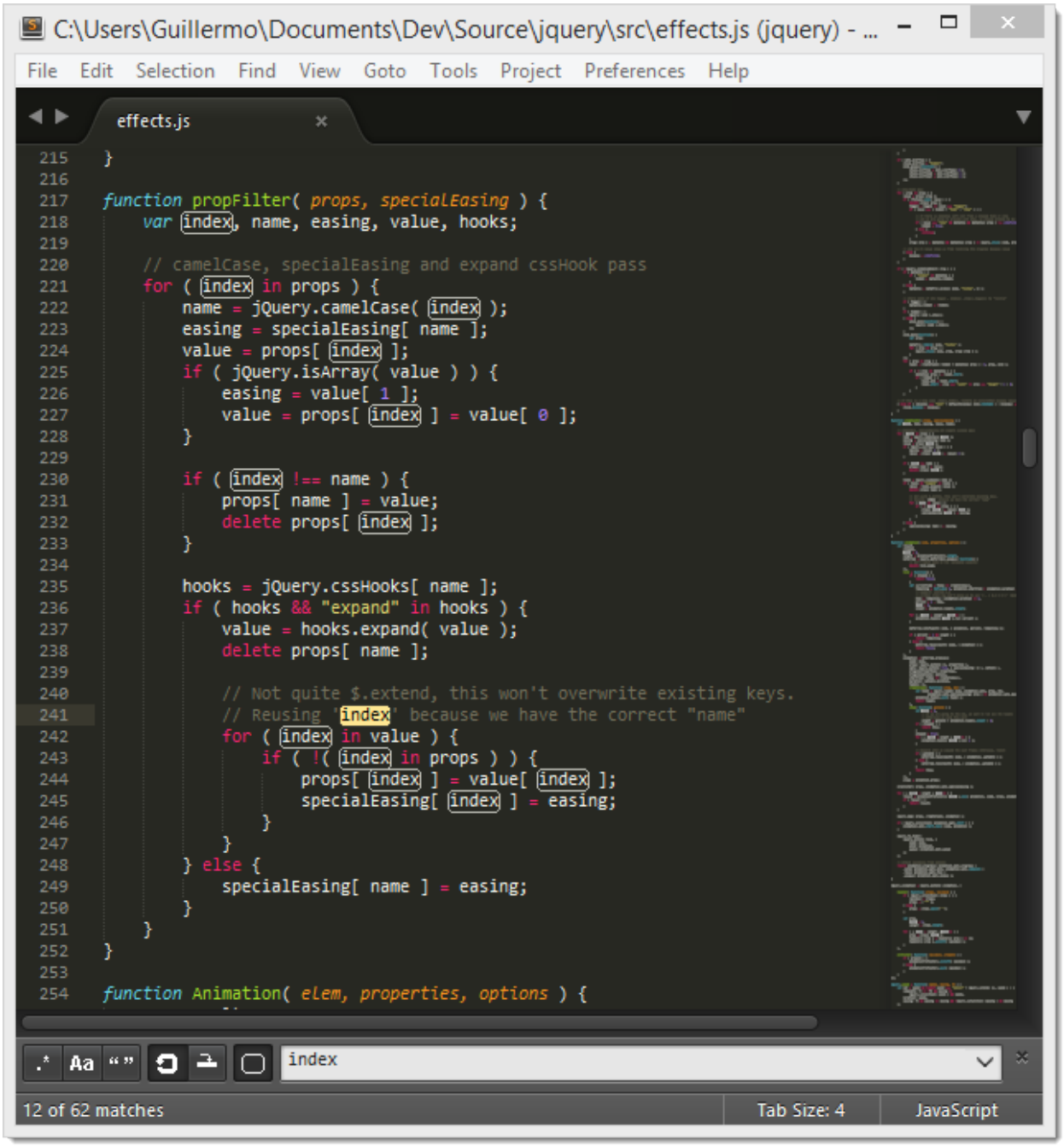
2.1 About This Documentation

Welcome to the unofficial documentation for the Sublime Text editor!



Sublime Text is a versatile and fun text editor for code and prose that automates repetitive tasks so you can focus the important stuff. It works on OS X, Windows and Linux.

If you're starting out with Sublime Text, read the Basic Concepts section first.

Happy learning!

2.1.1 Contributing to the Documentation

If you want to contribute to this documentation, head over to the GitHub repo. This guide has been created with Sphinx.

2.2 Installation

Make sure to read the conditions for use on the official site. **Sublime Text is not free**.

The process of installing Sublime Text is different for each platform.

2.2.1 32 bits or 64 bits?

OS X

You can ignore this section: there is only one version of Sublime Text for OS X.

Windows

You should be able to run the 64-bit version if you are using a modern version Windows. If you are having trouble running the 64-bit version, try the 32-bit version.

Linux

Run this command in your terminal to check your operating system's type:

```
uname -m
```

2.2.2 Windows

Portable or Not Portable?

Sublime Text comes in two flavors for Windows: normal, and portable. Most users should be better served by a normal installation. Use the portable version only if you know you need it.

Normal installations separate data between two folders: the installation folder proper, and the *data directory* (user-specific directory for data; explained later in this guide). Normal installations also integrate Sublime Text with File Explorer.

Portable installations keep all files needed by Sublime Text in a single folder. This folder can be moved around and the editor will still work.

How to Install the Normal Version of Sublime Text

1. Download the installer
2. Double click on the installer

How to Install the Portable Version of Sublime Text

1. Download the compressed files
2. Unzip them to a folder of your choice

You will find the *sublime_text.exe* executable inside that folder.

2.2.3 OS X

1. Download *.dmg* file
2. Open *.dmg* file
3. Drag the Sublime Text 3 bundle into the *Applications* folder

To create a *symbolic link* to use at the command line issue the following command at the terminal:

```
ln -s  "/Applications/Sublime Text.app/Contents/SharedSupport/bin/subl" /usr/local/bin/subl
```

2.2.4 Linux

You can download the package and uncompress it manually. Alternatively, you can use the command line.

Ubuntu

For i386

```
cd ~
wget http://c758482.r82.cf2.rackcdn.com/sublime-text_build-3083_i386.deb
```

For x64

```
cd ~
wget http://c758482.r82.cf2.rackcdn.com/sublime-text_build-3083_amd64.deb
```

Other Linux Distributions

For i386

```
cd ~
wget http://c758482.r82.cf2.rackcdn.com/sublime_text_3_build_3083_x32.tar.bz2
tar vxjf sublime_text_3_build_3083_x32.tar.bz2
```

For x64

```
cd ~
wget http://c758482.r82.cf2.rackcdn.com/sublime_text_3_build_3083_x64.tar.bz2
tar vxjf sublime_text_3_build_3083_x64.tar.bz2
```

Now we should move the uncompressed files to an appropriate location.

```
sudo mv Sublime\ Text\ 3 /opt/
```

Lastly, we create a *symbolic link* to use at the command line.

```
sudo ln -s /opt/Sublime\ Text\ 3/sublime_text /usr/bin/sublime
```

In Ubuntu, if you also want to add Sublime Text to the Unity luncher, read on.

First we need to create a new file.

```
sudo sublime /usr/share/applications/sublime.desktop
```

Then copy the following into it.

```
[Desktop Entry]
Version=1.0
Name=Sublime Text 3
# Only KDE 4 seems to use GenericName, so we reuse the KDE strings.
# From Ubuntu's language-pack-kde-XX-base packages, version 9.04-20090413.
GenericName=Text Editor

Exec=sublime
Terminal=false
Icon=/opt/Sublime Text 3/Icon/48x48/sublime_text.png
Type=Application
Categories=TextEditor;IDE;Development
X-Ayatana-Desktop-Shortcuts=NewWindow

[NewWindow Shortcut Group]
Name=New Window
Exec=sublime -n
TargetEnvironment=Unity
```

If you've registered your copy of Sublime Text, but every time you open it you're asked to enter your license, you should try running this command.

```
sudo chown -R username:username /home/username/.config /sublime-text-3
```

Just replace *username* with your account's username. This should fix the permission error in the case that you opened up Sublime Text as root when you first entered the license.

2.2.5 Release Channels

At the time of this writing, two major versions of Sublime Text exist: Sublime Text 2 and Sublime Text 3. Generally speaking, Sublime Text 3 is the better choice. Even though it's technically in beta, it's as stable as Sublime Text 2 and has more features.

Use Sublime Text 2 only if you have found issues running Sublime Text 3 or you depend on any package not available for Sublime Text 3.

Getting Sublime Text 3

Sublime Text 3 currently has two release *channels*:

- Beta (default, recommended)
- Dev

Beta releases are better tested and more reliable for everyday use than development builds. **The majority of users should only use beta releases.**

The *dev* channel is unstable: dev builds may contain bugs and not work reliably. Dev builds are updated more often than beta releases.

Dev builds are only available to registered users.

Getting Sublime Text 2

We recommend Sublime Text 3, but if you have chosen to use Sublime Text 2 you can download it here.

2.3 Basic Concepts

2.3.1 Overview

To fully understand the rest of this guide, you need to be familiar with the concepts presented in this section.

2.3.2 General Conventions

This guide is written from the perspective of a Windows user. Most instructions will only require trivial changes to work on other platforms.

Unless otherwise noted, relative paths (for example, `Packages/User`) start at *the Data Directory*.

We assume default key bindings when indicating keyboard shortcuts. If you are using a non-US-English keyboard layout, some key bindings may not match your layout. This is due to the way Sublime Text processes key strokes internally.

2.3.3 Mastering Sublime Text Takes Time

Mastering Sublime Text requires time and practice. Luckily, it's built around a handful of concepts that make for a consistent system once all the pieces come together.

This guide will teach you how to use and configure Sublime Text.

Sublime Text is a versatile editor for programmers, but you don't need to be one in order to use it, and you don't need to configure it extensively to be productive—it's an efficient tool out of the box. Hackers, however, will appreciate all the customization and extensibility opportunities.

In the following paragraphs, we'll outline key aspects that you'll get familiar with after you've spent some time using the editor.

2.3.4 The *Data* Directory

Nearly all of the interesting files for users live under the *data directory*. The data directory is a platform-dependent location:

- **Windows**: `%APPDATA%\Sublime Text 3`
- **OS X**: `~/Library/Application Support/Sublime Text 3`
- **Linux**: `~/.config/sublime-text-3`

If you're using the **portable version** (Windows only), look for *`Application`*`/Data`. Here, `Application` refers to the directory to which you've extracted the compressed portable files and where the executable resides.

Note that the `Data` directory only exists with that name in the portable version. In full installations, it is one of the locations indicated above.

2.3.5 The *Packages* Directory

This is a key directory located under the data directory. All resources for supported programming and markup languages are stored here.

(More on *packages* and *resources* later.)

You can access the packages directory from the main menu (**Preferences** → **Browse Packages...**), by means of an API call (`sublime.packages_path()`), and by other means that will be explained in later topics.

In this guide, we refer to the packages folder as *Packages*, *packages path*, *packages folder* or *packages directory*.

The *User* Package

`Packages/User` is a catch-all directory for custom plugins, snippets, macros, etc. Consider it your personal area in the packages folder. Additionally, it will contain most of your personal application or plugin settings.

Updates to Sublime Text will never overwrite the contents of `Packages/User`.

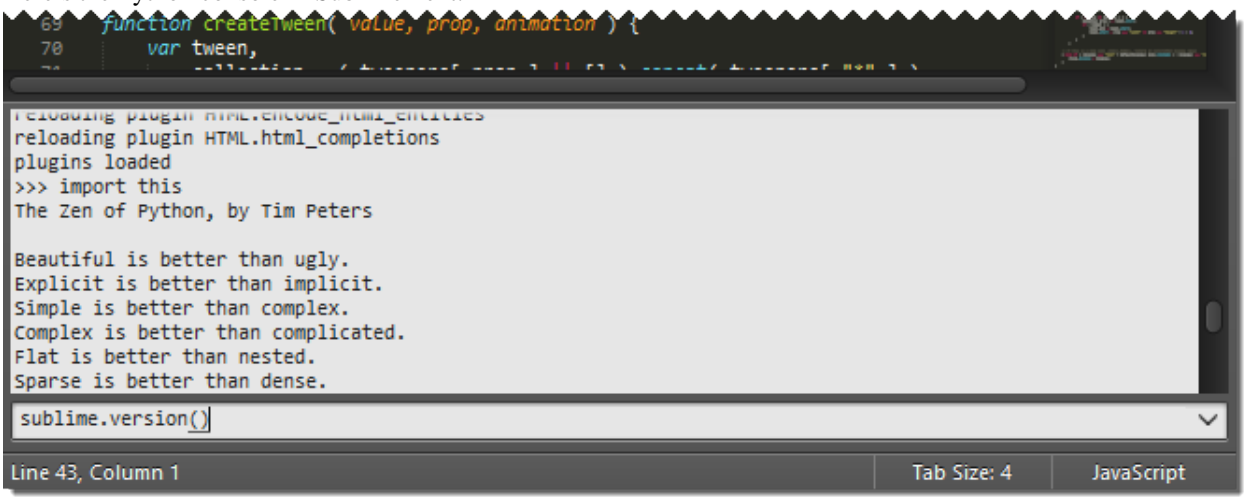
2.3.6 Sublime Text is Programmable

This information is useful for programmers. Other users just need to know that Sublime Text enables users with programming skills to add their own features to the editor.

Sublime Text exposes its internals via an Application Programming Interface (API) that programmers can interact with using the Python programming language. An embedded Python interpreter is included in the editor. The embedded interpreter is useful to inspect the editor's settings and to quickly test API calls while developing plugins.

Sublime Text and plugins output information to a *console*. To open the console, press `Ctrl+`` or select **View** → **Show Console** from the main menu.

Here's the Python console in Sublime Text:



Your System's Python vs the Sublime Text 3 Embedded Python

Sublime Text 3 comes with its own Python interpreter that's separate from your system's Python interpreter (if available).

The embedded interpreter is only intended to interact with the plugin API, not for general development.

2.3.7 Packages, Plugins, Resources and Other Terms

Almost every aspect of Sublime Text can be extended or customized. You can modify the editor's behavior, add macros and snippets, extend menus and much more. You can even create whole new features using the editor's API to build complex plugins.

Sublime Text's vast flexibility is the reason why you will learn about so many configuration files: there simply must be a place to specify all available preferences and settings.

Configuration files in Sublime Text are text files that conform to a predefined structure or *format*: JSON predominates, but you'll find XML files too. For the more advanced extensibility options, Python source code files are used.

In this guide, for brevity, we sometimes refer collectively to all these disparate configuration files as *resources*.

Sublime Text will look for resources inside the packages folder. We'll talk at length about *packages* later, but the short version is that, to keep things tidy, Sublime Text has a notion of a *package*, that is, a folder (or zip archive) that contains resources that belong together (maybe they help compose emails faster, write HTML efficiently, enhance the coding experience for C, Ruby, Go...).

2.3.8 Textmate Compatibility

This information is useful for Textmate users who are now using Sublime Text.

Textmate is an editor for the Mac.

Sublime Text compatibility with Textmate bundles is good excluding commands, which are incompatible. Additionally, Sublime Text requires all syntax definitions to have the *.tmLanguage* extension, and all preferences files to have the *.tmPreferences* extension. In particular, this means that *.plist* files will be ignored, even if they are located under a *Syntaxes* or *Preferences* subdirectory.

2.3.9 vi/Vim Emulation

This information is useful for Vim users who are now using Sublime Text.

vi is an ancient modal editor that lets the user perform all operations from the keyboard. Vim, a modern version of vi, is still in widespread use.

Sublime Text provides vi emulation through the *Vintage* package. The Vintage package is *ignored* by default. Learn more about Vintage in the official documentation.

An evolution of Vintage, called Vintageous, offers a better vi/Vim editing experience and is updated more often than Vintage. Vintageous is an open source project.

2.3.10 emacs Emulation

This information is useful for emacs users who are now using Sublime Text.

emacs is another popular editor for programmers.

Sublime Text does not offer any built-in emacs emulation, but you can try third-party packages created by other Sublime Text users.

2.4 Editing

2.4.1 Overview

Sublime Text is brim-full of editing features. This topic just scratches the surface of what's possible.

2.4.2 Multiple Selections

Multiple selections let you make sweeping changes to your text efficiently. Any praise about multiple selections is an understatement. This is why:

Select some text and press `Ctrl + D` to **add more** instances. If you want **to skip the current instance**, press `Ctrl + K, Ctrl + D`.

If you go too far, press `Ctrl + U` to **deselect** the current instance.

2.4.3 Transforming Multiple Selections into Lines

`Ctrl + L` expands the selections to the end of the line. `Ctrl + Shift + L` splits the selections into lines.

You can copy multiple selected lines to a separate buffer, edit them there, select the content again as multiple lines and then paste them back into place in the first buffer.

2.4.4 Column Selection

You can select a rectangular area of a file. Column selection makes use of multiple selections.

It's possible to add blocks of text to or remove them from the selection.

Using the Mouse

Windows

Select Block	Right Mouse Button +
Add to Selection	Ctrl + Right Mouse Button +
Remove from Selection	Alt + Right Mouse Button +

Linux

Select Block	Right Mouse Button +
Add to Selection	Ctrl + Right Mouse Button +
Remove from Selection	Alt + Right Mouse Button +

OS X

Select Block	Right Mouse Button +
Add to Selection	+ Right Mouse Button +
Remove from Selection	+ + Right Mouse Button +

Using the Keyboard

Windows	Ctrl + Alt + Up and Ctrl + Alt + Down
Linux	Alt + + Up and Alt + + Down
OS X	+ + Up and + + Down

2.4.5 Other Ways of Selecting Text

The list is long; all available options can be found under **Selection**. To name a few:

- Select subwords (`Alt + Shift + <arrow>`)

- Expand selection to brackets (`Ctrl + Shift + M`)
- Expand selection to indentation (`Ctrl + Shift + J`)
- Expand selection to scope (`Ctrl + Shift + Space`)

2.4.6 Transposing Things

Need to swap two letters or, better yet, two words? Experiment with `Ctrl + T`.

2.4.7 And much, much more...

The **Edit**, **Selection**, **Find** and **Goto** menus are good places to look for handy editing tools. You might end up using just a few of them, but the rest will still be there for when you need them.

2.5 Search and Replace

Sublime Text features two main types of search:

2.5.1 Search and Replace – Single File

Searching

Keyboard shortcuts related to the search panel:

Open search panel	Ctrl + F
Toggle regular expressions	Alt + R
Toggle case sensitivity	Alt + C
Toggle exact match	Alt + W
Find next	Enter
Find previous	Shift + Enter
Find all	Alt + Enter

Incremental Search

Keyboard shortcuts related to the incremental search panel:

Open incremental search panel	Ctrl + I
Toggle regular expressions	Alt + R
Toggle case sensitivity	Alt + C
Toggle exact match	Alt + W
Find next	Enter
Find previous	Shift + Enter
Find all	Alt + Enter

The only difference between this panel and the regular search panel lies in the behavior of the `Enter` key. In incremental searches, it will select the next match in the file and dismiss the search panel for you. Choosing between this panel or the regular search panel is a matter of preference.

Replacing Text

Keyboard shortcuts related to the replace panel:

Open replace panel	Ctrl + H
Replace next	Ctrl + Shift + H
Replace all	Ctrl + Alt + Enter

Tips

Other Ways of Searching in Files

Goto Anything provides the operator # to search in the active file.

Other Search-Related Key Bindings

These key bindings work when the search panel is hidden:

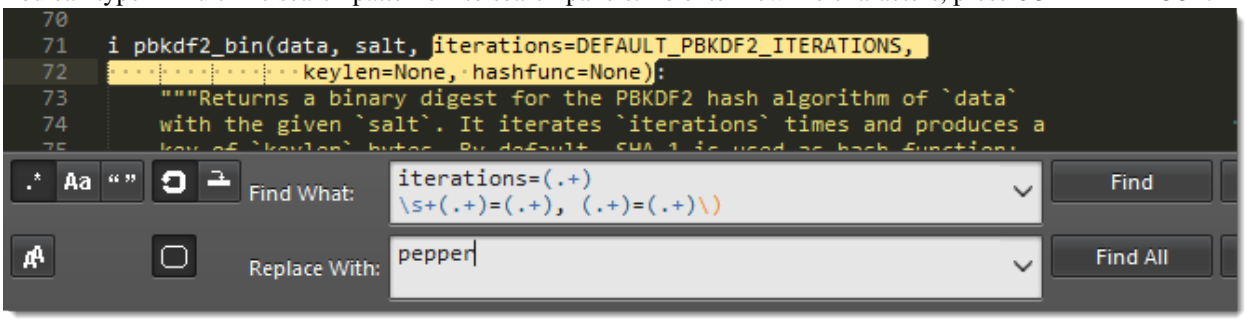
Search forward using most recent pattern	F3
Search backwards using most recent pattern	Shift + F3
Select all matches using most recent pattern	Alt + F3

You can also perform searches based on the current selection:

Search using current selection	Ctrl + E
Replace using current selection	Ctrl + Shift + E

Multiline Search

You can type in multiline search patterns into search panels. To enter newline characters, press `Ctrl + Enter`.



Note that search panels are resizable too.

2.5.2 Search and Replace — Multiple Files

Searching

Keyboard shortcuts related to Find in Files:

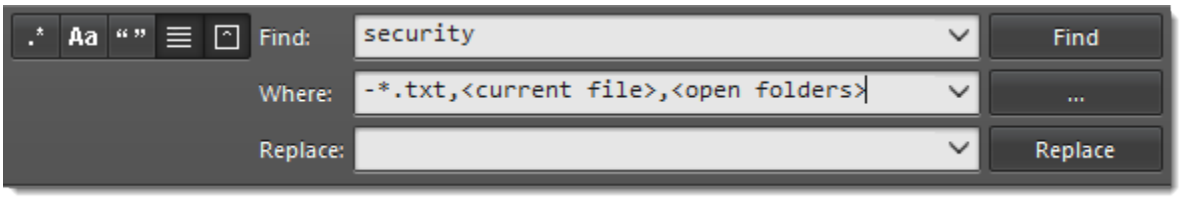
Open Find in Files	Ctrl + Shift + F
Toggle regular expressions	Alt + R
Toggle case sensitivity	Alt + C
Toggle exact matches	Alt + W
Find next	Enter

Search Scope

The **Where** field in Find in Files limits the search scope. You can define scopes in several ways:

- Adding individual directories (Unix-style paths, even on Windows)
- Adding/excluding files based on wildcards
- Adding symbolic locations (`<open folders>`, `<open files>`...)

