

如何打造一款优秀的 VS Code 插件

韩骏
























@formulahendry

自我介绍

- 微软研发工程师 @ 开发工具事业部
 - VS Code IoT
- VS Code 代码贡献者
- 多款 VS Code 插件作者
- “玩转VS Code”知乎专栏 & 微信公众号
- <https://github.com/formulahendry/955.WLB>
- Speaker @ 2018 微软技术暨生态大会
- CodeLab @ Google Developer Group
- Speaker @ PyCon China 2019
- Speaker @ JSConf China 2019
- Speaker @ .NET Conf China 2019



我开发的插件

 Code Runner Jun Han 7.4M Run C, C++, Java, JS, PHP, Python, Perl, Ruby, Go, Lua, Groovy, PowerShell, CMD,... ★★★★★ FREE	 Auto Close Tag Jun Han 2.8M Automatically add HTML/XML close tag, same as Visual Studio IDE or Sublime Text ★★★★★ FREE	 Auto Rename Tag Jun Han 2.2M Auto rename paired HTML/XML tag ★★★★★ FREE	 Terminal Jun Han 478K Terminal for Visual Studio Code ★★★★★ FREE	 .NET Core Test Explorer Jun Han 390K Test Explorer for .NET Core (MSTest, xUnit, NUnit) ★★★★★ FREE	 MySQL Jun Han 282K MySQL management tool ★★★★★ FREE
 Auto Complete Tag Jun Han 157K Extension Packs to add close tag and rename paired tag automatically for HTML/XML ★★★★★ FREE	 Docker Explorer Jun Han 124K Manage Docker Containers, Docker Images, Docker Hub and Azure Container Registry ★★★★★ FREE	 .NET Core Tools Jun Han 78.4K Fast way to build, run and test .NET Core (C#, F#) project ★★★★★ FREE	 IoT Utility Jun Han 52.6K Develop IoT project based on PlatformIO: Arduino, ESP32, ESP8266, ARM mbed, STM32... ★★★★★ FREE	 超越鼓励师 Jun Han 25.2K 写代码不再孤单，有杨超越与你同在 ★★★★★ FREE	 Azure Storage Explorer Jun Han 19.2K Manage Azure Storage: Blobs, Files, Tables ★★★★★ FREE
 Docker Extension Pack Jun Han 18.9K Manage Docker Containers, Docker Images, Dockerfile and docker-compose files. ★★★★★ FREE	 Node-RED Jun Han 15.5K Flow-based programming for IoT (Internet of Things) ★★★★★ FREE	 IoT Extension Pack Jun Han 14K Build IoT Solutions on top of awesome technology stacks: Azure IoT, Node-RED and... ★★★★★ FREE	 [DEPRECATED] Azure IoT Hub and Azure Event Hub Jun Han 11.3K [DEPRECATED] Interact with Azure IoT Hub and Azure Event Hub; IoT Device... ★★★★★ FREE	 Azure Virtual Machine Jun Han 10.1K Manage Azure Virtual Machine in VS Code ★★★★★ FREE	 Ubuntu Style Theme Jun Han 6.5K Ubuntu Style Theme for VS Code ★★★★★ FREE
 Extension Leaderboard Jun Han 3.8K Data insight for popular extensions, history of download count, extension... ★★★★★ FREE	 GitHub V2 Theme Jun Han 1.7K GitHub V2 Theme for VS Code ★★★★★ FREE	 Translator Jun Han 1.6K Translate between English and Chinese ★★★★★ FREE	 GitHub Actions Jun Han 1.5K Language support for workflow file of GitHub Actions ★★★★★ FREE	 Chat Room & Chat Bot Jun Han 1.1K Chat with people from all over the world, also chat with the smart Chat Bot ★★★★★ FREE	