It is also possible to combine these filters using commas; for example:

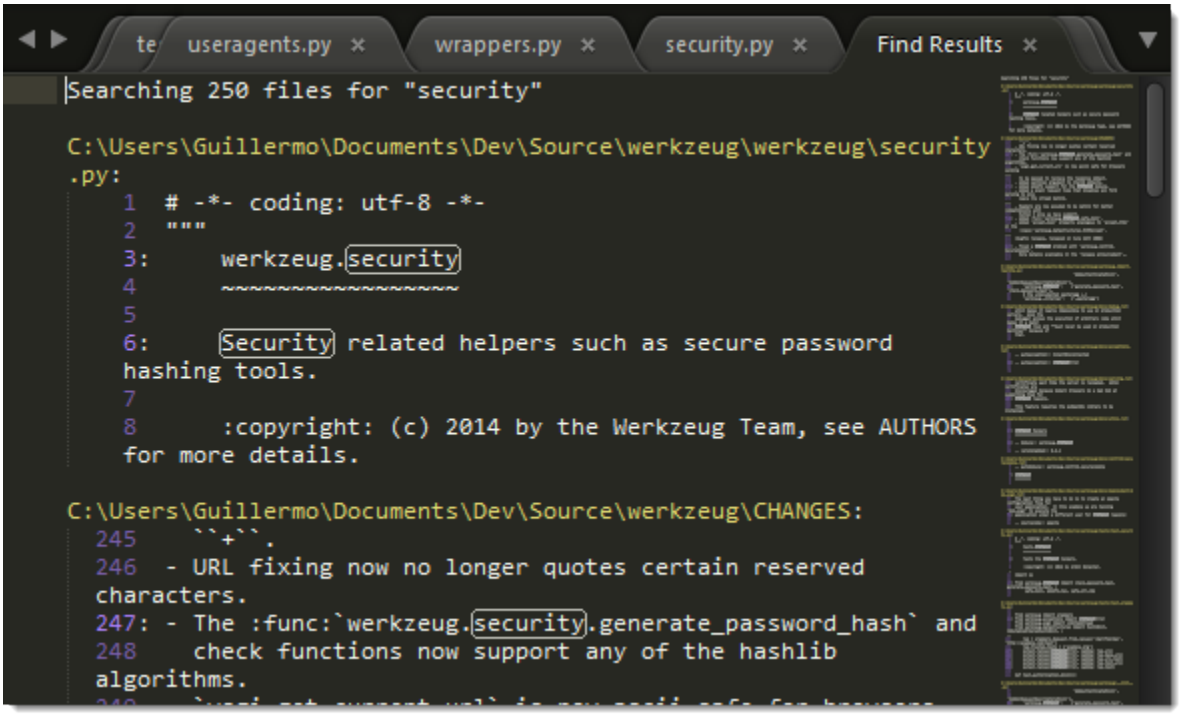


Press the **...** button in the search panel to display a menu containing scope options.

Results Format

In the search panel, you can customize how results are displayed. These are the available options:

- Show in separate view
- Show context



Navigating Results

If the search yields matches, you can move through the sequence using the following key bindings:

Next match	F4
Previous match	Shift + F4

Both support **regular expressions**, a powerful tool for searching and replacing text.

2.5.3 Regular Expressions

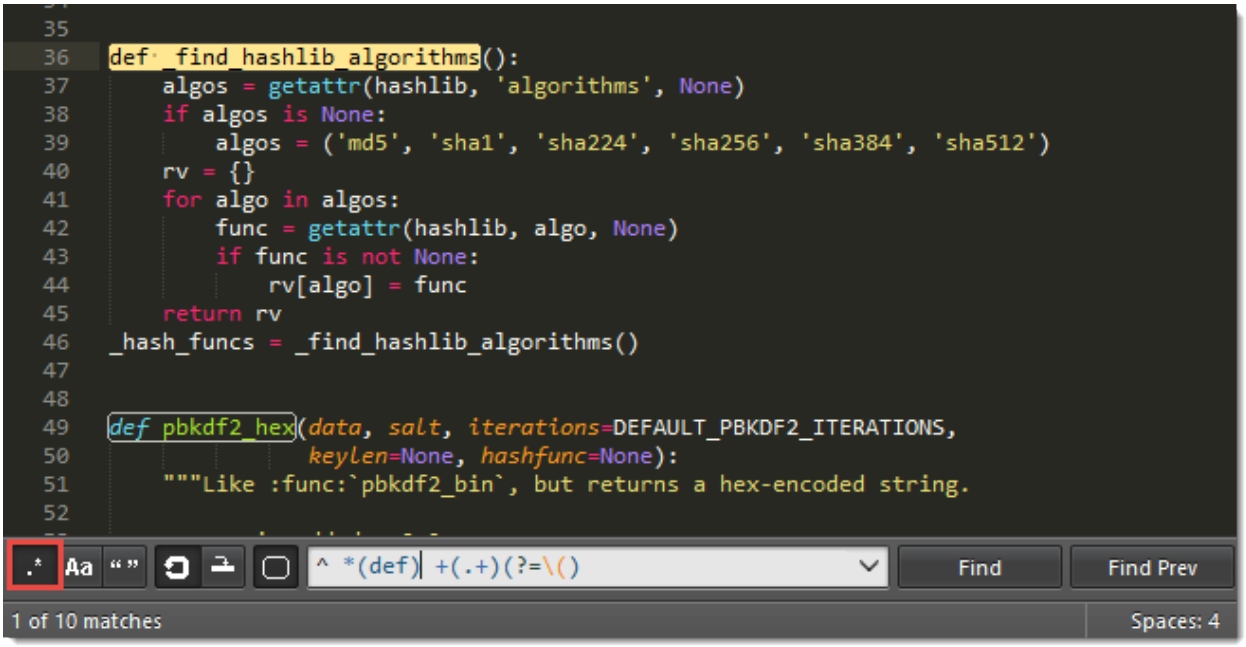
Regular Expressions find complex *patterns* in text. To take full advantage of the search and replace facilities in Sublime Text, you should at least learn the basics of regular expressions. In this guide we won't explain how to use regular expressions.

The term *regular expression* is usually shortened to *regexp* or *regex*.

This is how a regex might look:

```
(?:Sw|P)i(?:tch|s{2})\s(?:it\s)?of{2}!
```

To use regular expressions in Sublime Text, you first need to activate them in the various search panels. Otherwise, search terms will be interpreted literally.



Sublime Text uses the Perl Compatible Regular Expressions (PCRE) engine from the Boost library.

See also:

Boost library documentation for regular expressions Documentation on regular expressions.

Boost library documentation for format strings Documentation on format strings. Note that Sublime Text additionally interprets `\n` as `$n`.

2.6 Build Systems (Batch Processing)

See also:

Reference for build systems Complete documentation on all available options, variables, etc.

> **Warning:** Build system selection is currently undergoing a rework in the dev channel. The following information may be outdated.
> See this forum thread for details.

Build systems let you run your files through external programs like **`make`**, **`tidy`**, interpreters, etc.

Executables called from build systems must be in your `PATH`. For more information about making sure the `PATH` seen by Sublime Text is set correctly, see *Troubleshooting Build Systems*.

2.6.1 File Format

Build systems are JSON files and have the extension `.sublime-build`.

Example

Here's an example of a build system:

```
{
    "cmd": ["python", "-u", "$file"],
    "file_regex": "^[ ]*File \"(...*?)\", line ([0-9]*)",
    "selector": "source.python"
}
```

cmd Required. This option contains the actual command line to be executed:

```
python -u /path/to/current/file.ext
```

file_regex A Perl-style regular expression to capture error information from an external program's output. This information is used to help you navigate through error instances with F4.

selector If the **Tools | Build System | Automatic** option is set, Sublime Text will automatically find the corresponding build system for the active file by matching selector to the file's scope.

In addition to options, you can use some variables in build systems too, as we have done above with $file, which expands to the active buffer's filename.

2.6.2 Where to Store Build Systems

Build systems must be located somewhere under the *Packages* folder (e.g. *Packages*/User). Many packages include their own build systems.

2.6.3 Running Build Systems

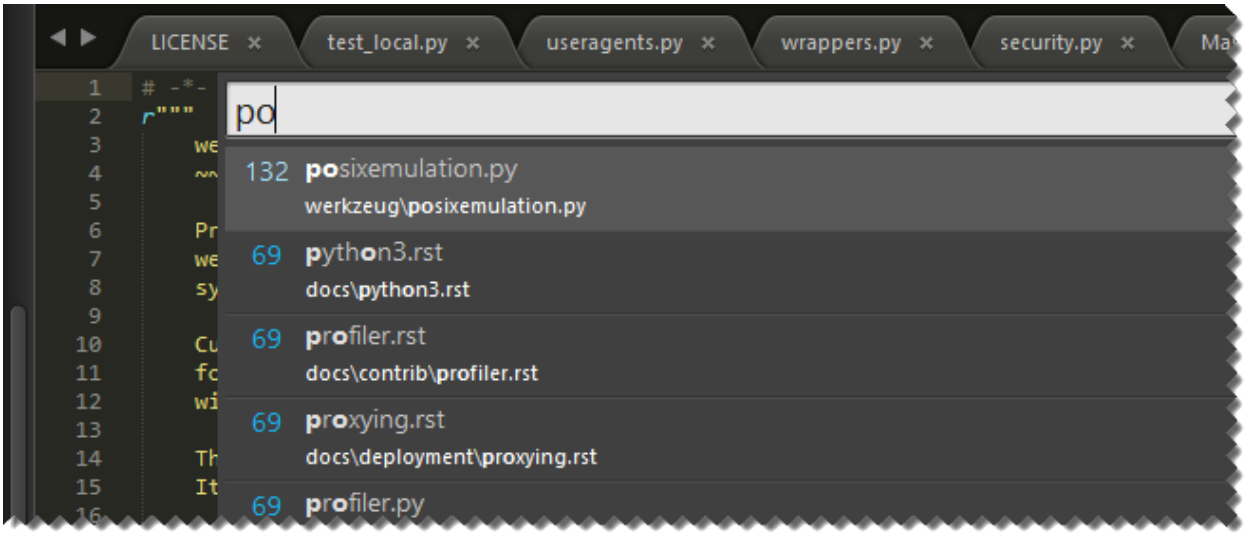
Build systems can be run by pressing F7 or from **Tools** → **Build**.

2.7 File Navigation and File Management

Sublime Text includes a variety of features to help you keep your work organized and find your way around your projects.

2.7.1 Goto Anything

Use Goto Anything to **navigate your project's files** swiftly. (More about projects later.)



Keyboard shortcuts related to Goto Anything:

Open Goto Anything	Ctrl + P
Pin current item and close Goto Anything	Enter
Pin current item	→
Close Goto Anything	Esc

As you type into Goto Anything's input area, names of files in the current project will be searched, and a preview of the best match will be shown. This preview is *transient*; that is, it won't become the actual active view until you perform some operation on it. You will find transient views in other situations, for example, after clicking on a file in the sidebar.

Goto Anything lives up to its name –there's more to it than locating files.

Goto Anything Operators

Goto Anything accepts several operators. All of them can be used on their own or after the search term.

Example:

```
models:100
```

This instructs Sublime Text to first search for a file whose path matches `models`, and then to go to line 100 in said file.

Supported Operators

`@symbol` Searches the active file for the symbol named `symbol`.

> **Note:** Symbols usually include class and function names.
>
> Symbol searches will only yield results if the active file type has symbols defined for it. Symbols are defined in `.tmLanguage` files. For more information about symbols, see Symbols.

`#term` Performs a fuzzy search of the `term` search term and highlights all matches.

`:line_number` Goes to the specified `line_number`, or to the end of the file if `line_number` is larger that the file's line count.

The Goto Anything operators are bound to the following shortcuts:

@	Ctrl + R
#	Ctrl + ;
:	Ctrl + G

2.7.2 Sidebar

The sidebar provides an overview of the active project (more on projects later). Files and folders in the sidebar will be available in *Goto Anything* and project-wide actions like, for example, project-wide searches.

Projects and the sidebar are closely related. It's important to note that there's always an active project, whether it's explicit or implicit.

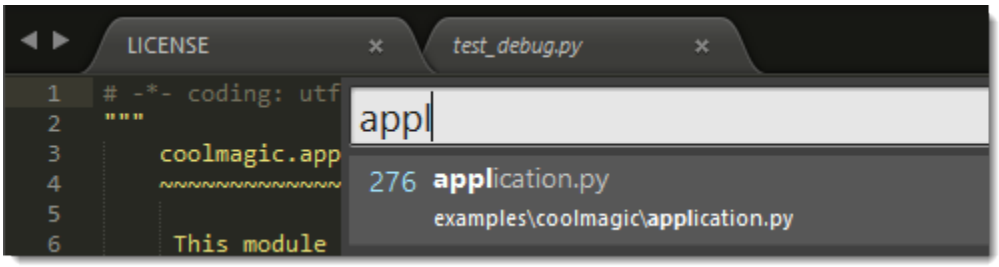
The sidebar provides basic file management operations through its context menu.

These are common keyboard shortcuts related to the side bar:

Toggle side bar	Ctrl + K, Ctrl + B
Give the focus to the side bar	Ctrl + 0
Return the focus to the view	Esc
Navigate side bar	Arrow keys

Files opened from the sidebar create *semi-transient* views. Unlike transient views, semi-transient views show up as a new tab. The tab title of semi-transient views appears in italics. Before a new semi-transient view is opened, any other pre-existing semi-transient view in the same pane gets automatically closed.

Here's an example showing a normal view, a transient view, and a semi-transient view. Notice that the transient view has no tab:



2.7.3 Projects

Projects group sets of files and folders to keep your work organized.

There is always an active project. If you haven't created one, an implicit one is created by Sublime Text.

Set up a project in a way that suits you by adding folders, and then save your new configuration. You can add and remove folders to/from a project using the **Project** menu or the side bar's context menu. If you drag a folder onto a Sublime Text window, it will be added to the project too.

To save a project, go to **Project** → **Save Project As...**.

Using the menu, you can switch projects by selecting **Projects** → **Recent Projects**.

Keyboard shortcuts related to projects:

Switch project	Ctrl + Alt + P

Project metadata is stored in JSON files with a `.sublime-project` extension. Wherever there's a `.sublime-project` file, you will find an ancillary `.sublime-workspace` file too. The second one is used by Sublime Text and you shouldn't edit it. (More on workspaces later.)

Projects can define settings applicable to that project only. See the official documentation for more information.

You can open a project from the **command line** by passing the `.sublime-project` file as an argument to the `subl` command line helper included with Sublime Text.

> **Warning:** Generally speaking, it's fine to commit `.sublime-project` files to a source code repository, but always be mindful of what you store in them.

The `.sublime-project` Format

Project metadata in `.sublime-project` files is split across three topmost sections: `folders`, for the included folders; `settings`, for project-specific settings; and `build_systems`, for project-specific build systems.

```
{
    "folders":
    [
        {
            "path": "src",
            "folder_exclude_patterns": ["backup"]
        },
        {
            "path": "docs",
            "name": "Documentation",
            "file_exclude_patterns": ["*.css"]
        }
    ],
    "settings":
    {
        "tab_size": 8
    },
    "build_systems":
    [
        {
            "name": "List",
            "cmd": ["ls"]
        }
    ]
}
```

Folder Options

`path` Required. The path may be relative to the project directory, or absolute.

`name` Optional. If present, it will appear in the side bar.

`folder_exclude_patterns` Optional. List of wildcards. Folders matching the wildcards will be excluded from the project.

`folder_include_patterns` Optional. List of wildcards. Folders matching the wildcards will be included in the project.

`file_exclude_patterns` Optional. List of wildcards. Files matching the wildcards will be excluded from the project.

`file_include_patterns` Optional. List of wildcards. Files matching the wildcards will be included in the project.

Settings A project may define project-specific settings that will only apply to files within that project. Project-specific settings override user settings, but not syntax-specific settings.

Almost all settings can be overridden (excluding global settings).

See also:

The Settings Hierarchy A detailed example for the order of precedence for settings.

Settings - Reference Reference of available settings.

Build Systems You can define project-specific build systems in a `.sublime-project` file. A `name` must be specified for each one. Build systems included in a `.sublime-project` file will show up in the **Tools** → **Build Systems** menu.

See also:

Build Systems - Reference Documentation on build systems and their options.

2.7.4 Other Settings Related to the Sidebar and Projects

`binary_file_patterns` A list of wildcards. Files matching these wildcards will show up in the side bar, but will be excluded from Goto Anything and Find in Files.

2.7.5 Workspaces

Workspaces can be seen as different *views* into the same project. For example, you may want to have only a few selected files open while working on some feature. Or perhaps you use a different pane layout when you're writing tests, etc. Workspaces help in these situations.

Workspaces behave very much like projects. To create a new workspace, select **Project** → **New Workspace for Project**. To save the active workspace, select **Project** → **Save Workspace As...**.

To switch between different workspaces, use `Ctrl+Alt+P`, exactly as you do with projects.

Workspaces metadata is stored in JSON files with the `.sublime-workspace` extension.

As with projects, you can open a workspace from the **command line** by passing the desired `.sublime-workspace` file as an argument to the `subl` command line helper included with Sublime Text.

> **Warning:** Unlike `.sublime-project` files, `.sublime-workspace` files are not meant to be shared or edited manually. **You should never commit `.sublime-workspace` files into a source code repository.**

2.7.6 Panes

Panes are groups of views. In Sublime Text, you can have multiple panes open at the same time.

Main keyboard shortcuts related to panes:

Create new pane	Ctrl+K, Ctrl+↑
Close active pane	Ctrl+K, Ctrl+↓

Further pane management commands can be found under **View** → **Layout** and related submenus.

2.8 Customizing Sublime Text

Sublime Text can be fully customized. In the following topics, we outline the most common options. In particular, **we don't cover** themes, an immensely configurable area of Sublime Text.

2.8.1 Settings

Sublime Text stores configuration data in *.sublime-settings* files. Flexibility comes at the price of a slightly complex system for applying settings. However, here's a rule of thumb:

Always place your personal settings files under *Packages/User* to guarantee they will take precedence over any other conflicting settings files.

With that out of the way, let's unveil, to please masochistic readers, the mysteries of how settings work.

Format

Settings files use JSON and have the *.sublime-settings* extension.

Types of Settings

The name of each *.sublime-settings* file determines its purpose. Names can be descriptive (like `Preferences (Windows).sublime-settings` or `Minimap.sublime-settings`), or they can be related to what the settings file is controlling. For example, file type settings need to carry the name of the *.tmLanguage* syntax definition for the file type. Thus, for the *.py* file type, whose syntax definition is contained in `Python.tmLanguage`, the corresponding settings files would be called `Python.sublime-settings`.

Also, some settings files only apply to specific platforms. This can be inferred from the file names, e.g. `Preferences (`*`platform`*`).sublime-settings`. Valid names for *platform* are `Windows`, `Linux`, `OSX`.

This is **important**: Platform-specific settings files in the `Packages/User` folder are ignored. This way, you can be sure a single settings file overrides all the others.

Settings changes are usually updated in real time, but you may have to restart Sublime Text in order to load *new* settings files.

How to Access and Edit Common Settings Files

Unless you need very fine-grained control over settings, you can access the main configuration files through the **Preferences | Settings - User** and **Preferences | Settings - More** menu items. Editing **Preferences | Settings - Default** is discouraged, because changes will be reverted with every update to the software. However, you can use that file for reference: it contains comments explaining the purpose of all available global and file type settings.

Order of Precedence of *.sublime-settings* Files

The same settings file (such as `Python.sublime-settings`) can appear in multiple places. All settings defined in identically named files will be merged together and overwritten according to predefined rules. See *Merging and Order of Precedence* for more information.

Let us remember again that any given settings file in `Packages/User` ultimately overrides every other settings file of the same name.

In addition to settings files, Sublime Text maintains *session* data—settings for the particular set of files being currently edited. Session data is updated as you work on files, so if you adjust settings for a particular file in any way (mainly through API calls), they will be recorded in the session and will take precedence over any applicable *.sublime-settings* files.

To check the value of a setting for a particular file being edited, use `view.settings().get("setting_name")` from the console.

Finally, it's also worth noting that some settings may be automatically adjusted for you. Keep this in mind if you're puzzled about some setting's value. For instance, this is the case for certain whitespace-related settings and the `syntax` setting.

Below, you can see the order in which Sublime Text would process a hypothetical hierarchy of settings for Python files on Windows:

- *Packages/Default/Preferences.sublime-settings*
- *Packages/Default/Preferences (Windows).sublime-settings*
- *Packages/User/Preferences.sublime-settings*
- *Packages/Python/Python.sublime-settings*
- *Packages/User/Python.sublime-settings*
- Session data for the current file
- Auto adjusted settings

See *The Settings Hierarchy* for a full example of the order of precedence.

Global Editor Settings and Global File Settings

These settings are stored in `Preferences.sublime-settings` and `Preferences (platform).sublime-settings` files. The defaults can be found in `Packages/Default`.

Valid names for *platform* are `Windows`, `Linux`, `OSX`.

File Type Settings

If you want to target a specific file type, name the *.sublime-settings* file after the file type's syntax definition. For example, if our syntax definition +was called `Python.tmLanguage`, we'd need to call our settings file *Python.sublime-settings*.

Settings files for specific file types usually live in packages, like +:file:*Packages/Python*, but there can be multiple settings files in separate locations for the same file type.

Similarly to global settings, one can establish platform-specific settings for file types. For example, `Python (Linux).sublime-settings` would only be consulted only under Linux.

Also, let us emphasize that under `Pakages/User` only `Python.sublime-settings` would be read, but not any `Python (platform).sublime-settings` variant.

Regardless of its location, any file-type-specific settings file has precedence over a global settings file affecting file types.

The Settings Hierarchy

Below, you can see the order in which Sublime Text would process a hypothetical hierarchy of settings for Python files on Windows:

- `Packages/Default/Preferences.sublime-settings`
- `Packages/Default/Preferences (Windows).sublime-settings`
- `Packages/AnyOtherPackage/Preferences.sublime-settings`
- `Packages/AnyOtherPackage/Preferences (Windows).sublime-settings`
- `Packages/User/Preferences.sublime-settings`
- Settings from the current project
- `Packages/Python/Python.sublime-settings`
- `Packages/Python/Python (Windows).sublime-settings`
- `Packages/User/Python.sublime-settings`
- Session data for the current file
- Auto-adjusted settings

Where to Store User Settings (Once Again)

Whenever you want to save settings, especially if they should be preserved between software updates, place the corresponding *.sublime-settings* file in `Packages/User`.

2.8.2 Indentation

See also:

Indentation Official Sublime Text Documentation.

2.8.3 Key Bindings

See also:

Reference for key bindings Complete documentation on key bindings.

Key bindings let you map sequences of key presses to commands.

File Format

Key bindings are defined in JSON and stored in `.sublime-keymap` files.

In the same package, separate keymap files for Linux, OSX and Windows may exist for better OS integration.

Example

```
[
   { "keys": ["ctrl+shift+n"], "command": "new_window" },
   { "keys": ["ctrl+o"], "command": "prompt_open_file" }
]
```

Defining and Overriding Key Bindings

Sublime Text ships with default key bindings (for example, `Packages/Default/Default (Windows).sublime-keymap`). In order to override default key bindings or add new ones, use a separate keymap file with higher precedence: for example, `Packages/User/Default (Windows).sublime-keymap`.

See *Merging and Order of Precedence* for more information.

Advanced Key Bindings

Simple key bindings consist of a sequence of one or more keys mapped to a command. However, there are more complex syntaxes for passing arguments to commands and restricting key bindings to specific contexts.

Passing Arguments

Use the `args` key to specify arguments:

```
{ "keys": ["shift+enter"], "command": "insert", "args": {"characters": "\n"} }
```

Here, `\n` is passed to the `insert` command whenever `Shift+Enter` is pressed.

Contexts

Contexts determine whether a given key binding is enabled based on the caret's position or some other state.

```
{ "keys": ["escape"], "command": "clear_fields", "context":
    [
        { "key": "has_next_field", "operator": "equal", "operand": true }
    ]
}
```

This key binding translates to *clear snippet fields and resume normal editing if there is a next snippet field available*. Thus, pressing `ESC` will only trigger this key binding if you are cycling through snippet fields.

The same key binding may be mapped to multiple contexts, so a single sequence of key presses may produce different results at different times.

Key Chords

You can create key bindings composed of multiple keys.

```
{ "keys": ["ctrl+k", "ctrl+v"], "command": "paste_from_history" }
```

Here, to trigger the command `paste_from_history`, you have to press `Ctrl + K` first, then release `K`, and finally press `V`.

Note: This example is a default key binding, so you can try it at any time.

2.8.4 Menus

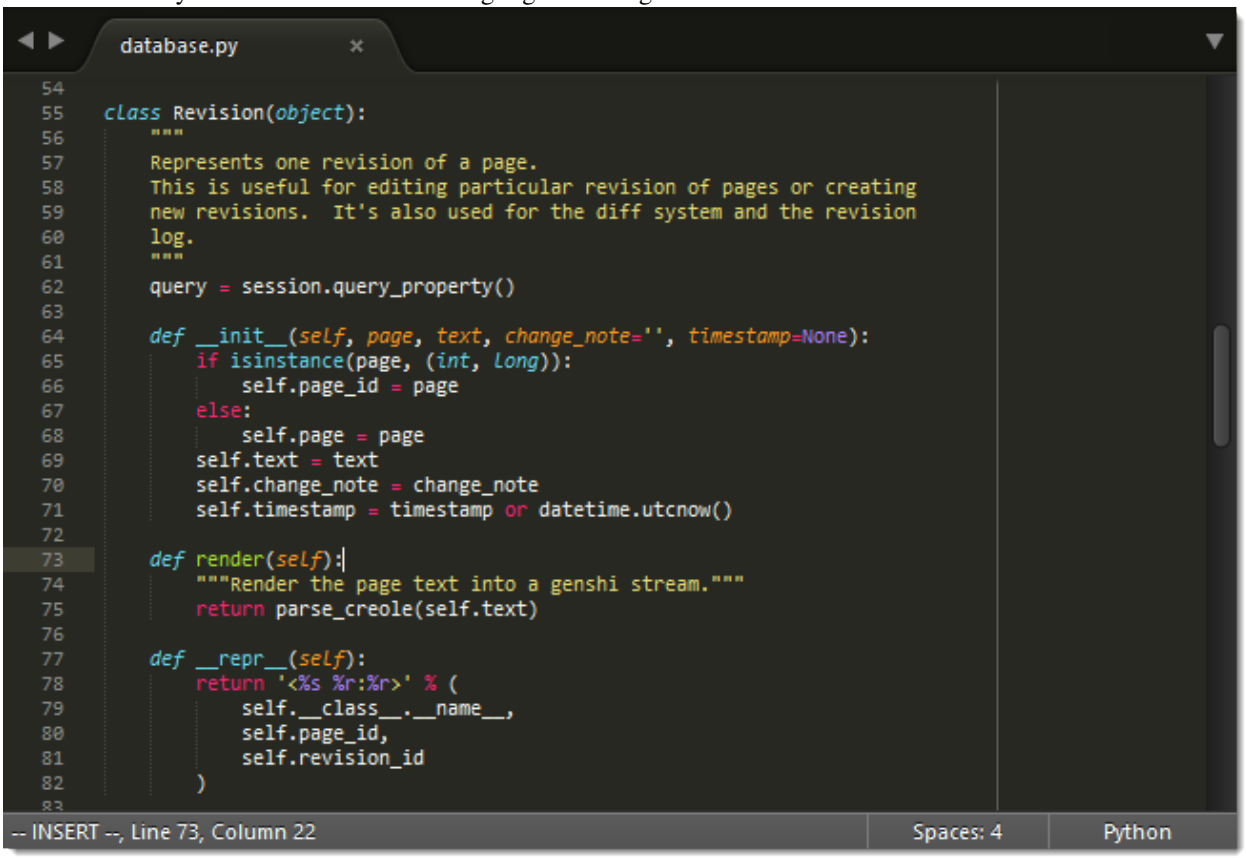
No documentation is available about this topic.

2.8.5 Color Schemes

Sublime Text uses color schemes to highlight source code and to define the colors of some items in the editing area: background, foreground, gutter, caret, selection...

Color schemes are fully customizable.

Let's look at a Python file as Sublime Text highlights it using the default color scheme:



See also:

Reference for color schemes Complete reference on color scheme settings.

2.9 Extending Sublime Text

The following topics show various ways in which Sublime Text can be extended with additional functionality.

2.9.1 Commands

Commands are ubiquitous in Sublime Text: key bindings, menu items and macros all work through the command system. They are found in other places too.

Some commands are implemented in the editor's core, but many of them are provided as Python plugins. Every command can be called from a Python plugin.

Command Dispatching

Normally, commands are bound to the application object, a window object or a view object. Window objects, however, will dispatch commands based on input focus, so you can issue a view command from a window object and the correct view instance will be found for you.

Anatomy of a Command

Commands have a name separated by underscores (snake_case) like `hot_exit`, and can take a dictionary of arguments whose keys must be strings and whose values must be JSON types. Here are a few examples of commands run from the Python console:

```
view.run_command("goto_line", {"line": 10})
view.run_command('insert_snippet', {"contents": "<$SELECTION>"})
view.window().run_command("prompt_select_project")
```

See also:

Reference for commands Command reference.

2.9.2 Macros

Macros are a basic automation facility comprising sequences of commands. Use them whenever you need to repeat the exact same steps to perform an operation.

Macro files are JSON files with the extension `.sublime-macro`. Sublime Text ships with a few macros providing core functionality, such as line and word deletion. You can find these under **Tools | Macros** or in +:file:*Packages/Default*.

How to Record Macros

To start recording a macro, press `Ctrl+q` and subsequently execute the desired steps one by one. When you're done, press `Ctrl+q` again to stop the macro recorder. Your new macro won't be saved to a file, but kept in the macro buffer instead. Now you will be able to run the recorded macro by pressing `Ctrl+Shift+q`, or save it to a file by selecting **Tools | Save macro...**

Note that the macro buffer will remember only the latest recorded macro. Also, macros only record commands sent to the buffer: window-level commands, such creating a new file, will be ignored.

How to Edit Macros

As an alternative to recording a macro, you can edit it by hand. Just save a new file with the `.sublime-macro` extension under `Packages/User` and add commands to it. Macro files have this format:

```
[
    {"command": "move_to", "args": {"to": "hardeol"}},
    {"command": "insert", "args": {"characters": "\n"}}
]
```

See the Commands section for more information on commands.

If you're editing a macro by hand, you need to escape quotation marks, blank spaces and backslashes by preceding them with `\`.

Where to Store Macros

Macro files can be stored in any package folder, and then will show up under **Tools | Macros | <PackageName>**.

Key Binding for Macros

Macro files can be bound to key combinations by passing the macro file path to the *run_macro_file* command like so:

```
{"keys": ["super+alt+l"], "command": "run_macro_file", "args": {"file": "res://Packages/User/Example
```

2.9.3 Snippets

Whether you are coding or writing the next vampire best-seller, you're likely to need certain short fragments of text again and again. Use snippets to save yourself tedious typing. Snippets are smart templates that will insert text for you and adapt it to their context.

To create a new snippet, select **Tools | New Snippet...** Sublime Text will present you with a skeleton for it.

Snippets can be stored under any package's folder, but to keep it simple while you're learning, you can save them to your `Packages/User` folder.

Snippets File Format

Snippets typically live in a Sublime Text package. They are simplified XML files with the extension *.sublime-snippet*. For instance, you could have a `greeting.sublime-snippet` inside an `Email` package.

The structure of a typical snippet is as follows (including the default hints Sublime Text inserts for your convenience):

```
<snippet>
    <content><![CDATA[Type your snippet here]]></content>
    <!-- Optional: Tab trigger to activate the snippet -->
    <tabTrigger>xyzzy</tabTrigger>
    <!-- Optional: Scope the tab trigger will be active in -->
    <scope>source.python</scope>
    <!-- Optional: Description to show in the menu -->
    <description>My Fancy Snippet</description>
</snippet>
```

The `snippet` element contains all the information Sublime Text needs in order to know *what* to insert, *whether* to insert and *when*. Let's look at each of these parts in turn.

`content` The actual snippet. Snippets can range from simple to fairly complex templates. We'll look at examples of both later.

Keep the following in mind when writing your own snippets:

- If you want to get a literal `$`, you have to escape it like this: `\$`.
- When writing a snippet that contains indentation, always use tabs. When the snippet is inserted, the tabs will be transformed into spaces if the option `translateTabsToSpaces` is `true`.
- The `content` must be included in a `<![CDATA[...]]>` section. Snippets won't work if you don't do this!
- The `content` of your snippet must not contain `]]>` because this string of characters will prematurely close the `<![CDATA[...]]>` section, resulting in an XML error. To work around this pitfall, you can insert an undefined variable into the string like this: `]]$NOT_DEFINED>`. This modified string passes

through the XML parser without closing the content element's <![CDATA[...]]> section, but Sublime Text will replace $NOT_DEFINED with an empty string before inserting the snippet into your file. In other words,]]$NOT_DEFINED> in your snippet file content will be written as]]> when you trigger the snippet.

tabTrigger Defines the sequence of keys that must be pressed to insert this snippet. After typing this sequence, the snippet will kick in as soon as you hit the Tab key.

A tab trigger is an implicit key binding.

scope Scope selector determining the context where the snippet will be active. See *Scopes* for more information.

description Used when showing the snippet in the Snippets menu. If not present, Sublime Text defaults to the file name of the snippet.

With this information, you can start writing your own snippets as described in the next sections.

Note: In the interest of brevity, we're only including the content element's text in examples unless otherwise noted.

Snippet Features

Environment Variables

Snippets have access to contextual information in the form of environment variables. The values of the variables listed below are set automatically by Sublime Text.

You can also add your own variables to provide extra information. These custom variables are defined in .sublime-options files.

$PARAM1 .. $PARAMn	Arguments passed to the insert_snippet command. (Not covered here.)
$SELECTION	The text that was selected when the snippet was triggered.
$TM_CURRENT_LINE	Content of the cursor's line when the snippet was triggered.
$TM_CURRENT_WORD	Word under the cursor when the snippet was triggered.
$TM_FILENAME	Name of the file being edited, including extension.
$TM_FILEPATH	Path to the file being edited.
$TM_FULLNAME	User's user name.
$TM_LINE_INDEX	Column where the snippet is being inserted, 0 based.
$TM_LINE_NUMBER	Row where the snippet is being inserted, 1 based.
$TM_SELECTED_TEXT	An alias for **$SELECTION**.
$TM_SOFT_TABS	YES if translate_tabs_to_spaces is true, otherwise NO.
$TM_TAB_SIZE	Spaces per-tab (controlled by the tab_size option).

Let's see a simple example of a snippet using variables:

```
================================
USER NAME:          $TM_FULLNAME
FILE NAME:          $TM_FILENAME
 TAB SIZE:          $TM_TAB_SIZE
SOFT TABS:          $TM_SOFT_TABS
================================

# Output:
============================
USER NAME:          guillermo
FILE NAME:          test.txt
 TAB SIZE:          4
```

```
SOFT TABS:          YES
============================
```

Fields

With the help of field markers, you can cycle through positions within the snippet by pressing the `Tab` key. Fields are used to walk you through the customization of a snippet after it's been inserted.

```
First Name: $1
Second Name: $2
Address: $3
```

In the example above, the cursor will jump to `$1` if you press `Tab` once. If you press `Tab` a second time, it will advance to `$2`, etc. You can also move backwards in the series with `Shift+Tab`. If you press `Tab` after the highest tab stop, Sublime Text will place the cursor at the end of the snippet's content so that you can resume normal editing.

If you want to control where the exit point should be, use the `$0` mark. By default, this is the end of the snippet.

You can break out of the field cycle any time by pressing `Esc`.

Mirrored Fields

Identical field markers mirror each other: when you edit the first one, the rest will be populated in real time with the same value.

```
First Name: $1
Second Name: $2
Address: $3
User name: $1
```

In this example, "User name" will be filled out with the same value as "First Name".

Placeholders

By expanding the field syntax a little bit, you can define default values for a field. Placeholders are useful whenever there's a general case for your snippet, but you still want to keep it customizable.

```
First Name: ${1:Guillermo}
Second Name: ${2:López}
Address: ${3:Main Street 1234}
User name: $1
```

Variables can be used as placeholders:

```
First Name: ${1:Guillermo}
Second Name: ${2:López}
Address: ${3:Main Street 1234}
User name: ${4:$TM_FULLNAME}
```

And you can nest placeholders within other placeholders too:

```
Test: ${1:Nested ${2:Placeholder}}
```

Substitutions

In addition to the place holder syntax, tab stops can specify more complex operations with substitutions. Use substitutions to dynamically generate text based on a mirrored tab stop. Of course, the tab stop you want to use as variable has to be mirrored somewhere else in the snipept.

The substitution syntax has the following syntaxes:

- `${var_name/regex/format_string/}`
- `${var_name/regex/format_string/options}`

var_name The variable name: 1, 2, 3...

regex Perl-style regular expression: See the Boost library documentation for regular expressions.

format_string See the Boost library documentation for format strings.

options

Optional. May be any of the following:

i Case-insensitive regex.

g Replace all occurrences of `regex`.

m Don't ignore newlines in the string.

With substitutions you can, for instance, underline text effortlessly:

```
      Original: ${1:Hey, Joe!}
Transformation: ${1/./=/g}

# Output:

      Original: Hey, Joe!
Transformation: =========
```

Another more complex example can translate snail_case to Tile Case With Spaces. Basically, it combines two separate expressions and replaces into one. It also illustrates that replaces may occur before the actual tabstop.

```
Transformation: ${1/^(\w)|(?:_(\w))/(?1\u$1:)(?2 \u$2:)/g}
      Original: ${1:text_in_snail_case}

# Output:

Transformation: Text In Snail Case
      Original: text_in_snail_case
```

2.9.4 Completions

In the spirit of IDEs, Sublime Text suggests completions that aggregate code or content while writing by catching everything that you have written, like variable names.

There are however several ways to extend the list of completions (for example, depending on the current syntax).

This topic deals with how completions are used and where they come from.

How to Use Completions

There are two methods for using completions. Even though, when screening them, the priority given to completions always stays the same, the two methods produce different results.

Completions can be inserted in two ways:

- through the completions list (`Ctrl + Spacebar`), or
- by pressing `Tab`.

The Completions List

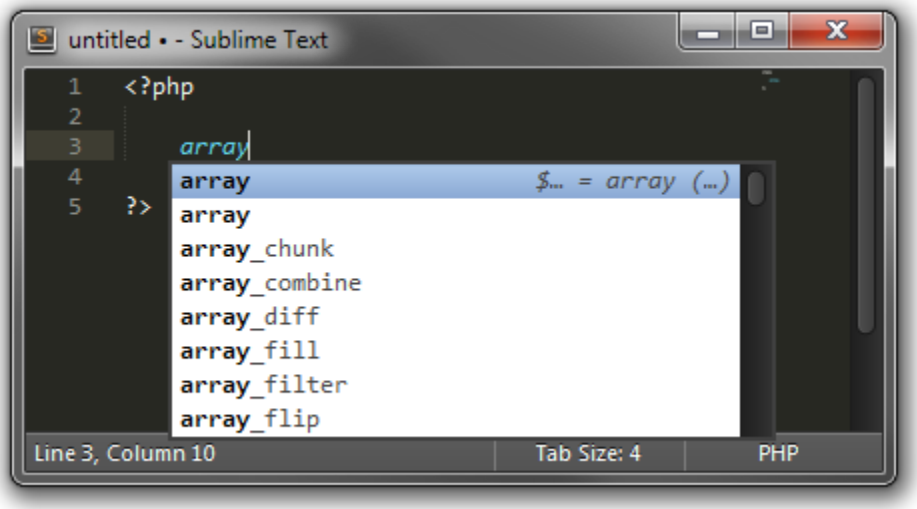
To use the completions list:

1. Press `Ctrl + Spacebar` or just type something.
2. Optionally, press `Ctrl + Spacebar` again to select the next entry or use *up* and *down* arrow keys.
3. Press `Enter` or `Tab` to validate selection (depending on the `auto_complete_commit_on_tab` setting)
4. Optionally, press `Tab` repeatedly to insert the next available completion.

Note: If the completions list was opened explicitly, the current selection in the completions list can also be validated with any punctuation sign that isn't itself bound to a snippet (e.g. `.`).

When the list of completion candidates can be narrowed down to one unambiguous choice given the current prefix, this one completion will be validated automatically the moment you trigger the completion list.

Hints Additionally, you may see a trigger hint on the right side of a completion's trigger in the completions list. This can be used as a preview of the completion's content.



The above is in fact a snippet and expands to `$arrayName = array('' => , );`.

Triggers and Contents

Completions not sourced from the text in the current file may provide a trigger that is different to the content they will insert if selected. This is commonly used for function completions where the content also includes the function's

signature.

For example, completing `array_map` from the PHP completions will result in `array_map(callback, arr1)`:

You may notice in the animation that the cursor automatically selected `callback`. This is because completions support the same features as snippets with fields and placeholders. For more details, refer to *Snippet Features*.

Completions with multiple cursors

Sublime Text can also handle completions with multiple cursors but will only open the completion list when all cursors share the same text between the current cursor positions and the last word separator character (e.g. `.` or a line break).

Working example (`|` represents one cursor):

```
l|
some text with l|
l| and.l|
```

Not working example:

```
l|
some text with la|
l| andl|
```

Selections are essentially ignored, only the position of the cursor matters. Thus, `e|[-some selection] example`, with `|` as the cursor and `[...]` as the current selection, completes to `example|[-some selection] example`.

`Tab`-Completed Completions

If you want to be able to tab-complete completions, the setting `tab_completion` must be set to `true` (default). Snippet tab-completion is unaffected by this setting: They will always be completed according to their tab trigger.

With `tab_completion` enabled, completion of items is always automatic. This means, unlike the case of the completions list, that Sublime Text will always make the decision for you. The rules for selecting the best completion are the same as described above, but in case of ambiguity, Sublime Text will insert the item it deems most suitable. You can press the `Tab` key multiple times to walk through other available options.

Inserting a Literal Tab Character When `tab_completion` is enabled, you can press `Shift + Tab` to insert a literal tab character.

Sources for Completions and their Priorities

These are the sources for completions the user can control, in the order they are prioritized:

1. Snippets
2. API-injected completions via *`on_query_completions()`*
3. Completions files

Additionally, the following completions are folded into the final list:

4. Words in the buffer

Snippets will always win when the current prefix matches their tab trigger *exactly*. For the rest of the completion sources, a fuzzy match is performed. Furthermore, snippets always lose in a fuzzy match.

When a list of completions is shown, snippets will still be listed alongside the other items, even if the prefix only partially matches the snippets' tab triggers.

Note: Completions sourced from words in the buffer can be suppressed explicitly from an `on_query_completions` event hook.

2.9.5 Command Palette

See also:

Reference for Command Palette Complete documentation on the command palette options.

Overview

The *command palette* bound to `Ctrl+Shift+P` is an interactive list whose purpose is to execute commands. The command palette is fed by entries in `.sublime-commands` files. Usually, commands that don't warrant creating a key binding of their own are good candidates for inclusion in a `.sublime- commands` files.

By default, the command palette includes many useful commands, and provides convenient access to individual settings as well as settings files.

File Format (Commands Files)

Commands files use JSON and have the `.sublime-commands` extension.

Here's an excerpt from `Packages/Default/Default.sublime-commands`:

```
[
    { "caption": "Project: Save As", "command": "save_project_as" },
    { "caption": "Project: Close", "command": "close_project" },
    { "caption": "Project: Add Folder", "command": "prompt_add_folder" },

    { "caption": "Preferences: Default File Settings", "command": "open_file", "args": {"file": "${pa
    { "caption": "Preferences: User File Settings", "command": "open_file", "args": {"file": "${packa
    { "caption": "Preferences: Default Global Settings", "command": "open_file", "args": {"file": "$
    { "caption": "Preferences: User Global Settings", "command": "open_file", "args": {"file": "${pac
    { "caption": "Preferences: Browse Packages", "command": "open_dir", "args": {"dir": "$packages"}
]
```

`caption` Text for display in the command palette.