Code Runner 突破 1000 万下载量！



Code Runner

Jun Han

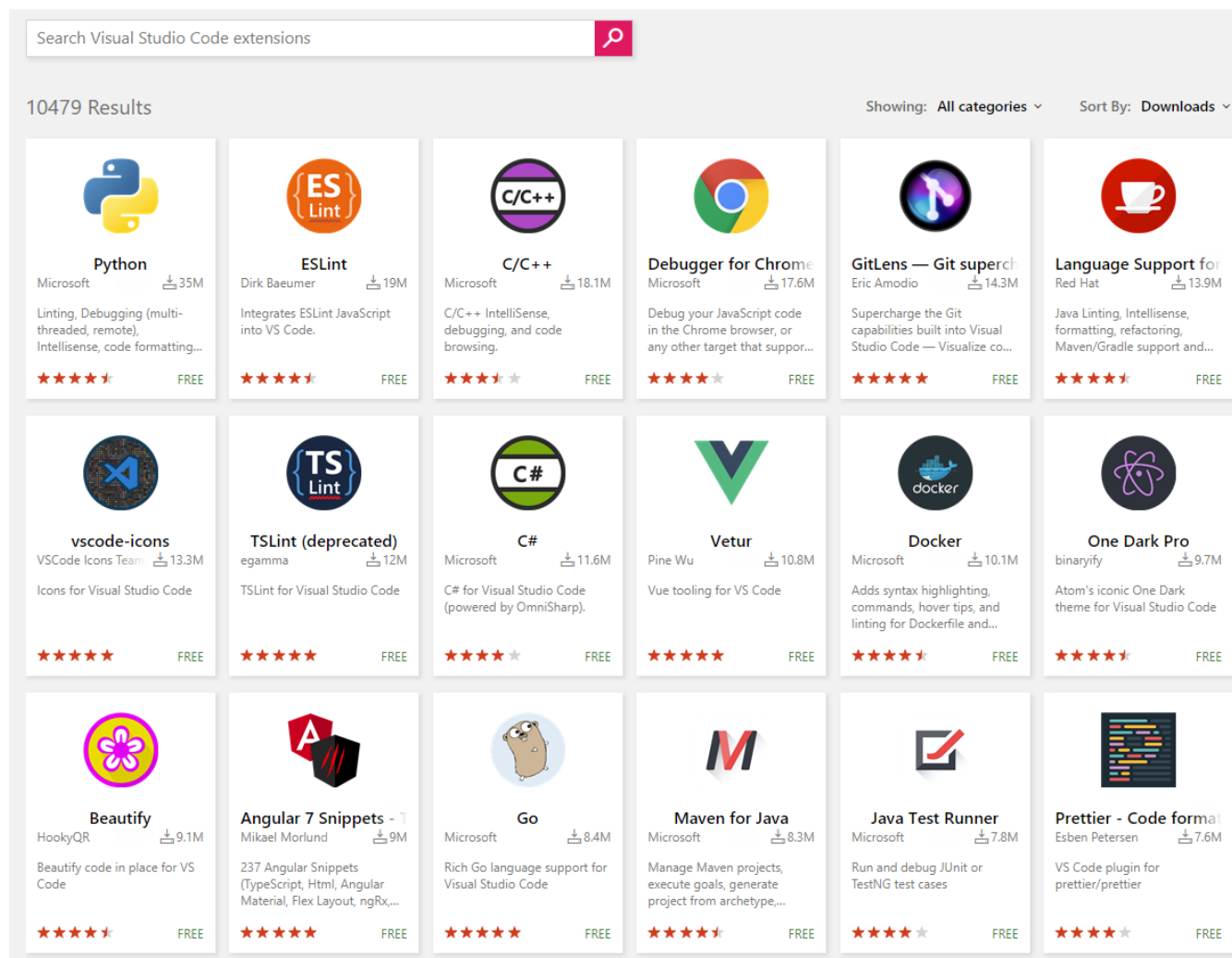
 10000688

★ 4.54

Visual Studio Code插件

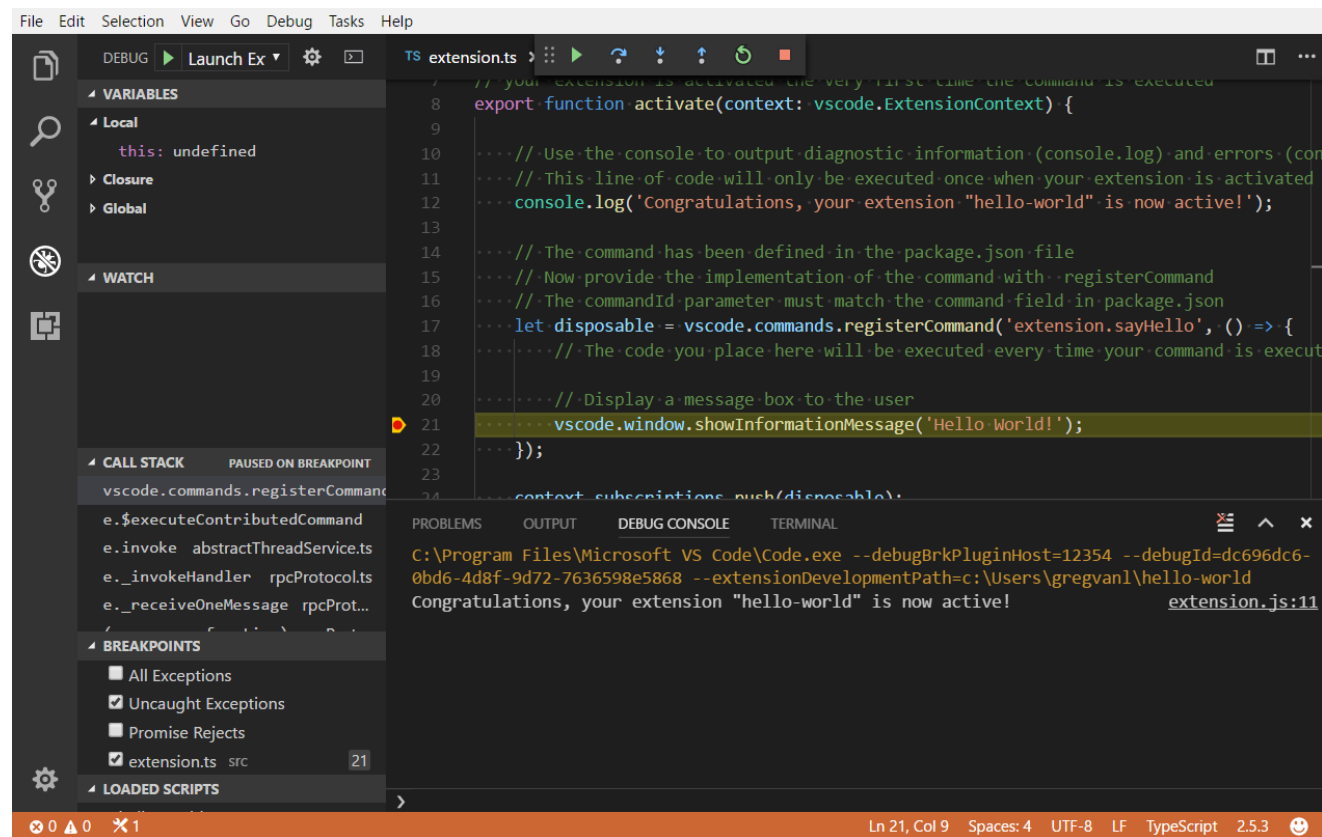
超过10000个插件:

- 语言
- 调试器
- 代码格式化
- 代码片段
- 键盘映射
- 主题
- And more!



Visual Studio Code 插件开发

- 设计
- 实现
- 推广
- 维护












设计

怎样获取灵感?

Code Runner: 从自身需求出发



Code Runner

Jun Han |  2,839,298 installs |      (147) | Free

Run C, C++, Java, JS, PHP, Python, Perl, Ruby, Go, Lua, Groovy, PowerShell, CMD, BASH, F#, C#, VBScript, TypeScript, CoffeeScript, Scala, Swift, Julia, Crystal, OCaml, R, AppleScript, Elixir, VB.NET, Clojure, Haxe, Obj-C, Rust, Racket, Scheme, AutoHotkey, Autolt, Kotlin, Dart, Pascal, Haskell, Nim,

Install

[Trouble Installing?](#)

[Overview](#) [Q & A](#) [Rating & Review](#)