`command` Command to be executed.

`args` Arguments to pass to `command`.

How to Use the Command Palette

1. Press `Ctrl+Shift+P`
2. Select command

The command palette filters entries by context. This means that whenever you open it, you won't always see all the commands defined in every `.sublime-commands` file.

2.9.6 Syntax Definitions

Syntax definitions make Sublime Text aware of programming and markup languages. Most noticeably, they work together with colors to provide syntax highlighting. Syntax definitions define *scopes* that divide the text in a buffer into named regions. Several editing features in Sublime Text make extensive use of this fine-grained contextual information.

Essentially, syntax definitions consist of regular expressions used to find text, as well as more or less arbitrary, dot-separated strings called *scopes* or *scope names*. For every occurrence of a given regular expression, Sublime Text gives the matching text its corresponding *scope name*.

Note: As of Sublime Text Build 3084, a new syntax definition format has been added, with the `.sublime-syntax` extension. It is currently only available in the Dev channel.

Documentation is available here: http://www.sublimetext.com/docs/3/syntax.html

---

Prerequisites

In order to follow this tutorial, you will need to install AAAPackageDev, a package intended to ease the creation of new syntax definitions for Sublime Text. Follow the installation notes in the "Getting Started" section of the readme.

File format

Sublime Text uses property list (Plist) files to store syntax definitions. However, because editing XML files is a cumbersome task, we'll use YAML instead and convert it to Plist format afterwards. This is where the AAAPackageDev package (mentioned above) comes in.

Note: If you experience unexpected errors during this tutorial, chances are AAAPackageDev or YAML is to blame. Don't immediately think your problem is due to a bug in Sublime Text.

By all means, do edit the Plist files by hand if you prefer to work in XML, but always keep in mind their differing needs in regards to escape sequences, many XML tags etc.

Scopes

Scopes are a key concept in Sublime Text. Essentially, they are named text regions in a buffer. They don't do anything by themselves, but Sublime Text peeks at them when it needs contextual information.

For instance, when you trigger a snippet, Sublime Text checks the scope bound to the snippet and looks at the caret's position in the file. If the caret's current position matches the snippet's scope selector, Sublime Text fires it off. Otherwise, nothing happens.

Scopes vs Scope Selectors

There's a slight difference between *scopes* and *scope selectors*: Scopes are the names defined in a syntax definition, while scope selectors are used in items like snippets and key bindings to target scopes. When creating a new syntax definition, you care about scopes; when you want to constrain a snippet to a certain scope, you use a scope selector.

Scopes can be nested to allow for a high degree of granularity. You can drill down the hierarchy very much like with CSS selectors. For instance, thanks to scope selectors, you could have a key binding activated only within single quoted strings in Python source code, but not inside single quoted strings in any other language.

Sublime Text inherits the idea of scopes from Textmate, a text editor for Mac. Textmate's online manual contains further information about scope selectors that's useful for Sublime Text users too. In particular, Color Schemes make extensive use of scopes to style every aspect of a language in the desired color.

How Syntax Definitions Work

At their core, syntax definitions are arrays of regular expressions paired with scope names. Sublime Text will try to match these patterns against a buffer's text and attach the corresponding scope name to all occurrences. These pairs of regular expressions and scope names are known as *rules*.

Rules are applied in order, one line at a time. Rules are applied in the following order:

1. The rule that matches at the first position in a line
2. The rule that comes first in the array

Each rule consumes the matched text region, which therefore will be excluded from the next rule's matching attempt (save for a few exceptions). In practical terms, this means that you should take care to go from more specific rules to more general ones when you create a new syntax definition. Otherwise, a greedy regular expression might swallow parts you'd like to have styled differently.

Syntax definitions from separate files can be combined, and they can be recursively applied too.

Your First Syntax Definition

By way of example, let's create a syntax definition for Sublime Text snippets. We'll be styling the actual snippet content, not the whole `.sublime-snippet` file.

Note: Since syntax definitions are primarily used to enable syntax highlighting, we'll use the phrase *to style* to mean *to break down a source code file into scopes*. Keep in mind, however, that colors are a different thing from syntax definitions and that scopes have many more uses besides syntax highlighting.

Here are the elements we want to style in a snippet:

- Variables (`$PARAM1`, `$USER_NAME`...)
- Simple fields (`$0`, `$1`...)
- Complex fields with placeholders (`${1:Hello}`)
- Nested fields (`${1:Hello ${2:World}!}`)
- Escape sequences (`\\$`, `\\<`...)
- Illegal sequences (`$`, `<`...)

Here are the elements we don't want to style because they are too complex for this example:

- Variable Substitution (`${1/Hello/Hi/g}`)

Note: Before continuing, make sure you've installed the AAAPackageDev package as explained above.

Creating A New Syntax Definition

To create a new syntax definition, follow these steps:

- Go to **Tools | Packages | Package Development | New Syntax Definition**

- Save the new file in your `Packages/User` folder as a `.YAML-tmLanguage` file.

You now should see a file like this:

```
# [PackageDev] target_format: plist, ext: tmLanguage
---
name: Syntax Name
scopeName: source.syntax_name
fileTypes: []
uuid: 0da65be4-5aac-4b6f-8071-1aadb970b8d9

patterns:
-
...
```

Let's examine the key elements.

name The name that Sublime Text will display in the syntax definition drop-down list. Use a short, descriptive name. Typically, you will use the name of the programming language you are creating the syntax definition for.

scopeName The topmost scope for this syntax definition. It takes the form `source.<lang_name>` or `text.<lang_name>`. For programming languages, use `source`. For markup and everything else, use `text`.

fileTypes This is a list of file extensions (without the leading dot). When opening files of these types, Sublime Text will automatically activate this syntax definition for them.

uuid This is a unique identifier for this syntax definition. Each new syntax definition gets its own uuid. Even though Sublime Text itself ignores it, don't modify this.

patterns A container for your patterns.

For our example, fill the template with the following information:

```
# [PackageDev] target_format: plist, ext: tmLanguage
---
name: Sublime Snippet (Raw)
scopeName: source.ssraw
fileTypes: [ssraw]
uuid: 0da65be4-5aac-4b6f-8071-1aadb970b8d9

patterns:
-
...
```

Note: YAML is not a very strict format, but can cause headaches when you don't know its conventions. It supports single and double quotes, but you may also omit them as long as the content does not create another YAML literal. If the conversion to Plist fails, take a look at the output panel for more information on the error. We'll explain later how to convert a syntax definition in YAML to Plist. This will also cover the first commented line in the template.

The `---` and `...` are optional.

Analyzing Patterns

The `patterns` array can contain several types of element. We'll look at some of them in the following sections. If you want to learn more about patterns, refer to Textmate's online manual.

Matches

Matches take this form:

```
match: (?i:m)y \s+[Rr]egex
name: string.format
comment: This comment is optional.
```

Regular Expressions' Syntax In Syntax Definitions

Sublime Text uses Oniguruma's syntax for regular expressions in syntax definitions. Several existing syntax definitions make use of features supported by this regular expression engine that aren't part of perl-style regular expressions, hence the requirement for Oniguruma.

`match` A regular expression Sublime Text will use to find matches.

`name` The name of the scope that should be applied to any occurrences of `match`.

`comment` An optional comment about this pattern.

Let's go back to our example. It looks like this:

```
# [PackageDev] target_format: plist, ext: tmLanguage
---
name: Sublime Snippet (Raw)
scopeName: source.ssraw
fileTypes: [ssraw]
uuid: 0da65be4-5aac-4b6f-8071-1aadb970b8d9

patterns:
-
...
```

That is, make sure the `patterns` array is empty.

Now we can begin to add our rules for Sublime snippets. Let's start with simple fields. These could be matched with a regex like so:

```
\$[0-9]+
# or...
\$\d+
```

We can then build our pattern like this:

```
name: keyword.other.ssraw
match: \$\d+
comment: Tab stops like $1, $2...
```

Choosing the Right Scope Name

Naming scopes isn't obvious sometimes. Check the Textmate naming conventions for guidance on scope names. AAAPackageDev automatically provides completions for scope names according to these conventions. It is important to re-use the basic categories outlined there if you want to achieve the highest compatibility with existing colors.
Color schemes have hardcoded scope names in them. They could not possibly include every scope name you can think of, so they target the standard ones plus some rarer ones on occasion (like for CSS or Markdown). This means that two color schemes using the same syntax definition may render the text differently!
Bear in mind too that you should use the scope name that best suits your needs or preferences. It'd be perfectly fine to assign a scope like `constant.numeric` to anything other than a number if you have a good reason to do so.

And we can add it to our syntax definition too:

```
# [PackageDev] target_format: plist, ext: tmLanguage
---
name: Sublime Snippet (Raw)
scopeName: source.ssraw
fileTypes: [ssraw]
uuid: 0da65be4-5aac-4b6f-8071-1aadb970b8d9

patterns:
- comment: Tab stops like $1, $2...
  name: keyword.other.ssraw
  match: \$\d+
...
```

Note: You should use two spaces for indent. This is the recommended indent for YAML and lines up with lists like shown above.

We're now ready to convert our file to `.tmLanguage`. Syntax definitions use Textmate's `.tmLanguage` extension for compatibility reasons. As explained above, they are simply Plist XML files.

Follow these steps to perform the conversion:

- Make sure that `Automatic` is selected in **Tools | Build System**, or select `Convert to ...`
- Press `F7`
- A `.tmLanguage` file will be generated for you in the same folder as your `.YAML-tmLanguage` file
- Sublime Text will reload the changes to the syntax definition

In case you are wondering why AAAPackageDev knows what you want to convert your file to: It's specified in the first comment line.

You have now created your first syntax definition. Next, open a new file and save it with the extension `.ssraw`. The buffer's syntax name should switch to "Sublime Snippet (Raw)" automatically, and you should get syntax highlighting if you type `$1` or any other simple snippet field.

Let's proceed to creating another rule for environment variables.

```
comment: Variables like $PARAM1, $TM_SELECTION...
name: keyword.other.ssraw
match: \$[A-Za-z][A-Za-z0-9_]+
```

Repeat the above steps to update the `.tmLanguage` file.

Fine Tuning Matches

You might have noticed, for instance, that the entire text in `$PARAM1` is styled the same way. Depending on your needs or your personal preferences, you may want the `$` to stand out. That's where `captures` come in. Using captures, you can break a pattern down into components to target them individually.

Let's rewrite one of our previous patterns to use `captures`:

```
comment: Variables like $PARAM1, $TM_SELECTION...
name: keyword.other.ssraw
match: \$([A-Za-z][A-Za-z0-9_]+)
captures:
  '1': {name: constant.numeric.ssraw}
```

Captures introduce complexity to your rule, but they are pretty straightforward. Notice how numbers refer to parenthesized groups left to right. Of course, you can have as many capture groups as you want.

Note: Writing `1` on a new line and pressing tab will autocomplete to `'1': {name: }` thanks to AAAPackageDev.

Arguably, you'd want the other scope to be visually consistent with this one. Go ahead and change it too.

Note: As with ususal regular expressions and substítutions, the capture group `'0'` applies to the whole match.

Begin-End Rules

Up to now we've been using a simple rule. Although we've seen how to dissect patterns into smaller components, sometimes you'll want to target a larger portion of your source code that is clearly delimited by start and end marks.

Literal strings enclosed by quotation marks or other delimiting constructs are better dealt with by begin-end rules. This is a skeleton for one of these rules:

```
name:
begin:
end:
```

Well, at least in their simplest version. Let's take a look at one that includes all available options:

```
name:
contentName:
begin:
beginCaptures:
  '0': {name: }
  # ...
end:
endCaptures:
  '0': {name: }
  # ...
patterns:
- name:
  match:
# ...
```

Some elements may look familiar, but their combination might be daunting. Let's inspect them individually.

`name` Just like with simple captures this sets the following scope name to the whole match, including `begin` and `end` marks. Effectively, this will create nested scopes for `beginCaptures`, `endCaptures` and `patterns` defined within this rule. Optional.

contentName Unlike the `name` this only applies a scope name to the enclosed text. Optional.

begin Regex for the opening mark for this scope.

end Regex for the end mark for this scope.

beginCaptures Captures for the `begin` marker. They work like captures for simple matches. Optional.

endCaptures Same as `beginCaptures` but for the `end` marker. Optional.

patterns An array of patterns to match **only** against the begin-end's content; they aren't matched against the text consumed by `begin` or `end` themselves. Optional.

We'll use this rule to style nested complex fields in snippets:

```
name: variable.complex.ssraw
contentName: string.other.ssraw
begin: '(\$)(\{)([0-9]+):'
beginCaptures:
  '1': {name: keyword.other.ssraw}
  '3': {name: constant.numeric.ssraw}
end: \}
patterns:
- include: $self
- name: support.other.ssraw
  match: .
```

This is the most complex pattern we'll see in this tutorial. The `begin` and `end` keys are self-explanatory: they define a region enclosed between `${<NUMBER>:` and `}`. We need to wrap the begin pattern into quotes because otherwise the trailing `:` would tell the parser to expect another dictionary key. `beginCaptures` further divides the begin mark into smaller scopes.

The most interesting part, however, is `patterns`. Recursion, and the importance of ordering, have finally made their appearance here.

We've seen above that fields can be nested. In order to account for this, we need to style nested fields recursively. That's what the `include` rule does when we furnish it the `$self` value: it recursively applies our **entire syntax definition** to the text captured by our begin-end rule. This portion excludes the text individually consumed by the regexes for `begin` and `end`.

Remember, matched text is consumed; thus, it is excluded from the next match attempt and can't be matched again.

To finish off complex fields, we'll style placeholders as strings. Since we've already matched all possible tokens inside a complex field, we can safely tell Sublime Text to give any remaining text (`.`) a literal string scope. Note that this doesn't work if we made the pattern greedy (`.+`) because this includes possible nested references.

Note: We could've used `contentName: string.other.ssraw` instead of the last pattern but this way we introduce the importance of ordering and how matches are consumed.

Final Touches

Lastly, let's style escape sequences and illegal sequences, and then we can wrap up.

```
- comment: Sequences like \$, \> and \<
  name: constant.character.escape.ssraw
  match: \\[$<>]

- comment: Unescaped and unmatched magic characters
  name: invalid.illegal.ssraw
  match: '[$<>]'
```

The only hard thing here is not forgetting that `[]` enclose arrays in YAML and thus must be wrapped in quotes. Other than that, the rules are pretty straightforward if you're familiar with regular expressions.

However, you must take care to place the second rule after any others matching the `$` character, since otherwise it will be consumed and result in every following expression not matching.

Also, even after adding these two additional rules, note that our recursive begin-end rule from above continues to work as expected.

At long last, here's the final syntax definition:

```
# [PackageDev] target_format: plist, ext: tmLanguage
---
name: Sublime Snippet (Raw)
scopeName: source.ssraw
fileTypes: [ssraw]
uuid: 0da65be4-5aac-4b6f-8071-1aadb970b8d9

patterns:
- comment: Tab stops like $1, $2...
  name: keyword.other.ssraw
  match: \$(\d+)
  captures:
    '1': {name: constant.numeric.ssraw}

- comment: Variables like $PARAM1, $TM_SELECTION...
  name: keyword.other.ssraw
  match: \$([A-Za-z][A-Za-z0-9_]+)
  captures:
    '1': {name: constant.numeric.ssraw}

- name: variable.complex.ssraw
  begin: '(\$)(\{)([0-9]+):'
  beginCaptures:
    '1': {name: keyword.other.ssraw}
    '3': {name: constant.numeric.ssraw}
  end: \}
  patterns:
  - include: $self
  - name: support.other.ssraw
    match: .

- comment: Sequences like \$, \> and \<
  name: constant.character.escape.ssraw
  match: \\[$<>]

- comment: Unescaped and unmatched magic characters
  name: invalid.illegal.ssraw
  match: '[$<>]'
...
```

There are more available constructs and code reuse techniques using a "repository", but the above explanations should get you started with the creation of syntax definitions.

Note: If you previously used JSON for syntax definitions you are still able to do this because AAAPackageDev is backwards compatible.

If you want to consider switching to YAML (either from JSON or directly from Plist), it provides a command named `AAAPackageDev: Convert to YAML and Rearrange Syntax Definition` which will automatically format the resulting YAML in a pleasurable way.

See also:

Syntax Definitions Reference for syntax definitions

2.9.7 Plugins

See also:

API Reference More information on the Python API.

Plugins Reference More information about plugins.

This section is intended for users with programming skills.

Sublime Text can be extended through Python plugins. Plugins build features by reusing existing commands or creating new ones. Plugins are a logical entity, rather than a physical one.

Prerequisites

In order to write plugins, you must be able to program in Python. At the time of this writing, Sublime Text used Python 3.

Where to Store Plugins

Sublime Text will look for plugins only in these places:

- `Installed Packages` (only *.sublime-package* files)
- `Packages`
- `Packages/<pkg_name>/`

As a consequence, any plugin nested deeper in `Packages` won't be loaded.

Keeping plugins directly under `Packages` is discouraged. Sublime Text sorts packages in a predefined way before loading them, so if you save plugin files directly under `Packages` you might get confusing results.

Your First Plugin

Let's write a "Hello, World!" plugin for Sublime Text:

1. Select **Tools | New Plugin...** in the menu.
2. Save to `Packages/User/hello_world.py`.

You've just written your first plugin! Let's put it to use:

1. Create a new buffer (`Ctrl+n`).
2. Open the Python console (`Ctrl+``).
3. Type: `view.run_command("example")` and press enter.

You should see the text "Hello, World!" in the newly created buffer.

Analyzing Your First Plugin

The plugin created in the previous section should look roughly like this:

```
import sublime, sublime_plugin

class ExampleCommand(sublime_plugin.TextCommand):
    def run(self, edit):
        self.view.insert(edit, 0, "Hello, World!")
```

Both the `sublime` and `sublime_plugin` modules are provided by Sublime Text; they are not part of the Python standard library.

As we mentioned earlier, plugins reuse or create *commands*. Commands are an essential building block in Sublime Text. They are simply Python classes that can be called in similar ways from different Sublime Text facilities, like the plugin API, menu files, macros, etc.

Sublime Text Commands derive from the `*Command` classes defined in `sublime_plugin` (more on this later).

The rest of the code in our example is concerned with particulars of `TextCommand` or with the API. We'll discuss those topics in later sections.

Before moving on, though, we'll look at how we invoked the new command: first we opened the Python console and then we issued a call to `view.run_command()`. This is a rather inconvenient way of calling commands, but it's often useful when you're in the development phase of a plugin. For now, keep in mind that your commands can be accessed through key bindings and by other means, just like other commands.

Conventions for Command Names

You may have noticed that our command is named `ExampleCommand`, but we passed the string `example` to the API call instead. This is necessary because Sublime Text standardizes command names by stripping the `Command` suffix and separating `PhrasesLikeThis` with underscores, like so: `phrases_like_this`.

New commands should follow the same naming pattern.

Types of Commands

You can create the following types of commands:

- Window commands (`sublime_plugin.WindowCommand`)
- Text commands (`sublime_plugin.TextCommand`)

When writing plugins, consider your goal and choose the appropriate type of commands.

Shared Traits of Commands

All commands need to implement a `.run()` method in order to work. Additionally, they can receive an arbitrarily long number of keyword parameters.

Note: Parameters to commands must be valid JSON values due to how ST serializes them internally.

Window Commands

Window commands operate at the window level. This doesn't mean that you can't manipulate views from window commands, but rather that you don't need views in order for window commands to be available. For instance, the

built-in command `new_file` is defined as a `WindowCommand` so it works even when no view is open. Requiring a view to exist in that case wouldn't make sense.

Window command instances have a `.window` attribute to point to the window instance that created them.

The `.run()` method of a window command doesn't require any positional parameter.

Window commands are able to route text commands to their window's active view.

Text Commands

Text commands operate at the view level, so they require a view to exist in order to be available.

Text command instances have a `.view` attribute pointing to the view instance that created them.

The `.run()` method of text commands requires an `edit` instance as its first positional argument.

Text Commands and the `edit` Object

The edit object groups modifications to the view so that undo and macros work sensibly.

Note: Contrary to older versions, Sublime Text 3 doesn't allow programmatic control over edit objects. The API is in charge of managing their life cycle. Plugin creators must ensure that all modifying operations occur inside the `.run` method of new text commands. To call existing commands, you can use `view.run_command(<cmd_name>, <args>)` or similar API calls.

Responding to Events

Any command deriving from `EventListener` will be able to respond to events.

Another Plugin Example: Feeding the Completions List

Let's create a plugin that fetches data from Google's Autocomplete service and then feeds it to the Sublime Text completions list. Please note that, as ideas for plugins go, this a very bad one.

```
import sublime, sublime_plugin

from xml.etree import ElementTree as ET
import urllib

GOOGLE_AC = r"http://google.com/complete/search?output=toolbar&q=%s"

class GoogleAutocomplete(sublime_plugin.EventListener):
    def on_query_completions(self, view, prefix, locations):
        elements = ET.parse(
            urllib.request.urlopen(GOOGLE_AC % prefix)
        ).getroot().findall("./CompleteSuggestion/suggestion")

        sugs = [(x.attrib["data"],) * 2 for x in elements]

        return sugs
```

Note: Make sure you don't keep this plugin around after trying it or it will interfere with the autocompletion system.

See also:

EventListener.on_query_completions() Documentation on the API event used in this example.

Learning the API

In order to create plugins, you need to get acquainted with the Sublime Text API and the available commands. Documentation on both is scarce at the time of this writing, but you can read existing code and learn from it.

In particular, the `Packages/Default` contains many examples of undocumented commands and API calls. Note that you will first have to extract its content to a folder if you want to take a look at the code within. As an exercise, you can try creating a build system to do that on demand, and a project file to be able to peek at the sample code easily.

2.9.8 Packages

Overview

A package is a container for resources.

Package Locations (and Abbreviations)

There are three locations for storing packages for different purposes.