Code Runner

chat

on [gitter](#)

Visual Studio Marketplace

v0.9.15

installs

2839410

rating

average: 4.56/5 (147 ratings)


build

passing


Run code snippet or code file for multiple languages: C, C++, Java, JavaScript, PHP, Python, Perl, Perl 6, Ruby, Go, Lua, Groovy, PowerShell, BAT/CMD, BASH/SH, F# Script, F# (.NET Core), C# Script, C# (.NET Core), VBScript, TypeScript, CoffeeScript, Scala, Swift, Julia, Crystal, OCaml Script, R, AppleScript, Elixir, Visual Basic .NET, Clojure, Haxe, Objective-C, Rust, Racket, Scheme, AutoHotkey, Autolt, Kotlin, Dart, Free Pascal, Haskell, Nim, D, Lisp, Kit, V, and custom command

怎样获取灵感?

Auto Close Tag: GitHub issues



Auto Close Tag

Jun Han |  2,034,053 installs | ★★★★★ (53)

Automatically add HTML/XML close tag, same as Visual Studio IDE or Sublime Text

<> Code

Issues 4,766

Pull requests 141

Wiki

Insights

Filters

is:issue is:open sort:reactions:-+1-desc

Labels

Milestones

New issue

Clear current search query, filters, and sorts

4,766 Open ✓ 43,388 Closed

Author Labels Projects Milestones Assignee Sort

Allow for floating windows feature-request workbench-layout

#10121 opened on Aug 4, 2016 by Brakkar

vscode.extensions Doesn't Update On Installing / Removing / Disabling Extensions with restarting api extension-host feature-request

#14444 opened on Oct 25, 2016 by shanalikhan Backlog

Tabs for integrated terminal feature-request integrated-terminal ux workbench-layout

#10546 opened on Aug 15, 2016 by Perkovec Backlog

Allow to change the font size and font of the workbench feature-request workbench-layout

#519 opened on Nov 24, 2015 by hsd123

Auto Indent / Code Formatting / Beautify editor-autoindent feature-request

#4039 opened on Mar 12, 2016 by waderyan

Support to open a project folder in multiple VS Code windows feature-request workbench-editors

#2686 opened on Feb 4, 2016 by weinand 0 of 2

Sort by

Newest

Oldest


Most commented


Least commented


Recently updated


Least recently updated


✓ Most reactions















98

怎样获取灵感?


PlatformIO: 其他编辑器/IDE的热门插件

 ATOM Packages Themes Documentation Blog Discuss [Sign in](#)


platformio-ide

Official PlatformIO IDE for IoT, Arduino, ARM mbed, Espressif (ESP8266/ESP32), STM32, PIC32, nRF51/nRF52, FPGA, CMSIS, SPL, AVR, Samsung ARTIK, libOpenCM3

[#platformio](#) [#iot](#) [#debugger](#) [#unittest](#) [#embedded](#)

 platformio 754,851 73 [Install](#)

[Repo](#) [Bugs](#) [Versions](#) [License](#)



PlatformIO IDE

PlatformIO | 226,629 installs | 823,252 downloads | ★★★★★ (345) | Free

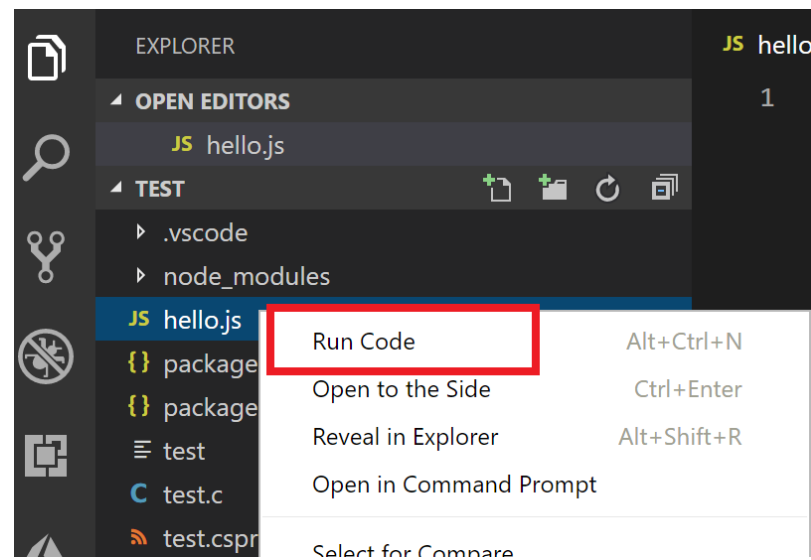
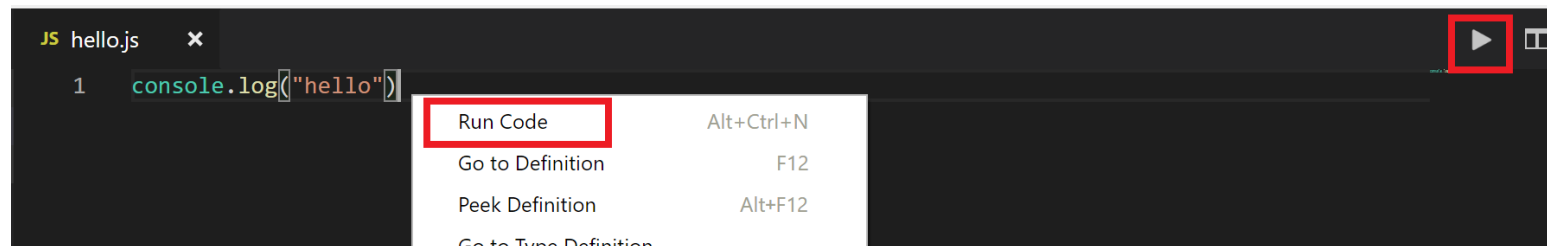
Development environment for IoT, Arduino, ARM mbed, Espressif (ESP8266/ESP32), RISC-V, STM32, PIC32, nRF51/nRF52, MSP430, MCS-51 (8051), FPGA, FreeRTOS, ESP-IDF, CMSIS, SPL, AVR, Samsung ARTIK, libOpenCM3

[Install](#) [Trouble Installing?](#)

确定目标用户

Code Runner:

- 初学者
- “懒人”
- 多语言用户



Usages

- To run code:
 - use shortcut `Ctrl+Alt+N`
 - or press `F1` and then select/type `Run Code`,
 - or right click the Text Editor and then click `Run Code` in editor context menu
 - or click `Run Code` button in editor title menu
 - or click `Run Code` button in context menu of file explorer

长期的计划

- 虽然不用全部实现，但要全面考虑
- Scalable
- 向后兼容
- 向前兼容
- 提前“写”好一篇推广博客



实现

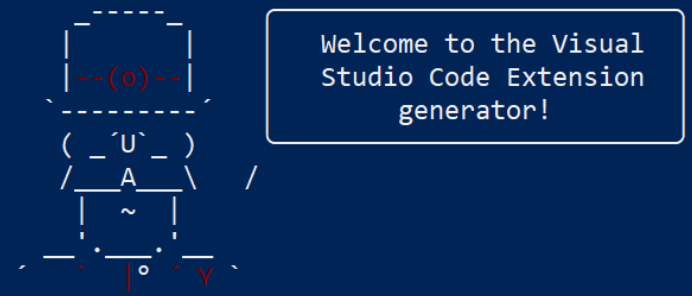
有用的资源

- VS Code 插件开发: <https://code.visualstudio.com/api>
- VS Code 插件样例
 - <https://code.visualstudio.com/api/extension-guides/overview>
 - <https://github.com/Microsoft/vscode-extension-samples>
- 我开发的插件:
<https://marketplace.visualstudio.com/search?term=publisher:%22Jun%20Han%22&target=VSCode&category=All%20categories&sortBy=Downloads>

开发环境

- Visual Studio Code
- Node.js
- Yeoman and VS Code Extension generator:
`npm install -g yo generator-code`

```
PS D:\code> yo code
```



```
? What type of extension do you want to create? (Use arrow keys)
> New Extension (TypeScript)
  New Extension (JavaScript)
  New Color Theme
  New Language Support
  New Code Snippets
  New Keymap
  New Extension Pack
(Move up and down to reveal more choices)
```