- Packages can be **folders** under *`Data`*`/Packages` (short: *`Packages`*)
- or **zip archives** with the `.sublime-package` extension located under *`Data`*`/Installed Packages` (short: *`Installed Packages`*) or any of its subdirectories.
- Additionally, Sublime Text provides a set of default packages as **zip archives** in *`Application`*`/Packages` (short: *`Shipped Packages`*), where `Application` refers to the folder where the Sublime Text executable resides.

  This folder is not intended to be modified by the user.

Note: For simplicity, we will occasionally refer to all these directories simply as *`Packages`*, and to a package in any folder (`.sublime-package` or not) as *`Packages`*`/PackageName`. Consequently, a file inside a package may also be referred to as `PackageName/a_file.extension`.

`.sublime-package` Packages

Packages distributed as `.sublime-package` zip archives should be considered read-only containers of resources and never be modified manually. Since they are usually updated as a whole, any manual changes made to them will be lost in the process.

If you do want to modify files in these archives, see *Customizing or Overriding Packages*.

Interactions Between Packages with The Same Name

If two packages with the same name exist in both *`Installed Packages`* and *`Shipped Packages`*, the one in *`Installed Packages`* will be used and the one in *`Shipped Packages`* will be ignored.

Any file in *`Packages/PackageName`* takes precedence over an identically named file in *`Installed Packages/PackageName`*`.sublime-package` or *`Shipped Packages/PackageName`*`.sublime-package`.

See also *Customizing or Overriding Packages*.

Package Contents

Typical resources found in packages include:

- build systems (`.sublime-build`)
- color schemes (`.tmTheme`)
- key maps (`.sublime-keymap`)
- macros (`.sublime-macro`)
- menus (`.sublime-menu`)
- metadata (`.tmPreferences`)
- mouse maps (`.sublime-mousemap`)
- plugins (`.py`)
- settings (`.sublime-settings`)
- snippets (`.sublime-snippet`)
- syntax definitions (`.tmLanguage`)
- themes (`.sublime-theme`)

Some packages may hold support files for other packages or for core features. For example, the spell checker uses *`Installed Packages`*`/Language - English.sublime-package` as a data store for English dictionaries.

Types of Packages

In this guide, we categorize packages for clarity when discussing this topic, but Sublime Text doesn't use this terminology and you don't need to learn it.

shipped packages, default packages A set of packages that Sublime Text ships with. Some of these packages are *core packages*, while others enhance Sublime Text to support common programming languages out of the box.

Examples: Default, Python, Java, C++, Markdown.

Located in *`Shipped Packages`*.

core packages Sublime Text requires these packages in order to function properly.

Complete list: Default, Theme - Default, Color Scheme - Default, Text, Language - English.

They are part of the shipped packages and located in *`Shipped Packages`*.

user packages Installed or created by the user to extend Sublime Text's functionality. They are not part of Sublime Text, and are always contributed by users or third parties.

Example: User.

Located in `Packages` and `Installed Packages`.

installed packages A subtype of *user packages*.

Installed packages are `.sublime-package` archives and usually maintained by a package manager.

Located in `Installed Packages`.

Note: Due to the unfortunate name of this folder, talking about *installing* packages in Sublime Text is confusing.

Sometimes, in this guide, by *installing* we mean 'adding a user/third party package to Sublime Text' (in any form), and sometimes we use the term in its stricter sense of 'copying a `.sublime-package` archive to `Installed Packages`'.

---

override packages A special type of *user packages*.

Override packages serve the purpose of customizing packages that are distributed as `.sublime-package` files. They are effectively injected into the original package and do not stand-alone.

See *Customizing or Overriding Packages* for details.

Located in `Packages`.

Note that by *third party* we also refer to users of other editors, notably Textmate, as Sublime Text and Textmate share some types of resource files that can be reused without modification.

Managing Packages

Installing Packages

Note: Regular users rarely need to know how to install packages by hand, as automatic package managers are available.

The de facto package manager for Sublime Text is Package Control.

Packages can be installed in two main ways:

- by copying Sublime Text resources to a folder under `Packages`, or
- by copying a `.sublime-package` file to `Installed Packages`.

Disabling Packages

To temporarily disable packages, you can add them to the `ignored_packages` list in your `Packages/User/Preferences.sublime-settings` file. Packages will be loaded or unloaded as needed when the settings file is saved.

Enabling Packages

To re-enable a package, remove the package's name from the `ignored_packages` list in your `Packages/User/Preferences.sublime-settings` file.

Removing Packages

If you installed a package with a package manager, remove it using the method provided by the package manager.

If you installed a package manually, follow this procedure to safely remove a package:

1. *Disable* the package while Sublime Text is running.
2. Close Sublime Text.
3. Remove the package's resources from the disk.
4. Remove the package's name from the `ignored_packages` list.

In addition to the resources you have placed initially in a *`Packages`* folder or in *`Installed Packages`*, plugins may create configuration files (such as `.sublime-settings` files) or other files to store package-related data. Frequently, you will find them in the *User* package. Therefore, if you want to remove all traces of a package, you will need to find and remove all the additional files that it may have installed.

> **Warning:** Shipped packages are reinstated during every Sublime Text update, so you can't delete them forever. If you want to stop using a shipped package, *disable* it.

Customizing or Overriding Packages

Since packages in `.sublime-package` zip archives *are read-only*, you cannot modify them directly. However, Sublime Text allows you to create an *override package* that will effectively inject files into the original archive without modifying the archive itself.

To create an override package, create a new folder under *`Packages`* and name it after the `.sublime-package` file you want to override, excluding the extension. Any file you create in this package will take precedence over any identically named file in the original package.

Python plugins in override packages are able to use relative imports for accessing other modules in the corresponding `.sublime-package` file as if they were part of it.

> **Warning:** Files in override packages override entire files. If the overriden file in the corresponding `.sublime-package` is updated, you will not be notified.

Merging and Order of Precedence

Package precedence is important for merging certain resources, for example, `.sublime-keymap` and `.sublime-settings` files, and for loading plugins (`.py` files).

If an *override package* exists for a `.sublime-package` package, it will be loaded at the same time as the `.sublime-package` archive.

Sublime Text loads packages in this order:

1. *`Packages`*`/Default`;
2. *shipped packages* in lexicographical order;
3. *installed packages* in lexicographical order;
4. all remaining *user packages*, except for *`Packages`*`/User`, that did not override anything, in lexicographical order;
5. *`Packages`*`/User`

Reverting Sublime Text to Its Default Configuration

Reverting Sublime Text to a fresh state solves many problems that appear to be bugs in Sublime Text but are in fact caused by misbehaving packages and plugins.

To revert Sublime Text to its default configuration and remove all your settings and configurations, delete the *data directory* and restart the editor. Keep in mind that the `Installed Packages` folder will be deleted too, so you'll lose all your installed packages.

Always make sure to back up your data before taking an extreme measure like this one!

2.10 Command Line Usage

See also:

OS X Command Line Official Sublime Text Documentation

2.11 Reference

This section contains concise technincal information about Sublime Text. It is intended mainly as a quick reference for advanced users who want to modify Sublime Text's default behavior.

If you're looking for a gentler introduction to any of these topics, try the general index.

2.11.1 Syntax Definitions

Note: As of Sublime Text Build 3084, a new syntax definition format has been added, with the `.sublime-syntax` extension. It is currently only available in the Dev channel.

Documentation is available here: http://www.sublimetext.com/docs/3/syntax.html

---

Compatibility with Textmate

Generally, Sublime Text syntax definitions are compatible with Textmate language files.

File Format

Textmate syntax definitions are Plist files with the `tmLanguage` extension. However, for convenience in this reference document, YAML is shown instead.

Additionally, Sublime Text also understands the `hidden-tmLanguage` extension, which can not be selected by the user but only by set by plugins. "Find in Files" makes use of this. The downsite is that these can not be included by import statements in other language definitions.

```
---
name: Sublime Snippet (Raw)
scopeName: source.ssraw
fileTypes: [ssraw]
uuid: 0da65be4-5aac-4b6f-8071-1aadb970b8d9

patterns:
```

```
- comment: Tab stops like $1, $2...
  name: keyword.other.ssraw
  match: \$\d+

- comment: Variables like $PARAM1, $TM_SELECTION...
  name: keyword.other.ssraw
  match: \$([A-Za-z][A-Za-z0-9_]+)
  captures:
    '1': {name: constant.numeric.ssraw}

- name: variable.complex.ssraw
  begin: '(\$)(\{)([0-9]+):'
  beginCaptures:
    '1': {name: keyword.other.ssraw}
    '3': {name: constant.numeric.ssraw}
  end: \}
  patterns:
  - include: $self
  - name: support.other.ssraw
    match: .

- name: constant.character.escape.ssraw
  match: \\[$<>]

- name: invalid.illegal.ssraw
  match: '[$<>]'
...
```

name Descriptive name for the syntax definition. Shows up in the syntax definition dropdown menu located in the bottom right of the Sublime Text interface. It's usually the name of the programming language or equivalent.

scopeName Name of the topmost scope for this syntax definition. Either `source.<lang>` or `text.<lang>`. Use `source` for programming languages and `text` for markup and everything else.

fileTypes This is a list of file extensions (without the leading dot). When opening files of these types, Sublime Text will automatically activate this syntax definition for them. Optional.

uuid Unique indentifier for this syntax definition. Currently ignored.

patterns Array of patterns to match against the buffer's text.

repository Array of patterns abstracted out from the `patterns` element. Useful to keep the syntax definition tidy as well as for specialized uses like recursive patterns or re-using the same pattern. Optional.

The Patterns Array

Elements contained in the `patterns` array.

match Contains the following elements:

`match`	Pattern to search for.
`name`	Optional. Scope name to be assigned to matches of `match`.
`comment`	Optional. For information only.
`captures`	Optional. Refinement of `match`. See below.

In turn, `captures` can contain *n* of the following pairs of elements (note that `0` refers to the whole match):

`0..n`	Name of the group referenced. Must be a string.
`name`	Scope to be assigned to the group.

Examples:

```
# Simple

- comment: Sequences like \$, \> and \<
  name: constant.character.escape.ssraw
  match: \\[$<>]

# With captures

- comment: Tab stops like $1, $2...
  name: keyword.other.ssraw
  match: \$(\d+)
  captures:
    '1': {name: constant.numeric.ssraw}
```

include Includes items in the repository, other syntax definitions or the current one.

References:

$self	The current syntax definition.
#itemName	itemName in the repository.
source.js	External syntax definitions.

Examples:

```
# Requires presence of DoubleQuotedStrings element in the repository.
- include: '#DoubleQuotedStrings'

# Recursively includes the complete current syntax definition.
- include: $self

# Includes and external syntax definition.
- include: source.js
```

begin..end Defines a scope potentially spanning multiple lines

Contains the following elements (only `begin` and `end` are required):

`name`	Scope name for the content including the markers.
`contentName`	Scope name for the content excluding the markers.
`begin`	The start marker pattern.
`end`	The end marker pattern.
`name`	Scope name for the whole region.
`beginCaptures`	`captures` for `begin`. See `captures`.
`endCaptures`	`captures` for `end`. See `captures`.
`patterns`	Array of patterns to be matched against the content.

Example:

```
name: variable.complex.ssraw
begin: '(\$)(\{)([0-9]+):'
beginCaptures:
  '1': {name: keyword.other.ssraw}
  '3': {name: constant.numeric.ssraw}
end: \}
patterns:
- include: $self
- name: support.other.ssraw
  match: .
```

Repository

Can be referenced from `patterns` or from itself in an `include` element. See `include` for more information.

The repository can contain the following elements:

```
repository:

  # Simple elements
  elementName:
    match: some regexp
    name:  some.scope.somelang

  # Complex elements
  otherElementName:
    patterns:
    - match: some regexp
      name:  some.scope.somelang
    - match: other regexp
      name:  some.other.scope.somelang
```

Examples:

```
repository:
  numericConstant:
    patterns:
    - name: constant.numeric.double.powershell
      match: \d*(?<!\.)(\.)\d+(d)?(mb|kb|gb)?
      captures:
        '1': {name: support.constant.powershell}
        '2': {name: support.constant.powershell}
        '3': {name: keyword.other.powershell}
    - name: constant.numeric.powershell
      match: (?<!\w)\d+(d)?(mb|kb|gb)?(?!\w)
      captures:
        '1': {name: support.constant.powershell}
        '2': {name: keyword.other.powershell}

  scriptblock:
    name: meta.scriptblock.powershell
    begin: \{
    end: \}
    patterns:
    - include: $self
```

Escape Sequences

Be sure to escape JSON/XML sequences as needed.

For YAML, additionally make sure that you didn't unintentionally start a new scalar by not using quotes for your strings. Examples that **won't work** as expected:

```
match: [aeiou]

include: #this-is-actually-a-comment

match: "#"\w+""
```

2.11.2 Color Schemes

Overview

Color schemes define the colors used to highlight source code in Sublime Text views and to style different elements found in the editing area: background, foreground, selection, caret...

File Format

Color scheme files use the Property List format and have the .tmTheme extension.

The file format of color scheme files is inherited from Textmate.

Note: Sublime Text uses the .tmTheme extension for color scheme files to maintain compatibility with Textmate. Rather confusingly, Sublime Text also has a notion of a user interface (UI) theme. A UI theme is a set of styles and decorations to alter the look of the editor's UI. It's important to remember that UI themes and color schemes are two different customization mechanisms. Generally speaking, it is far less complex to create a new color scheme than it is to create a new UI theme.

Where to Store Color Schemes

You can keep color scheme files anywhere under Packages (even inside directories nested multiple levels deep).

By convention, directories containing a set of color scheme files have the *Color Scheme* - prefix. For example: *Color Scheme - Default*.

The file names of all available color schemes are displayed in the **Preferences** → **Color Scheme** menu.

Selecting a Color Scheme

You can change the current color scheme by means of the **Preferences** → **Color Scheme** menu.

A common way of selecting a color scheme is by associating it to a type of file using the file-type-specific settings. For example, for the Python file type (`syntax_file == Python.tmLanguage`), we'd use the `Python.sublime-settings` file and, within, set `color_scheme` to some color scheme file.

For more information about settings, see Settings – Reference.

Structure of a Color Scheme File

Color scheme files are based on the Property List format. All color scheme files share the same topmost structure.

Colors can be expressed in the following formats: `#RRGGBB`, `#RGB`.

Most elements controlling colors accept an alpha channel value: `#RRGGBBAA`.

Contents

Topmost Elements in Color Schemes Files

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyLis
<plist version="1.0">
<dict>
   <key>name</key>
   <string>Monokai</string>
   <key>settings</key>
   <array>
   ... INSERT AWESOME COLORS HERE ...
   </array>
   <key>uuid</key>
   <string>D8D5E82E-3D5B-46B5-B38E-8C841C21347D</string>
</dict>
</plist>
```

name Optional. Name of the color scheme. Ignored by Sublime Text.

uuid Optional. A unique identifier for the file. Ignored by Sublime Text.

Subelements of Settings

Sublime Text supports the following color scheme settings:

Global Settings Not associated with any scope. These settings affect global visual items in the editing area.

Global settings go inside a `<dict>` element within the topmost `<array>`.

```
<array>
   <dict>
      <key>settings</key>
      <dict>
         <key>background</key>
         <string>#272822</string>
         <key>caret</key>
         <string>#F8F8F0</string>
         ...
      </dict>
   </dict>
...
</array>
```

Global Settings Ordered by Type

General

foreground Foreground color for the view.

background Backgound color of the view.

invisibles Ignored.

caret Color of the caret.

lineHighlight Color of the line the caret is in. Only used when the `higlight_line` setting is set to `true`.

Brackets

bracketContentsForeground Color of bracketed sections of text when the caret is in a bracketed section. Only applied when the `match_brackets` setting is set to *true*.

bracketContentsOptions Controls certain options when the caret is in a bracket section. Only applied when the `match_brackets` setting is set to `true`.

Options: `underline`, `stippled_underline`, `squiggly_underline`. The *underline* option indicates that the text should be drawn using the given color, not just the underline.

bracketsForeground Foreground color of the brackets when the caret is next to a bracket. Only applied when the `match_brackets` setting is set to `true`.

bracketsForeground Background color of the brackets when the caret is next to a bracket. Only applied when the `match_brackets` setting is set to `true`.

bracketsOptions Controls certain options when the caret is next to a bracket. Only applied when the `match_brackets` setting is set to `true`.

Options: `underline`, `stippled_underline`, `squiggly_underline`. `underline` indicates the text should be drawn using the given color, not just the underline.

Tags

tagsForeground Color of tags when the caret is next to a tag. Only used when the `match_tags` setting is set to `true`.

tagsOptions Controls certain options when the caret is next to a tag. Only applied when the `match_tags` setting is set to `true`.

Options: `underline`, `stippled_underline`, `squiggly_underline`. `underline` indicates the text should be drawn using the given color, not just the underline.

Find

`findHighlight` Background color of regions matching the current search.

`findHighlightForeground` Background color of regions matching the current search.

Gutter

`gutter` Background color of the gutter.

`gutterForeground` Foreground color of the gutter.

Selection

`selection` Color of the selection regions.

`selectionBackground` Background color of the selection regions.

`selectionBorder` Color of the selection regions' border.

`inactiveSelection` Color of inactive selections (inactive view).

Guides

`guide` Color of the guides displayed to indicate nesting levels.

`activeGuide` Color of the guide lined up with the caret. Only applied if the `indent_guide_options` setting is set to `draw_active`.

`stackGuide` Color of the current guide's parent guide level.

Only used if the `indent_guide_options` setting is set to `draw_active`.

Highlighted Regions

`highlight` Background color for regions added via `sublime.add_regions()` with the `sublime.DRAW_OUTLINED` flag added.

`highlightForeground` Foreground color for regions added via `sublime.add_regions()` with the `sublime.DRAW_OUTLINED` flag added.

Shadow

`shadow` Color of the shadow effect when the buffer is scrolled.

`shadowWidth` Width ot the shadow effect when the buffer is scrolled.

Scoped Settings Settings associated with a particular scope.

```
<array>
   ...
   <dict>
      <key>name</key>
      <string>Comment</string>
      <key>scope</key>
```

```
        <string>comment</string>
        <key>settings</key>
        <dict>
            <key>foreground</key>
            <string>#75715E</string>
        </dict>
    </dict>
    ...
</array>
```

name Descriptive name of the item.

scope Target scope name.

settings Container for settings.

Valid settings are:

fontStyle Style of the font.

Options: `bold`, `italic`.

foreground Foreground color.

background Background color.

Sublime Text Settings Related to Color Schemes

View Settings

color_scheme Path to a color scheme file relative to the Data folder (example: `Packages/Color Scheme - Default/Monokai.tmTheme`).

2.11.3 Build Systems

Warning: Build system selection is currently undergoing a rework in the dev channel. The following information may be outdated.
See this forum thread for details.

Using build systems, you can run files through external programs without leaving Sublime Text, and see the output they generate.

Build Systems – Basics

Overview

You can use build systems to run files through external programs and see any generated output, all without leaving Sublime Text.

Note: We use the term *build* in a broad sense. A build system doesn't need to generate a compiled executable—it could simply format code, run an interpreter, etc.

Parts of a Build System

Simple build systems only require a `.sublime-build` file. More advanced build systems may optionally consist of up to three parts:

- a `.sublime-build` file (configuration data in JSON format);
- optionally, a custom Sublime Text command (Python code) driving the build process;
- optionally, an external executable file (script or binary file).

`.sublime-build` Files A `.sublime-build` file contains configuration data as a JSON object and specifies switches, options and environmental data. Each `.sublime-build` file is normally associated with a specific scope corresponding to a file type (for example, `source.python`).

The file name represents the name of the build system and will be displayed whenever you can select a build system.

Example

```
{
    "cmd": ["python", "-u", "$file"],
    "file_regex": "^[ ]*File \"(...*?)\", line ([0-9]*)",
    "selector": "source.python"
}
```

The Sublime Text Command Used in A Build System When you run the default build task in Sublime Text (`Ctrl+B`), a Sublime Text command receives the configuration data specified in the `.sublime-build` file. This command then *builds* the files. Often, it calls an external program. By default, the command used in build systems is `exec`, but it can be overridden.

Overriding the Default Command for Build Systems By default, build systems use the `exec` command implemented by *`Packages`*`/Default/exec.py`. This command simply forwards configuration data to an external program and runs it asynchronously.

Using the `target` option in a `.build-system` file, it's possible to override the `exec` command. See *Target Command Arguments* for details.

Calling External Programs A build system may call an external program to process files. The external program may be a custom shell script, a standard utility like `make` or `tidy`, etc. Usually, the external program receives paths to files or directories, along with switches and options that configure its behavior.

Note: Build systems can but don't need to call external programs—a build system could be implemented entirely as a Sublime Text command.

Build Systems – Configuration

Warning: Build system selection is currently undergoing a rework in the dev channel. The following information may be outdated.
See this forum thread for details.

Overview

The build system framework in Sublime Text tries to be flexible enough to accommodate a large number of build scenarios.

Should the default configuration options fall short for your needs, you can implement your own build system mechanism in two main ways:

- as a custom `target` command (still using the default build system framework)
- as an entirely new plugin (skipping the build system framework)

Meta Options in Build Systems

This is a list of standard options that all build systems understand. These options are used internally by Sublime Text. The `target` command does not receive any of these options.

`target` ***(optional)*** A Sublime Text `WindowCommand`. Defaults to `exec` (`Packages/Default/exec.py`). This command receives all the *target command arguments* specified in the `.sublime-build` file (as `**kwargs`).

Used to override the default build system command. Note that if you choose to override the default command for build systems, you can add any number of extra options to the `.sublime-build` file.

`selector` ***(optional)*** Used when **Tools | Build System | Automatic** is set to `true`. Sublime Text uses this scope selector to find the appropriate build system for the active view.

`windows`, `osx` and `linux` ***(optional)*** Used to selectively apply options by OS. OS-specific values override defaults. Each of the listed items accepts a dictionary of options.

See *Platform-specific Options*.

`variants` ***(optional)*** A list of dictionaries of options. Variant names will appear in the Command Palette for easy access if the build system's selector matches for the active file.

Using variants it's possible to specify multiple build system tasks in the same `.sublime-build` file.

See *Variants*.

`name` ***(optional)*** **Only valid inside a variant**.

Identifies a build system task. If the `name` is 'Run', the variant will show up under **Tools | Build System**. Sublime Text will automatically bind the 'Run' task to `Ctrl+Shift+B`.

See *Variants*.

Target Command Arguments Thanks to the `target` setting, which overrides the default `exec` command with any other command of your choice, a build system may contain any number of custom arguments that the new `target` command accepts.

See the *target* option.

Platform-specific Options The `windows`, `osx` and `linux` elements let you provide platform-specific data in the build system. Here's an example:

```
{
    "cmd": ["ant"],
    "file_regex": "^ *\\[javac\\] (.+):([0-9]+):() (.*)$",
    "working_dir": "${project_path:${folder}}",
```

```
    "selector": "source.java",

    "windows": {
        "cmd": ["ant.bat"]
    }
}
```

In this case, `ant` will be executed for every platform except Windows, where `ant.bat` will be used instead.

Variants Here's a contrived example of a build system with variants:

```
{
    "selector": "source.python",
    "cmd": ["date"],

    "variants": [

        { "name": "List Python Files",
          "cmd": ["ls -l *.py"],
          "shell": true
        },

        { "name": "Word Count (current file)",
          "cmd": ["wc", "$file"]
        },

        { "name": "Run",
          "cmd": ["python", "-u", "$file"]
        }
    ]
}
```

Given these settings, `Ctrl+B` would run the *date* command, `Crtl+Shift+B` would run the Python interpreter and the remaining variants would appear in the *Command Palette* as `Build: name` whenever the build system was active.

Capturing Build System Results

When build systems output text to a results view, it's possible to capture *results data* in order to enable result navigation.

Note: *Results* can also mean *errors*. Often, build systems produce error data.

Set the following **view settings** in a results view if you want to enable results navigation:

`result_file_regex` A Perl-style regular expression to capture up to four fields of error information from a results view, namely: *filename*, *line number*, *column number* and *error message*. Use groups in the pattern to capture this information. The *filename* field and the *line number* field are required.

`result_line_regex` If `result_file_regex` doesn't match but `result_line_regex` exists and does match on the current line, walk backwards through the buffer until a line matching `result_file_regex` is found, and use the two matches to determine the file and line to go to.

`result_base_dir` Used to find files where results occur.

When result data is captured, you can navigate to results in your project's files with `F4` and `Shift+F4`. If available, the captured *error message* will be displayed in the status bar.

Build System Variables

Build systems expand the following variables in `.sublime-build` files:

`$file_path`	The directory of the current file, e.g., *C:\Files*.
`$file`	The full path to the current file, e.g., *C:\Files\Chapter1.txt*.
`$file_name`	The name portion of the current file, e.g., *Chapter1.txt*.
`$file_extension`	The extension portion of the current file, e.g., *txt*.
`$file_base_name`	The name-only portion of the current file, e.g., *Document*.
`$folder`	The path to the first folder opened in the current project.
`$project`	The full path to the current project file.
`$project_path`	The directory of the current project file.
`$project_name`	The name portion of the current project file.
`$project_extension`	The extension portion of the current project file.
`$project_base_name`	The name-only portion of the current project file.
`$packages`	The full path to the *Packages* folder.

Note: Expansion is currently applied only to the following keys in the `.sublime-build` file: `cmd`, `shell_cmd`, and `working_dir`.

Placeholders for Variables Features found in snippets can be used with these variables. For example:

```
${project_name:Default}
```

This will emit the name of the current project if there is one, otherwise `Default`.

```
${file/\.php/\.txt/}
```

This will emit the full path of the current file, replacing *.php* with *.txt*.

See also:

Snippets Documentation on snippet variables.

Running Build Systems

Select the desired build system from **Tools | Build System**, and then select **Tools | Build**. Alternatively, you can use the command palette or the following key bindings:

`Ctrl+B`	Run default build task
`F7`	Run default build task
`Ctrl+Shift+B`	Run 'Run' build task
`Ctrl+Break`	Cancel running build task

See *Variants*.

`exec` Command Arguments

All the options that follow are related to the `exec` command (see also *Exec Command Reference*). If you change the `target` command, these options can no longer be relied on (see *Target Command Arguments* for details).

`cmd` Required if `shell_cmd` is empty.

Overriden by `shell_cmd`.

Array containing the command to run and its desired arguments. If you don't specify an absolute path, the external program will be searched in your `PATH`. Ultimately, `subprocess.Popen(cmd)` is called.

On Windows, GUIs are supressed.

`shell_cmd` Required if `cmd` is empty.

Overrides `cmd` if used.

A string that specifies the command to be run and its arguments. Ultimately, `subprocess.Popen(shell_cmd, shell=True)` is called.

It should help in getting right invocations involving complex uses of quotation marks.

`working_dir` Optional.

Directory to change the current directory to before running `cmd`. The original current directory is restored afterwards.

`encoding` Optional.

Output encoding of `cmd`. Must be a valid Python encoding. Defaults to `UTF-8`.

`env` Optional.

Dictionary of environment variables to be merged with the current process' before passing them to `cmd`.

Use this option, for example, to add or modify environment variables without modifying your system's settings.

Environmental variables will be expanded.

`shell` Optional.

If *true*, `cmd` will be run through the shell (`cmd.exe`, `bash`...).

If `shell_cmd` is used, this option has no effect.

`path` Optional.

`PATH` used by the `cmd` subprocess.

Use this option to add directories to `PATH` without having to modify your system's settings.

Environmental variables will be expandend.

`file_regex` Optional.

Sets the `result_file_regex` for the results view.

See *Capturing Build System Results* for details.

`line_regex` Optional.

Sets the `result_line_regex` for the results view.

See *Capturing Build System Results* for details.

`syntax` Optional.

If provided, it will be used to colorize the build system's output.

Troubleshooting Build Systems

Build systems will look for executables in your `PATH`. Therefore, your `PATH` variable must be correctly set.

On some operating systems, the value of `PATH` may vary between terminal windows and graphical applications. Thus, depending on how you start Sublime Text, the build system may or may not work.

To solve this issue, make sure you set the `PATH` so that graphical applications such as Sublime Text can find it. See the links below for more information.

Alternatively, you can use the `path` option in a `.sublime-build` file to override the `PATH` used to locate the executable specified in `cmd`.

See also:

Managing Environment Variables in Windows Search Microsoft knowledge base for this topic.

Setting Environment Variables in OSX StackOverflow topic.

2.11.4 Key Bindings

Key bindings map key presses to commands.

File Format

Key bindings are stored in `.sublime-keymap` files and defined in JSON. Keymap files may be located anywhere in a package.

Naming Keymap Files

Any keymap named `Default.sublime-keymap` will always be applied in all platforms.

Additionally, each platform can optionally have its own keymap:

- `Default (Windows).sublime-keymap`
- `Default (OSX).sublime-keymap`
- `Default (Linux).sublime-keymap`

Sublime Text will ignore any `.sublime-keymap` file whose name doesn't follow the patterns just described.

Structure of a Key Binding

Keymaps are arrays of key bindings. These are all valid elements in a key binding:

keys An array of case-sensitive keys. Modifiers can be specified with the + sign. You can build chords by adding elements to the array (for example, `["ctrl+k","ctrl+j"]`). Ambiguous chords are resolved with a timeout.

command Name of the command to be executed.

args Dictionary of arguments to be passed to `command`. Keys must be names of parameters to `command`.

context Array of conditions that determine a particular *context*. All conditions must evaluate to *true* for the context to be active. See *Structure of a Context* below for more information.

Here's an example:

```
{ "keys": ["shift+enter"], "command": "insert_snippet", "args": {"contents": "\n\t$0\n"}, "context":
   [
      { "key": "setting.auto_indent", "operator": "equal", "operand": true },
      { "key": "selection_empty", "operator": "equal", "operand": true, "match_all": true },
      { "key": "preceding_text", "operator": "regex_contains", "operand": "\\{$", "match_all": true
      { "key": "following_text", "operator": "regex_contains", "operand": "^\\}", "match_all": true
```

```
    ]
}
```

Structure of a Context

key Name of the context whose value you want to query.

operator Type of test to perform against `key`'s value. Defaults to `equal`.

operand The result returned by `key` is tested against this value.

match_all Requires the test to succeed for all selections. Defaults to `false`.

Context Operands

auto_complete_visible Returns `true` if the autocomplete list is visible.

has_next_field Returns `true` if a next snippet field is available.

has_prev_field Returns `true` if a previous snippet field is available.

num_selections Returns the number of selections.

overlay_visible Returns `true` if any overlay is visible.

panel_visible Returns `true` if any panel is visible.

following_text Restricts the test to the text following the caret.

preceding_text Restricts the test to the text preceding the caret.

selection_empty Returns `true` if the selection is an empty region.

setting.x Returns the value of the `x` setting. *x*' can be any string.

text Restricts the test to the selected text.

selector Returns the name of the current scope.

panel_has_focus Returns `true` if a panel has input focus.

panel Returns `true` if the panel given as `operand` is visible.

Context Operators

equal, not_equal Test for equality.

regex_match, not_regex_match Match against a regular expression (full match).

regex_contains, not_regex_contains Match against a regular expression (partial match).

Command Mode

Sublime Text provides a `command_mode` setting to prevent key presses from being sent to the buffer. This is useful, for example, to emulate Vim's modal behavior.

Key bindings not intended for command mode (generally, all of them) should include a context like this:

```
{"key": "setting.command_mode", "operand": false}
```

This way, plugins legitimately using command mode will be able to define appropriate key bindings without interference.

Bindable Keys

Keys in key bindings may be specified literally or by name. If using a name doesn't work in your case, try a literal value.

Here's the list of all valid names:

- `up`
- `down`
- `right`
- `left`
- `insert`
- `home`
- `end`
- `pageup`
- `pagedown`
- `backspace`
- `delete`
- `tab`
- `enter`
- `pause`
- `escape`
- `space`
- `keypad0`
- `keypad1`
- `keypad2`
- `keypad3`
- `keypad4`
- `keypad5`
- `keypad6`
- `keypad7`
- `keypad8`
- `keypad9`
- `keypad_period`
- `keypad_divide`
- `keypad_multiply`
- `keypad_minus`
- `keypad_plus`
- `keypad_enter`

- clear
- f1
- f2
- f3
- f4
- f5
- f6
- f7
- f8
- f9
- f10
- f11
- f12
- f13
- f14
- f15
- f16
- f17
- f18
- f19
- f20
- sysreq
- break
- context_menu
- browser_back
- browser_forward
- browser_refresh
- browser_stop
- browser_search
- browser_favorites
- browser_home

Modifiers

- shift
- ctrl
- alt

- `super` (Windows key, Command key...)

Warning about Bindable Keys

If you're developing a package, keep this in mind:

- `Ctrl+Alt+<alphanum>` should never be used in any Windows key bindings.
- `Option+<alphanum>` should never be used in any OS X key bindings.

In both cases, the user's ability to insert non-ASCII characters would be compromised otherwise.

End-users are free to remap any key combination.

Order of Preference for Key Bindings

Key bindings in a keymap file are evaluated from the bottom to the top. The first matching context wins.

Keeping Keymaps Organized

Sublime Text ships with default keymaps under `Packages/Default`. Other packages may include keymap files of their own.

The recommended storage location for your personal keymap files is `Packages/User`.

See *Merging and Order of Precedence* for more information.

International Keyboards

Due to the way Sublime Text maps key names to physical keys, key names may not correspond to physical keys in keyboard layouts other than US English.

Troubleshooting

To enable logging related to keymaps, see:

- sublime.log_commands(flag).
- sublime.log_input(flag).

This may help in debugging keymaps.

2.11.5 Settings – Reference

Warning: This page may contain outdated or incomplete information. You can see a description of most available settings in the default settings file (**Preferences** → **Settings - Default** or `Default/Preferences.sublime-settings`).

See also:

Customization - Settings A detailed overview on settings in Sublime Text and their order of precedence.

Global Settings

These settings can only be modified from `Preferences.sublime-settings` and `Preferences (platform).sublime-settings`.

theme Theme to be used. Accepts a file base name (e. g.: `Default.sublime-theme`).

scroll_speed Set to `0` to disable smooth scrolling. Set to a value between `0` and `1` to scroll slower, or set to a value larger than `1` to scroll faster.

hot_exit Exiting the application or window with an associated project with `hot_exit` enabled will cause it to close immediately without prompting. Unsaved modifications and open files will be preserved and restored when next starting.

remember_open_files Determines whether to reopen the buffers that were open when Sublime Text was last closed.

open_files_in_new_window OS X only. When filters are opened from Finder, or by dragging onto the dock icon, this controls if a new window is created or not.

close_windows_when_empty Close windows as soon as the last file is closed, unless there's a folder open within the window.

show_full_path Show the full path to files in the title bar.

preview_on_click If `true`, preview file contents when clicking on a file in the side bar. Double clicking or editing the preview will open the file and assign it a tab.

folder_exclude_patterns Excludes the matching folders from the side bar, GoTo Anything, etc.

file_exclude_patterns Excludes the matching files from the side bar, GoTo Anything, etc.

binary_file_patterns Excludes the matching files from GoTo Anything and Find in Files but not the side bar.

show_tab_close_buttons If `false`, hides the tabs' close buttons until the mouse hovers over the tab.

mouse_wheel_switches_tabs If `true`, scrolling the mouse wheel will cause tabs to switch if the cursor is in the tab area.

open_files_in_new_window OS X only. When filters are opened from Finder, or by dragging onto the dock icon, this controls whether a new window is created or not.

ignored_packages A list of packages that will be ignored (not loaded).

File Settings

Whitespace and Indentation

auto_indent Toggles automatic indentation.

tab_size Number of spaces a tab is considered equal to.

translate_tabs_to_spaces Determines whether to replace a tab character with `tab_size` number of spaces when `Tab` is pressed.

use_tab_stops If `translate_tabs_to_spaces` is `true`, will make `Tab` and `Backspace` insert/delete `tab_size` number of spaces per key press.

trim_automatic_white_space Toggles deletion of white space added by `auto_indent`.

detect_indentation Set to `false` to disable detection of tabs vs. spaces whenever a buffer is loaded. If set to `true`, it automatically will modify `translate_tabs_to_spaces` and `tab_size`.

draw_white_space Valid values: `none`, `selection`, `all`.

trim_trailing_white_space_on_save Set to `true` to remove white space on save.

Visual Settings

always_show_minimap_viewport if set to true, then it will always show rectangle on minimap highlighting current document position; defualt false, which shows position only on mouse over the minimap.

color_scheme Sets the colors used for text highlighting. Accepts a path rooted at the data directory (e.g.: `Packages/Color Scheme - Default/Monokai Bright.tmTheme`).

font_face Font face to be used for editable text.

font_size Size of the font for editable text.

font_options Valid values: `bold`, `italic`, `no_antialias`, `gray_antialias`, `subpixel_antialias`, `directwrite` (Windows).

gutter Toggles display of gutter.

rulers Columns in which to display vertical rules. Accepts a list of numeric values (such as `[79, 89, 99]`) or a single numeric value (for example, `79`).

draw_minimap_border Set to `true` to draw a border around the minimap's region corresponding to the the view's currently visible text. The active color scheme's `minimapBorder` key controls the border's color.

highlight_line Set to `false` to stop highlighting lines with a cursor.

line_padding_top Additional spacing at the top of each line, in pixels.

line_padding_bottom Additional spacing at the bottom of each line, in pixels.

scroll_past_end Set to `false` to disable scrolling past the end of the buffer. If `true`, Sublime Text will leave a wide, empty margin between the last line and the bottom of the window.

line_numbers Toggles display of line numbers in the gutter.

word_wrap If set to `false`, long lines will be clipped instead of wrapped. Scroll the screen horizontally to see the clipped text.

wrap_width If greater than `0`, wraps long lines at the specified column as opposed to the window width. Only takes effect if `word_wrap` is set to `true`.

indent_subsequent_lines If set to `false`, wrapped lines will not be indented. Only takes effect if `word_wrap` is set to `true`.

draw_centered If set to `true`, text will be drawn centered rather than left-aligned.

match_brackets Set to `false` to disable underlining the brackets surrounding the cursor.

match_brackets_content Set this to `false` if you'd rather have brackets highlighted only when the cursor is next to one.

match_brackets_square Set to `false` to stop highlighting square brackets. Only takes effect if `match_brackets` is `true`.

match_bracktets_braces Set to `false` to stop highlighting curly brackets. Only takes effect if `match_brackets` is `true`.

match_bracktets_angle Set to `false` to stop highlighting angle brackets. Only takes effect if `match_brackets` is `true`.

Automatic Behavior

auto_match_enabled Toggles automatic pairing of quotes, brackets, etc.

save_on_focus_lost Set to true to save files automatically when switching to a different file or application.

find_selected_text If `true`, the selected text will be copied into the find panel when it's shown.

word_separators Characters considered to divide words for actions like advancing the cursor, etc. Not used for every context where a notion of a word separator is useful (for example, word wrapping). In some contexts, the text might be tokenized based on other criteria (for example, the syntax definition rules).

ensure_newline_at_eof_on_save Always adds a new line at the end of the file if not present when saving.

System and Miscellaneous Settings

is_widget Returns `true` if the buffer is an input field in a dialog, as opposed to a regular buffer.

spell_check Toggles the spell checker.

dictionary Word list to be used by the spell checker. Accepts a path rooted at the data directory (such as `Packages/Language - English/en_US.dic`). You can add more dictionaries.

fallback_encoding The encoding to use when the encoding can't be determined automatically. ASCII, UTF-8 and UTF-16 encodings will be detected automatically .

default_line_ending Determines what characters to use to designate new lines. Valid values: `system` (OS-dependant), `windows` (`CRLF`) and `unix` (`LF`).

tab_completion Determines whether pressing `Tab` will insert completions.

Build and Error Navigation Settings

result_file_regex and result_line_regex Regular expressions used to extract error information from some output dumped into a view or output panel. Follows the same rules as *error capturing in build systems*.

result_base_dir Folder to start looking for offending files based on information extracted with `result_file_regex` and `result_line_regex`.

build_env List of paths to add to build systems by default.

File and Directory Settings

default_dir Sets the default save folder for the view.

Input Settings

command_mode If set to `true`, the buffer will ignore key strokes. Useful when emulating Vim's modal behavior.

2.11.6 Completions Files

See also:

Completions Introduction to the different types of completions

Note that completions aren't limited to completions files, because other sources contribute to the completions list (see above). However, the most explicit way Sublime Text provides you to feed it completions is by means of `.sublime-completions` files.

This topic only deals with the format of a `.sublime-completions` file.

File Format

Completions are JSON files with the `.sublime-completions` extension. Entries in completions files can contain either snippet-like strings or plain text.

Example

Here's an example (with HTML completions):

```
{
   "scope": "text.html - source - meta.tag, punctuation.definition.tag.begin",

   "completions":
   [
      { "trigger": "a", "contents": "<a href=\"$1\">$0</a>" },
      { "trigger": "abbr\t<abbr>", "contents": "<abbr>$0</abbr>" },
      { "trigger": "acronym", "contents": "<acronym>$0</acronym>" }
   ]
}
```

scope Determines when the completions list will be populated with this list of completions.

See *Scopes* for more information.

completions Array of *completions*.

Types of Completions

Plain Strings Plain strings are equivalent to an entry where the `trigger` is identical to the `contents`:

```
"foo"
// is equivalent to:
{ "trigger": "foo", "contents": "foo" }
```

Trigger-based Completions

```
{ "trigger": "foo", "contents": "foobar" },
{ "trigger": "foo\ttest", "contents": "foobar" }
```

trigger Text that will be displayed in the completions list and will cause the `contents` to be inserted when chosen.

You can use a `\t` tab character to add a *hint* for the preceding trigger. The hint will be displayed right-aligned, slightly grayed and does not affect the trigger itself.

contents Text to be inserted in the buffer. Supports the same string interpolation features as snippets.

Refer to *Snippet Features*.

Note: If you want a literal `$`, you have to escape it like this: `\\$` (double backslashes are needed because we are within a JSON string).

2.11.7 Symbols

Overview

Sublime Text provides basic support for *symbol navigation* (jumping to class and function definitions, etc.). Symbol navigation can be enabled for any type of file.

The symbol navigation framework in Sublime Text is strictly text-based. No lexical or syntactical analysis is performed.

Format

Symbols are defined using metadata files. Because symbol definition files are commonly required by packages, they are discussed separately in this page for convenience.

Just as regular metadata files, symbol definition files have the `.tmPreferences` extension and use the Property List format. The file name is ignored by Sublime Text.

See also:

Metadata Files Detailed documentation on metadata files.

Defining Symbols

Sublime Text features two types of symbol list: a local symbol list (active file) and a global symbol list (project-wide). Using symbol definition files, you can target both individually.

Symbol definition files use scope selectors to capture symbols in source code files.

Several symbol definition files can coexist in the same package. For example, two symbol definition files could work in tandem: one would define all symbols, and a second one could selectively hide some of them if they were uninteresting for users.

Let's see an example of a symbol definition file:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyLis
<plist version="1.0">
<dict>
   <key>name</key>
   <string>Symbol List</string>
   <key>scope</key>
   <string>source.python meta.function.python, source.python meta.class.python</string>
   <key>settings</key>
   <dict>
      <key>showInSymbolList</key>
      <integer>1</integer>
   </dict>
</dict>
</plist>
```

Using the file above, Sublime Text would scan source code files for scope names `source.python meta.function.python` and `source.python meta.class.python`, and text within would be indexed as symbols. The `showInSymbolList` setting tells Sublime Text to use the local symbol list.

Text Transformations

It is possible to apply transformations to symbols before they are displayed to the user. Symbol transformations consist of text substitutions defined as regular expressions using the Oniguruma syntax.

This is an example of a text substitution:

```
s/class\s+([A-Za-z_][A-Za-z0-9_]*.+?\)?)(\:|$)/$1/g;
```

In this case, a captured symbol such as `class FooBar(object)` would show up as `FooBar(object)` in the symbol list.

Let's expand our previous example to use a symbol transformation:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyLis
<plist version="1.0">
<dict>
   <key>name</key>
   <string>Symbol List</string>
   <key>scope</key>
   <string>source.python meta.function.python, source.python meta.class.python</string>
   <key>settings</key>
   <dict>
      <key>showInSymbolList</key>
      <integer>1</integer>
      <key>symbolTransformation</key>
      <string>
         s/class\s+([A-Za-z_][A-Za-z0-9_]*.+?\)?)(\:|$)/$1/g;
         s/def\s+([A-Za-z_][A-Za-z0-9_]*\()(?:(.{0,40}?\))|((.{40}).+?\)))(\:)/$1(?2:$2)(?3:$4...\)),
      </string>
   </dict>
</dict>
</plist>
```

Structure of a Symbol Definition File

All metadata files share the same topmost structure, which is inherited from the Property List format.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/Propert
<plist version="1.0">
<dict>
   ...
</dict>
</plist>
```

These are all the valid elements in a symbol definition file:

name Optional. Name of the symbol definition. Ignored by Sublime Text.

```
<key>name</key>
<string>Some arbitrary name goes here</string>
```

scope Comma-separated list of scope names that Sublime Text will use to capture symbols in files.

```
<key>scope</key>
<string>source.python meta.function.python, source.python meta.class.python</string>
```

settings Required. A container for settings.

```
<key>settings</key>
<dict>
   ...
</dict>
```

uuid Optional. A unique identifier for the file. Ignored by Sublime Text.

```
<key>uuid</key>
<string>BC062860-3346-4D3B-8421-C5543F83D11F</string>
```

settings Subelements

showInSymbolList Optional. Links symbols to the local symbol list. Valid values are `0` or `1`. If `0`, the corresponding symbols will not be displayed.

```
<key>showInSymbolList</key>
<integer>1</integer>
```

showInIndexedSymbolList Optional. Links symbols to the global symbol list. Valid values are `0` or `1`. If `0`, the corresponding symbols will not be displayed.

```
<key>showInIndexedSymbolList</key>
<integer>1</integer>
```

symbolTransformation Optional. Targets the local symbol list. Semicolon-separated list of text substitutions expressed as regular expressions using the Oniguruma syntax. Whitespace between substitution instructions is ignored.

```
<key>symbolTransformation</key>
<string>
   s/class\s+([A-Za-z_][A-Za-z0-9_]*.+?\)?)(\:|$)/$1/g;
   s/def\s+([A-Za-z_][A-Za-z0-9_]*\()(?:(.{0,40}?\))|((.{40}).+?\)))(\:)/$1(?2:$2)(?3:$4...\))/g
</string>
```

symbolIndexTransformation Optional. Targets the global symbol list. Semicolon-separated list of text substitutions expressed as regular expressions using the Oniguruma syntax. Whitespace between substitution instructions is ignored.

```
<key>symbolIndexTransformation</key>
<string>
   s/class\s+([A-Za-z_][A-Za-z0-9_]*.+?\)?)(\:|$)/$1/g;
   s/def\s+([A-Za-z_][A-Za-z0-9_]*\()(?:(.{0,40}?\))|((.{40}).+?\)))(\:)/$1(?2:$2)(?3:$4...\))/g
</string>
```

Navigating Symbols

Once symbols are defined, you can navigate them using standard key bindings:

F12	Go to definition
Ctrl+R	Show local symbol list
Ctrl+Shift+R	Show global symbol list

See also:

Goto Anything Browsing symbols using Goto Anything.

2.11.8 Comments

Overview

Sublime Text provides a default command to comment and uncomment lines of code. This command can be enabled for any type of file using metadata files.

File Format

Comment markers are defined using metadata files. However, because metadata for comment markers is commonly required by packages, it's discussed separately in this page for convenience.

Just as regular metadata files, comment metadata files have the `.tmPreferences` extension and use the Property List format. The file name is ignored by Sublime Text.

See also:

Metadata Files Detailed documentation on metadata.

Example

Let's see a basic example of a comment metadata file:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyLis
<plist version="1.0">
<dict>
   <key>name</key>
   <string>Miscellaneous</string>
   <key>scope</key>
   <string>source.python</string>
   <key>settings</key>
   <dict>
      <string></string>
      <key>shellVariables</key>
      <array>
         <dict>
            <key>name</key>
            <string>TM_COMMENT_START</string>
            <key>value</key>
            <string># </string>
         </dict>
      </array>
   </dict>
</dict>
</plist>
```

In the example we've highlighted some parts that are specific to comment metadata files.

Structure of a Comment Metadata File

All comment metadata files share the same topmost structure, which is inherited from Property List format:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd
<plist version="1.0">
```

```
<dict>
   ...
</dict>
</plist>
```

These are all the valid elements in a comment metadata file:

name Optional. Name of the metadata. Ignored by Sublime Text.

```
    <key>name</key>
    <string>Shell Variables</string>
```

scope Required. Comma-separated list of scope selectors to determine in which context the metadata should be active.

In most cases you'll use the base scope for a particular syntax.

```
    <key>scope</key>
    <string>source.python</string>
```

settings Required. A container for settings.

```
    <key>settings</key>
    <dict>
       ...
    </dict>
```

uuid Optional. A unique identifier for the file. Ignored by Sublime Text.

```
    <key>uuid</key>
    <string>BC062860-3346-4D3B-8421-C5543F83D11F</string>
```

`settings` Subelements

shellVariables Required. Container for comment markers.

```
    <key>shellVariables</key>
    <array>
       ...
    </array>
```

`shellVariables` Subelements

Note: The `shellVariables` array may contain any arbitrary subelement, but here we're only concerned with those related to comments. See *Shell Variables (Child of settings)* for details.

TM_COMMENT_START Defines a default comment marker.

To define additional comment markers, name them `TM_COMMENT_START_2`, `TM_COMMENT_START_3`, etc.

```
    <dict>
       <key>name</key>
       <string>TM_COMMENT_START</string>
       <key>value</key>
       <string># </string>
    </dict>
```

TM_COMMENT_END Optional. Defines an end comment marker. If omitted, TM_COMMENT_START will be treated as a line comment marker.

If present and a corresponding start comment marker can be found, the pair is treated as block comment markers.

To define additional end comment markers, name them TM_COMMENT_END_2, TM_COMMENT_END_3, etc.

```
<dict>
   <key>name</key>
   <string>TM_COMMENT_END_2</string>
   <key>value</key>
   <string>*/</string>
</dict>
```

TM_COMMENT_DISABLE_INDENT Optional. Valid values are yes and no. Disables indentation for the TM_COMMENT_START marker.

To target other group of markers, use TM_COMMENT_DISABLE_INDENT_2, etc.

```
<dict>
   <key>name</key>
   <string>TM_COMMENT_DISABLE_INDENT</string>
   <key>value</key>
   <string>yes</string>
</dict>
```

Example

Here's a more complete example of a comment metadata file using some of the features just discussed:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyLis
<plist version="1.0">
   <dict>
      <key>shellVariables</key>
      <array>
         <dict>
            <key>name</key>
            <string>TM_COMMENT_START</string>
            <key>value</key>
            <string>// </string>
         </dict>
         <dict>
            <key>name</key>
            <string>TM_COMMENT_START_2</string>
            <key>value</key>
            <string>/*</string>
         </dict>
         <dict>
            <key>name</key>
            <string>TM_COMMENT_END_2</string>
            <key>value</key>
            <string>*/</string>
         </dict>
      </array>
   </dict>
   <key>uuid</key>
   <string>BC062860-3346-4D3B-8421-C5543F83D11F</string>
```

```
</dict>
</plist>
```

Related Keyboard Shortcuts

Once comment metadata has been defined, you can use standard key bindings to comment and uncomment lines of code.

Ctrl+/	Toggle line comment
Ctrl+Shift+/	Toggle block comment

2.11.9 Metadata Files

Overview

Metadata are parameters that can be assigned to certain text sections using scope selectors.

These paremeters can be used for many purposes; for example:

- specifying the current comment markers, even within embedded source code, so that you can toggle comments in any syntax,
- defining rules for auto-indentation,
- marking symbols that Sublime Text will allow you to *browse to quickly*.

Furthermore, snippets can access metadata declared in the `shellVariables` setting, which allows you to create a snippet that has different contents depending on where it's used.

File Format

Metadata files have the `.tmPreferences` extension and use the Property List format. The file name is ignored by Sublime Text.

Metadata files are inherited from TextMate.

Example

Here's an example of a metadata file:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyLis
<plist version="1.0">
<dict>
   <key>name</key>
   <string>JavaScript Metadata</string>
   <key>scope</key>
   <string>source.js</string>
   <key>settings</key>
   <dict>
      <key>decreaseIndentPattern</key>
      <string>^(.*\*/)?\s*\}.*$</string>
      <key>increaseIndentPattern</key>
      <string>^.*\{[^}"']*$</string>
```

```
      <key>bracketIndentNextLinePattern</key>
      <string>(?x)
      ^ \s* \b(if|while|else)\b [^;]* $
      | ^ \s* \b(for)\b .* $
      </string>
   </dict>
   <dict>
      <key>shellVariables</key>
      <array>
         <dict>
            <key>name</key>
            <string>TM_COMMENT_START</string>
            <key>value</key>
            <string>// </string>
         </dict>
         <dict>
            <key>name</key>
            <string>TM_COMMENT_START_2</string>
            <key>value</key>
            <string>/*</string>
         </dict>
         <dict>
            <key>name</key>
            <string>TM_COMMENT_END_2</string>
            <key>value</key>
            <string>*/</string>
         </dict>
      </array>
   </dict>
   <key>uuid</key>
   <string>BC062860-3346-4D3B-8421-C5543F83D11F</string>
</dict>
</plist>
```

The example file combines several types of metadata.

Structure of a Metadata File

All metadata files share the same topmost structure, which is inherited from the Property List format.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd
<plist version="1.0">
<dict>
   ...
</dict>
</plist>
```

Sublime Text uses the following topmost keys in metadata files; all others are ignored by default.

name Optional. Name of the metadata. Ignored by Sublime Text.

```
    <key>name</key>
    <string>Shell Variables</string>
```

scope Required. Scope selector to determine in which context the metadata should be available.

```
    <key>scope</key>
    <string>source.python</string>
```

settings Required. Container for settings.

```
    <key>settings</key>
    <dict>
        ...
    </dict>
```

uuid Optional. A unique identifier for the file. Ignored by Sublime Text.

```
    <key>uuid</key>
    <string>BC062860-3346-4D3B-8421-C5543F83D11F</string>
```

Subelements of `settings`

The `settings` element can contain subelements for different purposes, which will be grouped in the following sections.

Some subelements have certain functionality associated with them by default, while others can only be accessed via the *API*.

Indentation Options (Children of `settings`)

Indentation options control aspects of the auto-indentation mechanism.

increaseIndentPattern Regex. If it matches on the current line, the next line will be indented one level further.

```
    <key>increaseIndentPattern</key>
    <string>insert regex here</string>
```

decreaseIndentPattern Regex. If it matches on the current line, the next line will be unindented one level.

```
    <key>decreaseIndentPattern</key>
    <string>insert regex here</string>
```

bracketIndentNextLinePattern Regex. If it matches on the current line, only the next line will be indented one level further.

```
    <key>bracketIndentNextLinePattern</key>
    <string>insert regex here</string>
```

disableIndentNextLinePattern Regex. If it matches on the current line, the next line will not be indented further.

```
    <key>disableIndentNextLinePattern</key>
    <string>insert regex here</string>
```

unIndentedLinePattern Regex. The auto-indenter will ignore lines matching this regex when computing the next line's indentation level.

```
    <key>unIndentedLinePattern</key>
    <string>insert regex here</string>
```

Completions Options (Child of `settings`)

Completion options control aspects of the completions mechanism.

`cancelCompletion` Regex. If it matches on the current line, supresses the autocomplete popup.

```
    <key>cancelCompletion</key>
    <string>insert regex here</string>
```

Symbol Definitions (Child of `settings`)

Documentation for symbol definitions was moved to a separate page: *Symbol Definition settings*.

Shell Variables (Child of `settings`)

Shell variables are used for different purposes and can be accessed from snippets.

Note that shell variables are defined as dictionaries in an array, and thus have a different format from `settings` subelements.

`shellVariables` Container for "shell variables".

```
    <key>shellVariables</key>
    <array>
       ...
    </array>
```

`shellVariables` Subelements Subelements of `shellVariables` are dictionaries with `name` and `value` keys.

```
<dict>
   <key>name</key>
   <string>BOOK_OPENING</string>
   <key>value</key>
   <string>Once upon a time...</string>
</dict>
```

See also:

Comments Shell variables defining comment markers.

Related API Functions

To extract metadata information from plugin code, you can use the `view.meta_info(key, point)` API call.

2.11.10 Command Palette

The command palette is fed entries with `.sublime-commands` files.

File Format (`.sublime-commands` Files)

Here's an excerpt from `Packages/Default/Default.sublime-commands`:

```
[
    { "caption": "Project: Save As", "command": "save_project_as" },
    { "caption": "Project: Close", "command": "close_project" },
    { "caption": "Project: Add Folder", "command": "prompt_add_folder" },

    { "caption": "Preferences: Default File Settings", "command": "open_file", "args": {"file": "${pa
    { "caption": "Preferences: User File Settings", "command": "open_file", "args": {"file": "${packa
    { "caption": "Preferences: Default Global Settings", "command": "open_file", "args": {"file": "$
    { "caption": "Preferences: User Global Settings", "command": "open_file", "args": {"file": "${pac
    { "caption": "Preferences: Browse Packages", "command": "open_dir", "args": {"dir": "$packages"}
]
```

`caption` Text for display in the command palette.

`command` Command to be executed.

`args` Arguments to pass to `command`. Note that to locate the packages folder you need to use a snippet-like variable: `${packages}` or $packages. This differs from other areas of the editor due to different implementations in the lower layers.

How to Use the Command Palette

1. Press `Ctrl+Shift+P`
2. Select command

Entries are filtered by current context. Not all entries will be visible at all times.

2.11.11 Plugins

See also:

API Reference More information on the Python API.

Plugins are Python scripts implementing `*Command` classes from `sublime_plugin`.

Where to Store Plugins

Sublime Text will look for plugins in these places:

- `Packages`
- `Packages/<pkg_name>`
- `.sublime-package` files

Plugin files nested deeper in `Packages` won't be loaded.

All plugins should live inside a folder of their own and not directly under `Packages`. This will spare you confusions when Sublime Text attempts to sort packages for loading.

Conventions for Command Names

By convention, Sublime Text command class names are suffixed with `Command` and written as `NamesLikeThisCommand`.

However, command names are automatically transformed from `NamesLikeThisCommand` to `name_like_this`. Thus, `ExampleCommand` would become `example`, and `AnotherExampleCommand` would become `another_example`.

In names for classes defining commands, use `NameLikeThisCommand`. To call a command from the API, use the standardized `name_like_this`.

Types of Commands

- `sublime_plugin.WindowCommand`
- `sublime_plugin.TextCommand`
- `sublime_plugin.EventListener`

Instances of `WindowCommand` have a `.window` attribute pointing to the window instance that created them. Similarly, instances of `TextCommand` have a `.view` attribute.

Shared Traits for Commands

All commands must implement a `.run()` method.

All commands can receive an arbitrarily long number of keyword arguments that must be valid JSON types.

How to Call Commands from the API

Depending on the type of command, use a reference to a `View` or a `Window` and call `<object>.run_command('command_name')`. In addition to the command's name, `.run_command` accepts a dictionary whose keys are the names of valid parameters for said command:

```
window.run_command("echo", {"Tempus": "Irreparabile", "Fugit": "."})
```

Command Arguments

All user-provided arguments to commands must be valid JSON types.

Text Commands and the `edit` Object

Text commands receive and `edit` object passed to them by Sublime Text.

All actions done within an `edit` are grouped as a single undo action. Callbacks such as `on_modified()` and `on_selection_modified()` are called when the edit is finished.

Contrary to earlier versions of Sublime Text, the `edit` object's life time is now managed solely by the editor. Plugin authors must ensure to perform all editing operations within the `run()` method of text commands so that macros and repeating commands work as expected.

To call other commands from your own commands, use the `run_command()` function.

Responding to Events

Any subclass of `EventListener` will be able to respond to events. You cannot make a class derive both from `EventListener` and from any other type of command.

A Word of Warning about `EventListener`

Expensive operations in event listeners can cause Sublime Text to become unresponsive, especially in events triggered frequently, like `on_modified()` and `on_selection_modified()`. Be careful of how much work is done in these and don't implement events you don't need, even if they just `pass`.

Sublime Text and the Python Standard Library

Sublime Text ships with a trimmed down standard library.

Automatic Plugin Reload

Sublime Text will reload topmost Python modules as they change (perhaps because you are editing a *.py* file within *Packages*). By contrast, Python subpackages won't be reloaded automatically, and this can lead to confusion while you're developing plugins. Generally speaking, it's best to restart Sublime Text after you've made changes to plugin files, so all changes can take effect.

Multithreading

Only the `set_timeout()` function is safe to call from different threads.

2.11.12 Python API

See also:

Official Documentation API documentation.

Missing in the official docs

There are quite a few things that are not (yet) documented in the official docs, this section tries to solve this.

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module *sublime*

- **class *Window***
  - *set_layout()*
- **class *View***
  - *match_selector()*

module *sublime_plugin*

- **class *EventListener***

- *on_query_completions()*

sublime module

class sublime.**Window**

This class represents windows in Sublime Text and provides an interface of methods to interact with them. For all available methods, see the official documentation.

set_layout (*layout*)

Changes the tile-based panel layout of view groups.

Parameters **layout** (*dict*) – specifies the new layout, see below

Returns None

Expects a dictionary like this:

```
{"cols": [float], "rows": [float], "cells": [[int]]}
```

where `[type]` represents a list of *type*.

cols A list of the column separators (floating point numbers), should start with `0` (left) and end with `1` (right).

rows A list of the row separators (floating point numbers), should start with `0` (top) and end with `1` (bottom).

cells A list of cell lists which describe a cell's boundaries each. Cells can be imagines as rectangles with the rows and cols specified along in this dictionary. Think like this:

```
[x1, y1, x2, y2]
```

where all values are integers respectively and map to the *cols* and *rows* indicies. Thus, a cell with `[0, 0, 1, 2]` translates to a cell from the top left to the first column and the second row separator (in a 2x2 grid this would be bottom center).

Note: **rows** and **cols** are not tested for boundaries and they are not adjusted either. Thus, it is possible to specify values lower than `0` or higher than `1` and Sublime Text will in fact treat them accordingly. That means you can crop views or create borders. It is not known whether the "background color" of these empty spaces can be modified, the default is black. Use at your own risk!

The order of column or row separators is not checked either. If you, for example, use a reversed column list like `[1, 0.5, 0]` you get to see two black panels. Sublime Text is unusable in this state.

Examples:

```
# A 2-column layout with a separator in the middle
window.set_layout({
    "cols": [0, 0.5, 1],
    "rows": [0, 1],
    "cells": [[0, 0, 1, 1], [1, 0, 2, 1]]
})
```

```
# A 2x2 grid layout with all separators in the middle
window.set_layout({
    "cols": [0, 0.5, 1],
    "rows": [0, 0.5, 1],
    "cells": [[0, 0, 1, 1], [1, 0, 2, 1],
```

```
                    [0, 1, 1, 2], [1, 1, 2, 2]]
        })
```

```
        # A 2-column layout with the separator in the middle and the right
        # column being split in half
        window.set_layout({
            "cols": [0, 0.5, 1],
            "rows": [0, 0.5, 1],
            "cells": [[0, 0, 1, 2], [1, 0, 2, 1],
                                    [1, 1, 2, 2]]
        })
```

class sublime.**View**

Similar to *Window*, this class represents views in Sublime Text and provides an interface of methods to interact with them. For all available methods, see the official documentation.

match_selector(*point*, *selector*)

Matches the scope at `point` against the specified `selector`.

Parameters

- **point** (*int*) – Point in the view whose scope the selector should be matched against.
- **selector** (*str*) – A scope selector.

Returns bool Whether the selector matches or not.

Equivalent to:

```
        view.score_selector(point, selector) != 0
        # or
        sublime.score_selector(view.scope_name(point), selector) != 0
```

sublime_plugin module

class sublime_plugin.**EventListener**

on_query_completions(*view*, *prefix*, *locations*)

Called whenever the completion list is requested.

This accounts for all views and all windows, so in order to provide syntax-specific completions you should test the current scope of `locations` with *match_selector()*.

view A *View* instance for which the completions should be made.

prefix The text entered so far. This is only until the next word separator.

locations Array of points in `view` where the completion should be inserted. This can be interpreted as the current selection.

If you want to handle completions that depend on word separator characters you need to test each location individually. See *Completions with multiple cursors* on how Sublime Text handles completions with multiple cursors.

Return value Expects two (three) formats for return values:

1. `[[trigger, contents], ...]`

   A **list** of completions similar to *Trigger-based Completions* but without mapping keys. *trigger* may use the `\\t` description syntax.

Note: In Sublime Text 3, completions may also consist of plain strings instead of the trigger-contents-list.

2. `([[trigger, contents], ...], flags)`

   Basically the same as above but wrapped in a 2-sized **tuple**. The second element, the *flags*, may be a bitwise OR combination of these flags:

   `sublime.INHIBIT_WORD_COMPLETIONS` Prevents Sublime Text from adding its word completions to the completion list after all plugins have been processed.

   `sublime.INHIBIT_EXPLICIT_COMPLETIONS` XXX What does this do?

   Flags are shared among all completions, once set by one plugin you can not revert them.

3. Anything else (e.g. `None`)

   No effect.

Example: See *Another Plugin Example: Feeding the Completions List* for an example on how to use this event.

Exploring the API

A quick way to see the API in action:

1. Add `Packages/Default` (**Preferences | Browse Packages...**) to your project.
2. `Ctrl + Shift + F`
3. Enter `*.py` in the **In Files:** field
4. Check `Use Buffer` option
5. Search API name
6. `F4`
7. Study relevant source code

2.11.13 Commands

Overview

This list of commands is a work in progress.

About Paths in Command Arguments

Some commands take paths as parameters. Among these, some support snippet-like syntax, while others don't. A command of the first kind would take a parameter like `$packages/SomeDir/SomeFile.ext` whereas a command of the second kind would take a parameter like `Packages/SomeDir/SomeFile.ext`.

Generally, newer commands support the snippet-like syntax.

Commands expect UNIX-style paths if not otherwise noted, including on Windows (for example, `/c/Program Files/Sublime Text 2/sublime_plugin.py`).

Often, relative paths in arguments to commands are assumed to start at the `Data` directory.

Variables in Paths as Arguments

The same variables available to build systems are expanded in arguments to commands. See *Build System Variables* for more information.

Commands

Note: This list is incomplete.

---

build Runs a build system.

- **variant** [String]: Optional. The name of the variant to be run.

set_build_system Changes the current build system.

- **file** [String]: Path to the build system. If empty, Sublime Text tries to automatically find an appropriate build systems from specified selectors.
- **index** [Int]: Used in the **Tools | Build System** menu but otherwise probably not useful.

new_build_system Creates a new buffer and inserts a build system template.

toggle_save_all_on_build Toggles whether all open files should be saved before starting the build.

run_macro_file Runs a *.sublime-macro* file.

- **file** [String]: Relative path to the macro file.

insert_snippet Inserts a snippet from a string or *.sublime-snippet* file.

- **contents** [String]: Snippet as a string to be inserted. Remember that backslashes \ have to be escaped, like in every other JSON string.
- **name** [String]: Relative *path* to the *.sublime-snippet* file to be inserted.

See also:

Snippets Documentation on snippets and their variable features.

insert Inserts a string.

- **characters** [String]: String to be inserted.

append Inserts a string at the end of the view.

XXX

- **characters** [String]: String to be inserted.
- **force** [Bool]:
- **scroll_to_end** [Bool]:

move Advances the caret by predefined units.

- **by** [Enum]: Values: *characters*, *words*, *word_ends*, *subwords*, *subword_ends*, *lines*, *pages*, *stops*.
- **forward** [Bool]: Whether to advance or reverse in the buffer.
- **word_begin** [Bool]
- **empty_line** [Bool]
- **punct_begin** [Bool]
- **separators** [Bool]

- **extend** [Bool]: Whether to extend the selection. Defaults to `false`.

move_to Advances the caret to predefined locations.

- **to** [Enum]: Values: *bol*, *eol*, *bof*, *eof*, *brackets*.
- **extend** [Bool]: Whether to extend the selection. Defaults to `false`.

open_file Opens the specified file. Will dynamically open resource files from *sublime-package archives* as read-only if the specified *override file* does not exist.

- **file** [String]: Absolute or relative *path* to the file to be opened. Relative paths will originate from the recently

  Expands snippet-like variables, such as `$platform` and `$packages`.

- **contents** [String]: This string will be written to the new buffer if the file does not exist. accessed directory (e.g. the directory of the currently opened file).

open_dir Opens the specified directory with the default file manager.

- **dir** [String]: The directory to open.

open_file_settings Opens the syntax-specific user settings file for the current syntax.

new_window Opens a new window.

close_window Closes the active window.

switch_file Switches between two files with the same name and different extensions.

- **extensions** [String]: Extensions (without leading dot) for which switching will be enabled.

close Closes the active view.

close_file Closes the active view and, under certain circumsances, the whole application. XXX Sounds kinda wrong.

exit Exits the whole application with all open windows.

reopen_last_file Reopens the last closed file.

save Saves the active file.

- **encoding** [String]: The file encoding to save as.

prompt_save_as Prompts for a new file name and saves the active file.

save_project_as Prompts for a new file name and saves the current project.

prompt_select_project Opens a popup with recently accessed projects where you can fuzzy-search.

prompt_open_project Prompts for a project file to open as a project.

close_project Closes the current project.

prompt_add_folder Prompts for a folder to add to the current project.

close_folder_list Removes all folders from the current project.

refresh_folder_list Reloads all folders in the current project and updates the side bar.

toggle_sidebar Shows or hides the sidebar.

toggle_show_open_files Shows ot hides the open files in the sidebar.

toggle_status_bar Shows or hides the status bar.

toggle_full_screen Toggles full screen mode on or off.

toggle_distraction_free Toggles distraction free mode on or off.

toggle_tabs Shows or hides the tab bar.

toggle_minimap Shows or hides the minimap.

left_delete Deletes the character right before the caret.

right_delete Deletes the character right after the caret.

undo Undoes the latest action.

redo Reapplies the latest undone action.

redo_or_repeat Performs the latest action again.

soft_undo Undoes each action stepping through granular edits.

soft_redo Redoes each action stepping through granular edits.

cut Removes the selected text and sends it to the system clipboard. Put differently, it cuts.

copy Sends the selected text to to the system clipboard.

paste Inserts the clipboard contents after the caret.

- **clipboard** [String]: May be *selection*. XXX what other values are allowed?

paste_and_indent Inserts the clipboard contents after the caret and indents contextually.

select_lines Adds a line to the current selection.

- **forward** [Bool]: Whether to add the next or previous line. Defaults to `true`.

scroll_lines Scrolls lines in the view.

amount [Float]: Positive values scroll lines down and negative values scroll lines up.

prev_view Switches to the previous view.

next_view Switches to the next view.

next_view_in_stack Switches to the most recently active view.

prev_view_in_stack Switches to the view that was active before the most recently active view.

select_all Select the view's content.

split_selection_into_lines Splits the selection into multiple selections, one on each line.

single_selection Collapses multiple selections into a single selection.

clear_fields Breaks out of the active snippet field cycle.

hide_panel Hides the active panel.

- **cancel** [Bool]: Notifies the panel to restore the selection to what it was when the panel was opened. (Only incremental find panel.)

hide_overlay Hides the active overlay. Show the overlay using the show_overlay command.

hide_auto_complete Hides the auto complete list.

insert_best_completion

Inserts the best completion that can be inferred from the current context.
XXX Probably useless. XXX

- **default** [String]: String to insert failing a best completion.

replace_completion_with_next_completion XXX Useless for users. XXX

reindent Corrects indentation of the selection with regular expressions set in the syntax's preferences. The base indentation will be that of the line before the first selected line. Sometimes does not work as expected.

indent Increments indentation of selection.

unindent Unindents selection.

detect_indentation Guesses the indentation from the current file.

next_field Advances the caret to the text snippet field in the current snippet field cycle.

prev_field Moves the caret to the previous snippet field in the current snippet field cycle.

commit_completion

Inserts into the buffer the item that's currently selected in the auto complete list.
XXX Probably not useful for users. XXX

toggle_overwrite Toggles overwriting on or off.

expand_selection Extends the selection up to predefined limits.

- **to** [Enum]: Values: *bol*, *hardbol*, *eol*, *hardeol*, *bof*, *eof*, *brackets*, *line*, *tag*, *scope*, *indentation*.

close_tag Surrounds the current inner text with the appropiate tags.

toggle_record_macro Starts or stops the macro recorder.

run_macro Runs the macro stored in the macro buffer.

save_macro Prompts for a fiel path to save the macro in the macro buffer to.

show_overlay Shows the requested overlay. Use the **hide_overlay** command to hide it.

- **overlay [Enum]:** The type of overlay to show. Possible values:
  - *goto*: Show the *Goto Anything* overlay.
  - *command_palette*: Show the Command Palette.
- **show_files** [Bool]: If using the goto overlay, start by displaying files rather than an empty widget.
- **text** [String]: The initial contents to put in the overlay.

show_panel Shows a panel.

- **panel** [Enum]: Values: *incremental_find*, *find*, *replace*, *find_in_files*, *console* or *output.<panel_name>*.
- **reverse** [Bool]: Whether to search backwards in the buffer.
- **toggle** [Bool]: Whether to hide the panel if it's already visible.

find_next Finds the next occurrence of the current search term.

find_prev Finds the previous occurrence of the current search term.

find_under_expand Adds a new selection based on the current selection or expands the selection to the current word.

find_under_expand_skip Adds a new selection based on the current selection or expands the selection to the current word while removing the current selection.

find_under Finds the next occurrence of the current selection or the current word.

find_under_prev Finds the previous occurrence of the current selection or the current word.

find_all_under Finds all occurrences of the current selection or the current word.

slurp_find_string Copies the current selection or word into the "find" field of the find panel.

slurp_replace_string Copies the current selection or word into the "replace" field of the find and replace panel.

next_result Advance to the next captured result.

prev_result Move to the previous captured result.

toggle_setting Toggles the value of a boolean setting. This value is view-specific.

- **setting** [String]: The name of the setting to be toggled.

set_setting Set the value of a setting. This value is view-specific.

- **setting** [String]: The name of the setting to changed.
- **value** [*]: The value to set to.

set_line_ending Changes the line endings of the current file.

- **type** [Enum]: *windows*, *unix*, *cr*

next_misspelling Advance to the next misspelling

prev_misspelling Move to the previous misspelling.

swap_line_down Swaps the current line with the line below.

swap_line_up Swaps the current line with the line above.

toggle_comment Comments or uncomments the active lines, if available.

- **block** [Bool]: Whether to insert a block comment.

join_lines Joins the current line with the next one.

duplicate_line Duplicates the current line.

auto_complete Opens the auto complete list.

replace_completion_with_auto_complete XXX Useless for users. XXX

show_scope_name Shows the name for the caret's scope in the status bar.

exec Runs an external process asynchronously. On Windows, GUIs are supressed.

`exec` is the default command used by build systems, thus it provides similar functionality. However, a few options in build systems are taken care of by Sublime Text internally so they list below only contains parameters accepted by this command.

- **cmd** [[String]]
- **file_regex** [String]
- **line_regex** [String]
- **working_dir** [String]
- **encoding** [String]
- **env** [{String: String}]
- **path** [String]
- **shell** [Bool]
- **kill** [Bool]: If `True` will simply terminate the current build process. This is invoked via *Build: Cancel* command from the *Command Palette*.
- **quiet** [Bool]: If `True` information less running about prints the command.

See also:

Arbitrary Options for build systems Detailed documentation on all other available options.

transpose Makes selections or characters swap places.

With selection: The contents of the selected regions are circulated.
Without selection: Swaps adjacent characters and moves the caret forward by 1.

sort_lines Sorts lines.

- **case_sensitive** [Bool]: Whether the sort should be case sensitive.

sort_selection Sorts lines in selection.

- **case_sensitive** [Bool]: Whether the sort should be case sensitive.

permute_lines XXX

- **operation** [Enum]: *reverse*, *unique*, *shuffle* ...?

permute_selection XXX

- **operation** [Enum]: *reverse*, *unique*, *shuffle* ...?

set_layout Changes the group layout of the current window. This command uses the same pattern as *`Window.set_layout()`*, see there for a list and explanation of parameters.

focus_group Gives focus to the top-most file in the specified group.

- **group** [Int]: The group index to focus. This is determined by the order of `cells` items from the current layout (see *`Window.set_layout()`*).

move_to_group Moves the current file to the specified group.

- **group** [Int]: The group index to focus. See **focus_group** command.

select_by_index Focuses a certain tab in the current group.

- **index** [Int]: The tab index to focus.

next_bookmark Select the next bookmarked region.

prev_bookmark Select the previous bookmarked region.

toggle_bookmark Sets or unsets a bookmark for the active region(s). (Bookmarks can be accessed via the regions API using `"bookmarks"` as the key.)

select_bookmark Selects a bookmarked region in the current file.

- **index** [Int]

clear_bookmarks Removes all bookmarks.

select_all_bookmarks Selects all bookmarked regions.

wrap_lines Wraps lines. By default, it wraps lines at the first ruler's column.

- **width** [Int]: Specifies the column at which lines should be wrapped.

upper_case Makes the selection upper case.

lower_case Makes the selection lower case.

title_case Capitalizes the selection's first character and turns the rest into lower case.

swap_case Swaps the case of each character in the selection.

set_mark Marks the position of each caret in the current file. If any marks have already been set in that file, they are removed.

select_to_mark Selects the text between the current position of each one of the current carets and the marked position. Each caret is matched with each mark in order of occurrence, and is moved to the beginning of its selection.

If any number of selections overlap, they are joined and, of all the carets corresponding to each one of the joined selections, only the one occurring first in the file is preserved.

If the number of current carets is less or equal to the number of marks, the remaining marks in order are ignored. Conversely, if currently there are more carets than marks, the first relevant selections are produced. Of all extra marks, those contained in the selections are removed, and the rest of them are left where they are, without triggering a selection from their position.

delete_to_mark Deletes the text that `select_to_mark` would select.

swap_with_mark Marks all the current carets' positions, removes those carets, and sets new carets at the previously marked positions, if any.

clear_bookmarks If no **name** argument, or the **name** "bookmarks" is specified, it removes all bookmarks set in the current file, but not the marks. If the **name** "mark" is specified as an argument, it removes all marks set in the current file, but not the bookmarks.

- **name** [String]: e.g. `"mark"`, `"bookmarks"`.

yank XXX

show_at_center Scrolls the view to show the selected line in the middle of the view and adjusts the horizontal scrolling if necessary.

increase_font_size Increases the font size.

decrease_font_size Decreases the font size.

reset_font_size Resets the font size to the default

Note: This essentially removes the entry from your User settings, there might be other places where this has been "changed".

fold Folds the current selection and displays `...` instead. Unfold arrows are added to the lines where a region has been folded.

unfold Unfolds all folded regions in the selection or the current line if there is none.

fold_by_level Scans the whole file and folds everything with an indentation level of `level` or higher. This does not unfold already folded regions if you first fold by level 2 and then by 3, for example. Sections with cursors are not folded.

- **level** [Int]: The level of indentation that should be folded. `0` is equivalent to running **unfold_all**.

fold_tag_attributes Folds all tag attributes in XML files, only leaving the tag's name and the closing bracket visible.

unfold_all Unfolds all folded regions.

context_menu Shows the context menu.

open_recent_file Opens a recently closed file.

- **index** [Int]

open_recent_folder Opens a recently closed folder.

- **index** [Int]

open_recent_project Opens a recently closed project.

- **index** [Int]

clear_recent_files Deletes records of recently accessed files and folders.

clear_recent_projects Deletes records of recently accessed projects.

reopen Reopens the current file.

- **encoding** [String]: The file encoding the file should be reopened with.

clone_file Clones the current view into the same tab group, both sharing the same buffer. That means you can drag one tab to another group and every update to one view will be visible in the other one too.

revert Undoes all unsaved changes to the file.

expand_tabs XXX

- **set_translate_tabs** [Bool]

unexpand_tabs XXX

- **set_translate_tabs** [Bool]

new_plugin Creates a new buffer and inserts a plugin template (a text command).

new_snippet Creates a new buffer and inserts a snippet template.

open_url Opens the specified url with the default browser.

- **url** [String]

show_about_window I think you know what this does.

Discovering Commands

There are several ways to discover a command's name in order to use it as a key binding, in a macro, as a menu entry or in a plugin.

- Browsing the default key bindings at **Preferences | Key Bindings - Default**. If you know the key binding whose command you want to inspect you can just search for it using the search panel. This, of course, also works in the opposite direction.
- ``sublime.log_commands(True)``

  Running the above in the console will tell Sublime Text to print the command's name in the console whenever a command is run. You can practically just enter this, do whatever is needed to run the command you want to inspect and then look at the console. It will also print the passed arguments so you can basically get all the information you need from it. When you are done, just run the function again with `False` as parameter.
- Inspecting *.sublime-menu* files. If your command is run by a menu item, browse the default menu file at `Packages/Default/Main.sublime-menu`. You will find them quick enough once you take a look at it, or see the menu documentation.
- Similar to menus you can do exactly the same with *.sublime-command* files. See Completions for some documentation on completion files.

2.11.14 Keyboard Shortcuts - Windows/Linux

> **Warning:** This topic is a draft and may contain wrong information.

Editing

Keypress	Command
Ctrl + X	Cut line
Ctrl +	Insert line after
Ctrl + +	Insert line before
Ctrl + + ↑	Move line/selection up
Ctrl + + ↓	Move line/selection down
Ctrl + L	Select line - Repeat to select next lines
Ctrl + D	Select word - Repeat select others occurrences
Ctrl + M	Jump to closing parentheses Repeat to jump to opening parentheses
Ctrl + + M	Select all contents of the current parentheses
Ctrl + + K	Delete Line
Ctrl + KK	Delete from cursor to end of line
Ctrl + K +	Delete from cursor to start of line
Ctrl +]	Indent current line(s)
Ctrl + [	Un-indent current line(s)
Ctrl + + D	Duplicate line(s)
Ctrl + J	Join line below to the end of the current line
Ctrl + /	Comment/un-comment current line
Ctrl + + /	Block comment current selection
Ctrl + Y	Redo, or repeat last keyboard shortcut command
Ctrl + + V	Paste and indent correctly
Ctrl + Space	Select next auto-complete suggestion
Ctrl + U	soft undo; jumps to your last change before undoing change when repeated
Alt + + W	Wrap Selection in html tag
Alt + .	Close current html tag

Windows

Ctrl + Alt + Up	Column selection up
Ctrl + Alt + Down	Column selection down

Linux

Alt + + Up	Column selection up
Alt + + Down	Column selection down

Navigation/Goto Anywhere

Keypress	Command
Ctrl + P	Quick-open files by name
Ctrl + R	Goto symbol
Ctrl + ;	Goto word in current file
Ctrl + G	Goto line in current file

General

Keypress	Command
Ctrl + + P	Command prompt
Ctrl + KB	Toggle side bar
Ctrl + + Alt + P	Show scope in status bar

Find/Replace

Keypress	Command
Ctrl + F	Find
Ctrl + H	Replace
Ctrl + + F	Find in files

Tabs

Keypress	Command
Ctrl + + t	Open last closed tab
Ctrl + PgUp	Cycle up through tabs
Ctrl + PgDn	Cycle down through tabs
Ctrl +	Find in files
Ctrl + W	Close current tab
Alt + [NUM]	Switch to tab number [NUM] where [NUM] <= number of tabs

Split window

Keypress	Command
Alt + + 1	Revert view to single column
Alt + + 2	Split view into two columns
Alt + + 3	Split view into three columns
Alt + + 4	Split view into four columns
Alt + + 5	Set view to grid (4 groups)
Alt + + 8	Split view into two rows
Ctrl + [NUM]	Jump to group where num is 1-4
Ctrl + + [NUM]	Move file to specified group where num is 1-4

Bookmarks

Keypress	Command
Ctrl + F2	Toggle bookmark
F2	Next bookmark
+ F2	Previous bookmark
Ctrl + + F2	Clear bookmarks

Text manipulation

Keypress	Command
Ctrl + KU	Transform to Uppercase
Ctrl + KL	Transform to Lowercase

2.11.15 Keyboard Shortcuts - OSX

Warning: This topic is a draft and may contain wrong information.

Editing

Keypress	Command
+ X	Cut line
+	Insert line after
+ +	Insert line before
+ + ↑	Move line/selection up
+ + ↓	Move line/selection down
+ L	Select line - Repeat to select next lines
+ D	Select word - Repeat to select next occurrence
+ + G	Select all occurrences of current selection
+ + ↑	Extra cursor on the line above
+ + ↓	Extra cursor on the line below
+ M	Jump to closing parentheses Repeat to jump to opening parentheses
+ + M	Select all contents of the current parentheses
+ A	Move to beginning of line
+ E	Move to end of line
+ K, + K	Delete from cursor to end of line
+ K +	Delete from cursor to start of line
+]	Indent current line(s)
+ [	Un-indent current line(s)
+ + D	Duplicate line(s)
+ J	Join line below to the end of the current line
+ /	Comment/un-comment current line
+ + /	Block comment current selection
+ Y	Redo, or repeat last keyboard shortcut command
+ + V	Paste and indent correctly
+ Space	Select next auto-complete suggestion
+ U	Soft undo; jumps to your last change before undoing change when repeated
+ + Up	Column selection up
+ + Down	Column selection down
+ + W	Wrap Selection in html tag
+ + K	Delete current line of cursor

Navigation/Goto Anywhere

Keypress	Command
+ P or + T	Quick-open files by name
+ R	Goto symbol
	Goto word in current file
+ G	Goto line in current file

General

Keypress	Command
+ + P	Command Palette
+ ‘	Python Console
+ + F	Toggle fullscreen mode
+ + + F	Toggle distraction-free mode
+ K, + B	Toggle side bar
+ + P	Show scope in status bar

Find/Replace

Keypress	Command
+ F	Find
+ + F	Replace
+ + F	Find in files

Scrolling

Keypress	Command
+ V	Scroll down one page
+ L	Center current line vertically in page
+ Down	Scroll to end of file
+ Up	Scroll to start of file

Tabs

Keypress	Command
+ + t	Open last closed tab
+ [NUM]	Jump to tab in current group where num is 1-9
+ 0	Jump to 10th tab in current group
+ + [	Cycle left through tabs
+ +]	Cycle right through tabs
^ + Tab	Cycle up through recent tabs
+ ^ + Tab	Cycle down through recent tabs
	Find in files

Split window

Keypress	Command
+ + 1	Revert view to single column
+ + 2	Split view into two columns
+ + 3	Split view into three columns
+ + 4	Split view into four columns
+ + 5	Set view to grid (4 groups)
+ [NUM]	Jump to group where num is 1-4
+ + [NUM]	Move file to specified group where num is 1-4

Bookmarks

Keypress	Command
+ F2	Toggle bookmark
F2	Next bookmark
+ F2	Previous bookmark
+ + F2	Clear bookmarks

Text manipulation

Keypress	Command
+ K, + U	Transform to Uppercase
+ K, + L	Transform to Lowercase
+ + up, + + down	Clip text upwards / downwards

2.12 Glossary

buffer Data of a loaded file and additional metadata, associated with one or more views. The distinction between *buffer* and *view* is technical. Most of the time, both terms can be used interchangeably.

view Graphical display of a buffer. Multiple views can show the same buffer.

plugin A feature implemented in Python, which can consist of a single command or multiple commands. It can be contained in one *.py* file or many *.py* files.

package This term is ambiguous in the context of Sublime Text, because it can refer to a Python package (unlikely), a folder inside `Packages` or a *.sublime-package* file. Most of the time, it means a folder inside `Packages` containing resources that belong together, which build a new feature or provide support for a programming or markup language.

panel An input/output widget, such as a search panel or the output panel.

overlay An input widget of a special kind. For example, Goto Anything is an overlay.

file type In the context of Sublime Text, *file type* refers to the type of file as determined by the applicable `.tmLanguage` syntax definition.

However, this is an ambiguous term, and in some instances it could also be used with the broader meaning it has in technical texts.

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