插件类型

- Themes
- Snippets
- Formatters
- Linters
- Debuggers
- Programming Languages
- Keymaps
- SCM Provides
- Extensions Packs
- Others

VS Code 界面功能扩展

- Workbench
- Editor area

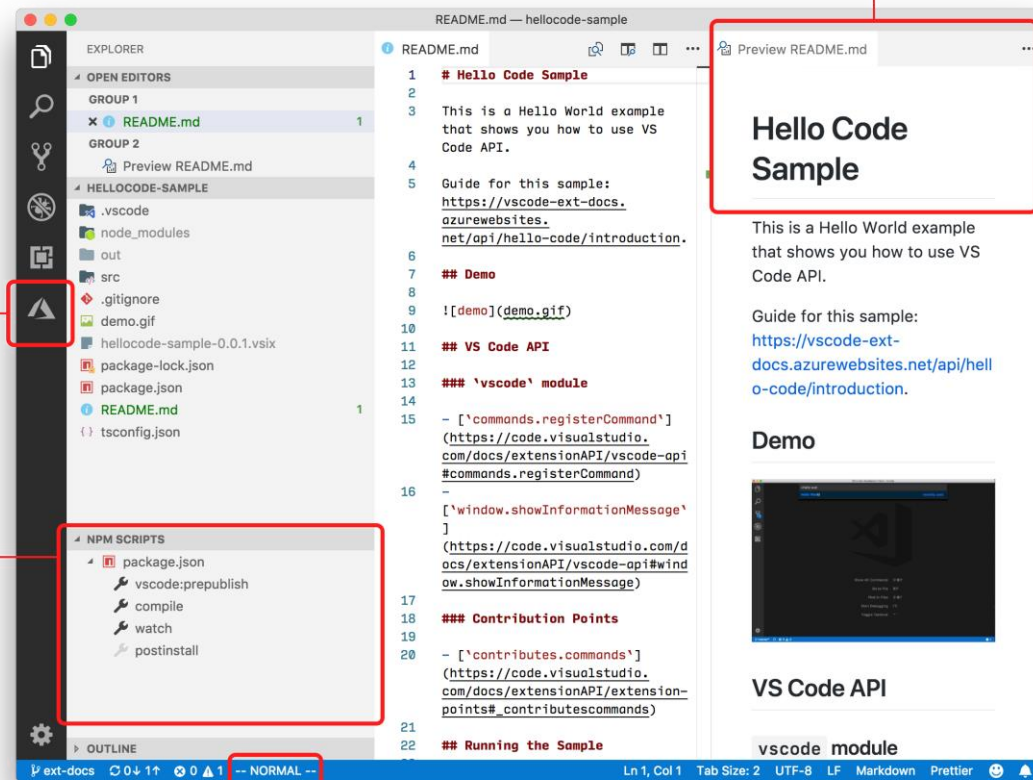
Workbench

Webview

Tree View
Container

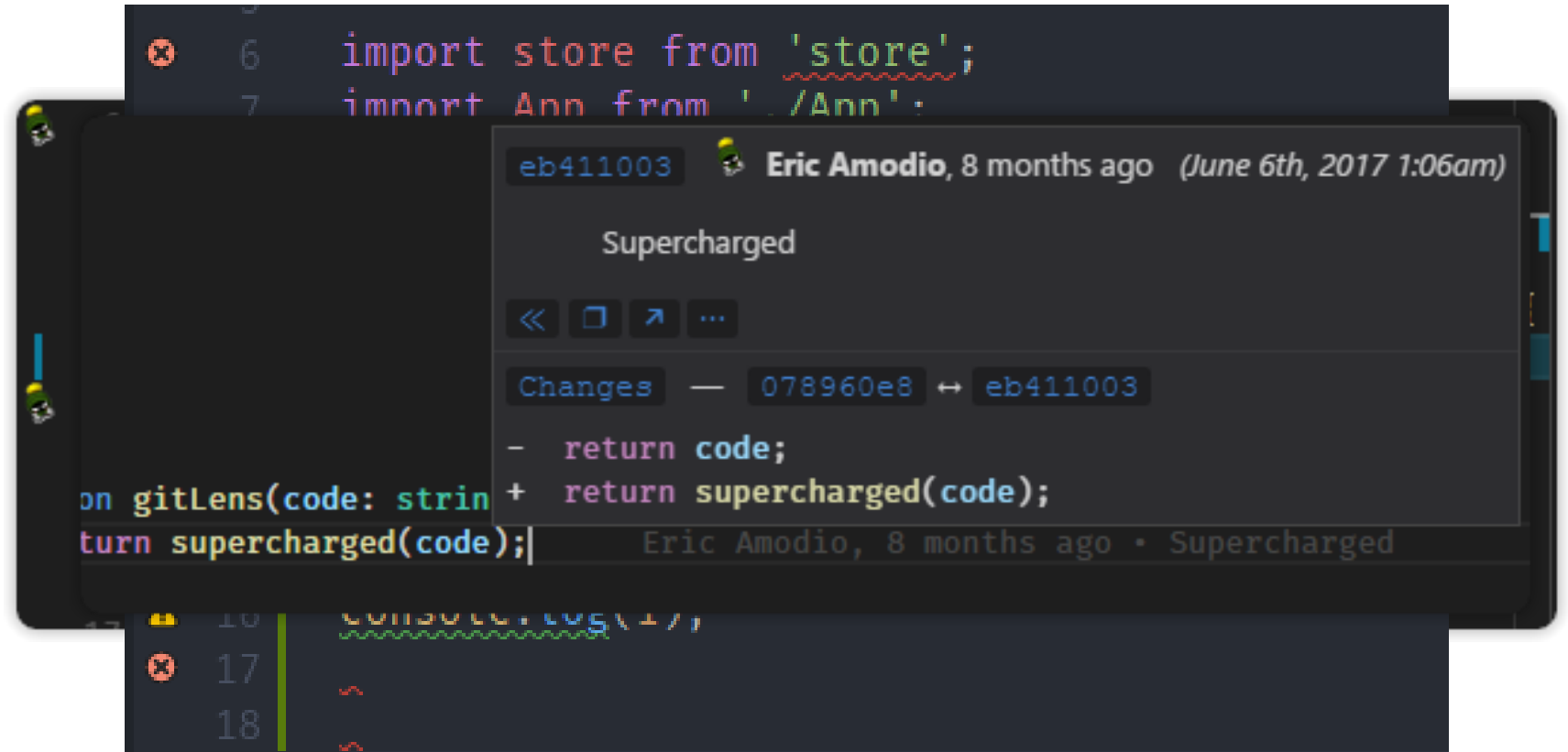
Tree View

Status Bar Item



Editor area

- CodeLens
- Decoration
- Gutter
- Hover
- Context Menu



Tips

- 快速迭代
- 使用VS Code Insider
- 快捷方式

快速迭代

帕累托法则（二八定律）：

80%的用户往往只会用20%的功能

VS Code Insider

<https://code.visualstudio.com/insiders/>

每天获取最新版本的VS Code

快捷方式

- 欢迎页面
- CodeLens

```
3  /**
4    * Hello world!
5   *
6   */
7  public class App
8  {
9      ▶ Run | 🐞 Debug
10     public static void main(String[] args)
11     {
12         System.out.println("Hello World!");
13     }
14 }
```



推广

推广渠道

- **Stack Overflow**, GitHub, Twitter, Facebook, Google Plus, LinkedIn, 博客
- **v2ex**, 知乎, 微信公众号, 开源中国, 微博, CSDN

23 Answers		Votes	Activity	Newest
202	Run JavaScript in Visual Studio Code			Aug 4 '16 at 13:00
162	How to execute Python code from within Visual Studio Code			Aug 17 '16 at 11:35
95	How do I set up Visual Studio Code to compile C++ code?			Nov 13 '16 at 5:27
51	Select matching element/rename HTML tag in Visual Studio Code			Aug 24 '16 at 5:24
38	How to run all tests in Visual Studio Code			Aug 12 '17 at 13:21
38	Debug/run standard java in Visual Studio Code IDE and OS X?			Nov 13 '16 at 5:18
15	VSCode not auto completing HTML			Jun 28 '16 at 14:59
9	How to test Messages arriving in Azure IoT Hub			Oct 26 '16 at 0:21
8	How does one set up the Visual Studio Code compiler/debugger to GCC?			Nov 14 '16 at 14:09
3	Create and Run Dart Console Application Using VSCode?			Nov 2 '18 at 12:10



维护

数据驱动

- 下载量, 月活, 日活, 转化率
- 用户的使用行为
- 优先级
- Fail fast

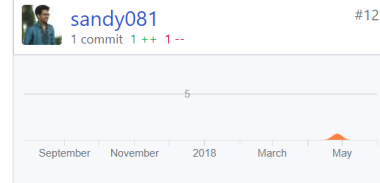
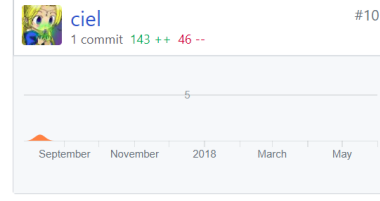
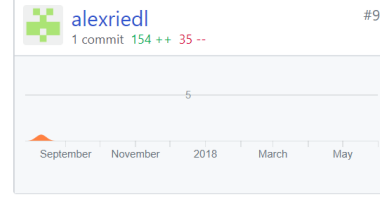
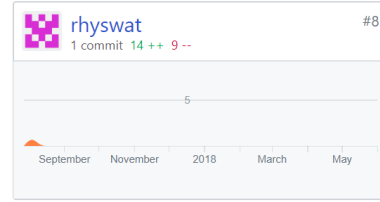
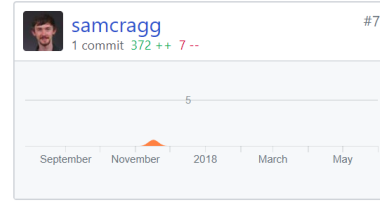
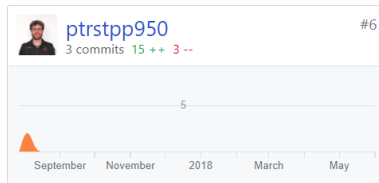
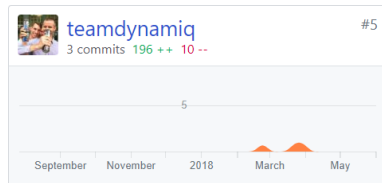
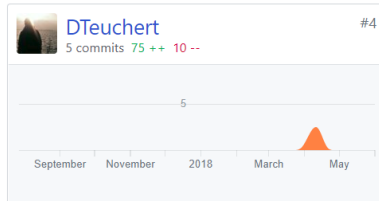
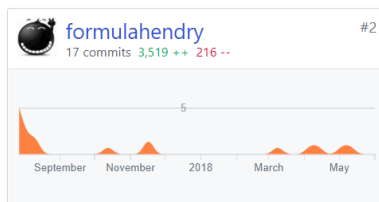
Total of Events by Event name

[Edit](#)

EVENT NAME	TOTAL	↑↓	% TOTAL
python	<div></div>	1.17 M	31.2%
node	<div></div>	832.73 K	22.3%
g++	<div></div>	316.12 K	8.5%
gcc	<div></div>	208.08 K	5.6%
stop	<div></div>	140.24 K	3.8%
javac	<div></div>	132.09 K	3.5%
ts-node	<div></div>	130.65 K	3.5%
go run	<div></div>	100.05 K	2.7%
php	<div></div>	92.51 K	2.5%
python3	<div></div>	66.14 K	1.8%

开源与社区

- Pull Request – 审查代码, 同时学习代码
- GitHub issue – 分类, 同时获取想法
- [Gitter](#) – 与用户沟通
- [.NET Core Test Explorer](#) – 驱动社区的力量推进整个项目



VS Code 怎么做开源的?

Open Source

Open Development

Open Planning & Design

Thank you!

