

# Python for Good

## »»» PyCon China 2022

### 在浏览器中运行 Python

主讲人：韩骏 – Code Runner 作者

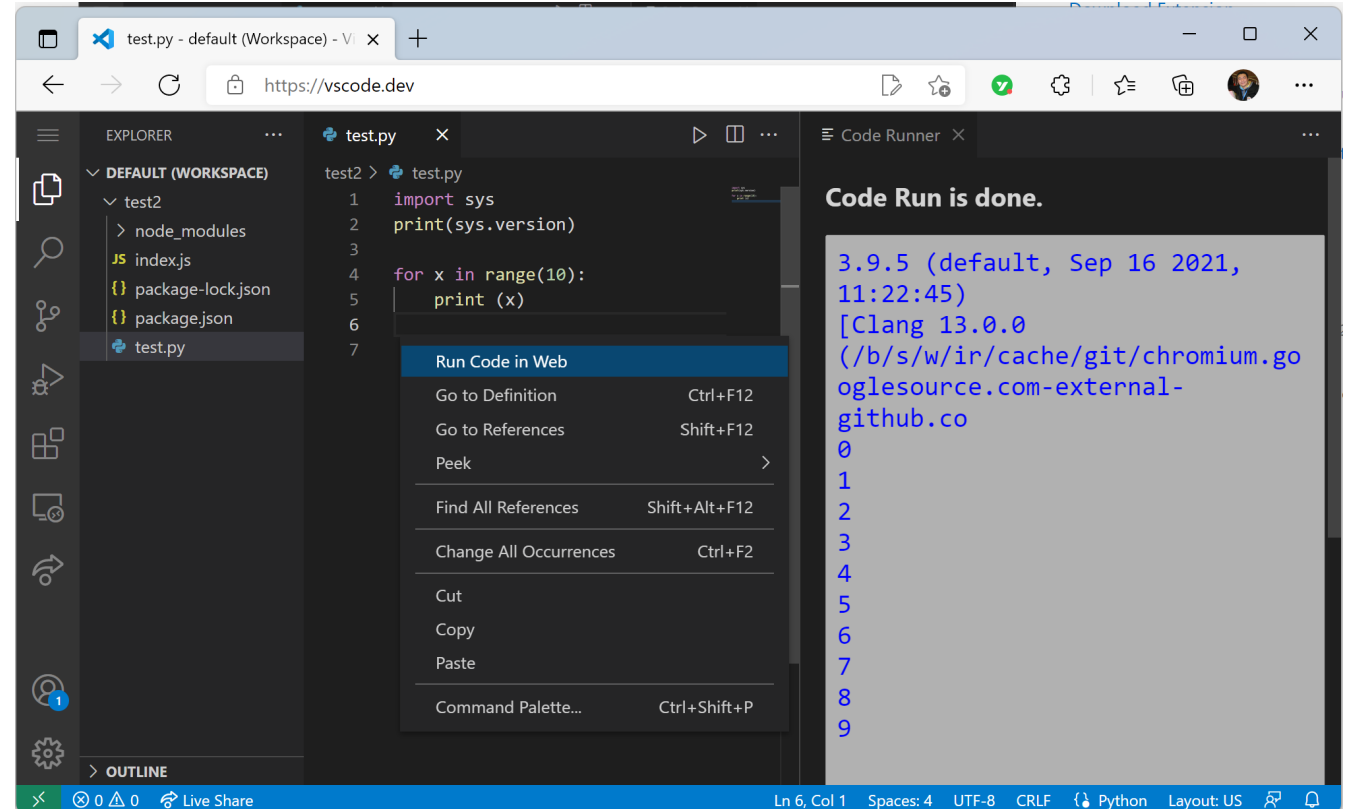


- 高级软件工程师 @ 微软开发平台事业部
- 《Visual Studio Code 权威指南》作者
- 20 多款 VS Code 插件（比如 Code Runner）
- “玩转VS Code” 知乎专栏 & 微信公众号
- VS Code 中文社区创始人
- <https://github.com/formulahendry/955.WLB>
- 内推 100+ 人拿到微软 offer
- Speaker @ QCon、PyCon、JSConf、.NET Conf、Microsoft Tech Summit、Google Developer Group、COSCon ...



公众号 “HJ说”

- Run Python in **vscode.dev**, **github.dev** and **VS Code Desktop**
- **Fast:** Zero toolchain setup, without installing Python interpreter
- **Free:** No backend needed, all in browser environment



The screenshot shows the VS Code web interface in a browser. The Explorer sidebar on the left shows a workspace with a folder named 'test2' containing files: 'node\_modules', 'index.js', 'package-lock.json', 'package.json', and 'test.py'. The main editor area shows the content of 'test.py':

```
1 import sys
2 print(sys.version)
3
4 for x in range(10):
5     print(x)
6
7
```

A context menu is open over the code, with 'Run Code in Web' selected. The 'Code Runner' panel on the right shows the output of the execution:

```
Code Run is done.

3.9.5 (default, Sep 16 2021,
11:22:45)
[Clang 13.0.0
(/b/s/w/ir/cache/git/chromium.go
oglesource.com-external-
github.co
0
1
2
3
4
5
6
7
8
9
```

The status bar at the bottom indicates 'Ln 6, Col 1', 'Spaces: 4', 'UTF-8', 'CRLF', 'Python', and 'Layout: US'.

## Standing on the Shoulders of Giants:

- **WebAssembly/WASM**  
(<https://webassembly.org/>)
- **Emscripten** (<https://emscripten.org/>):  
Compile your existing projects written in C or C++ — or any language that uses LLVM — to browsers, Node.js, or wasm runtimes.
- **Pyodide** (<https://pyodide.org/en/stable/>):  
A Python distribution for the browser and Node.js based on WebAssembly.



Solomon Hykes  
@solomonstre



If WASM+WASI existed in 2008, we wouldn't have needed to create Docker. That's how important it is. Webassembly on the server is the future of computing. A standardized system interface was the missing link. Let's hope WASI is up to the task!



Lin Clark @linclark · Mar 27, 2019

WebAssembly running outside the web has a huge future. And that future gets one giant leap closer today with...

Announcing WASI: A system interface for running WebAssembly outside the web (and inside it too)

[hacks.mozilla.org/2019/03/standa...](https://hacks.mozilla.org/2019/03/standa...)

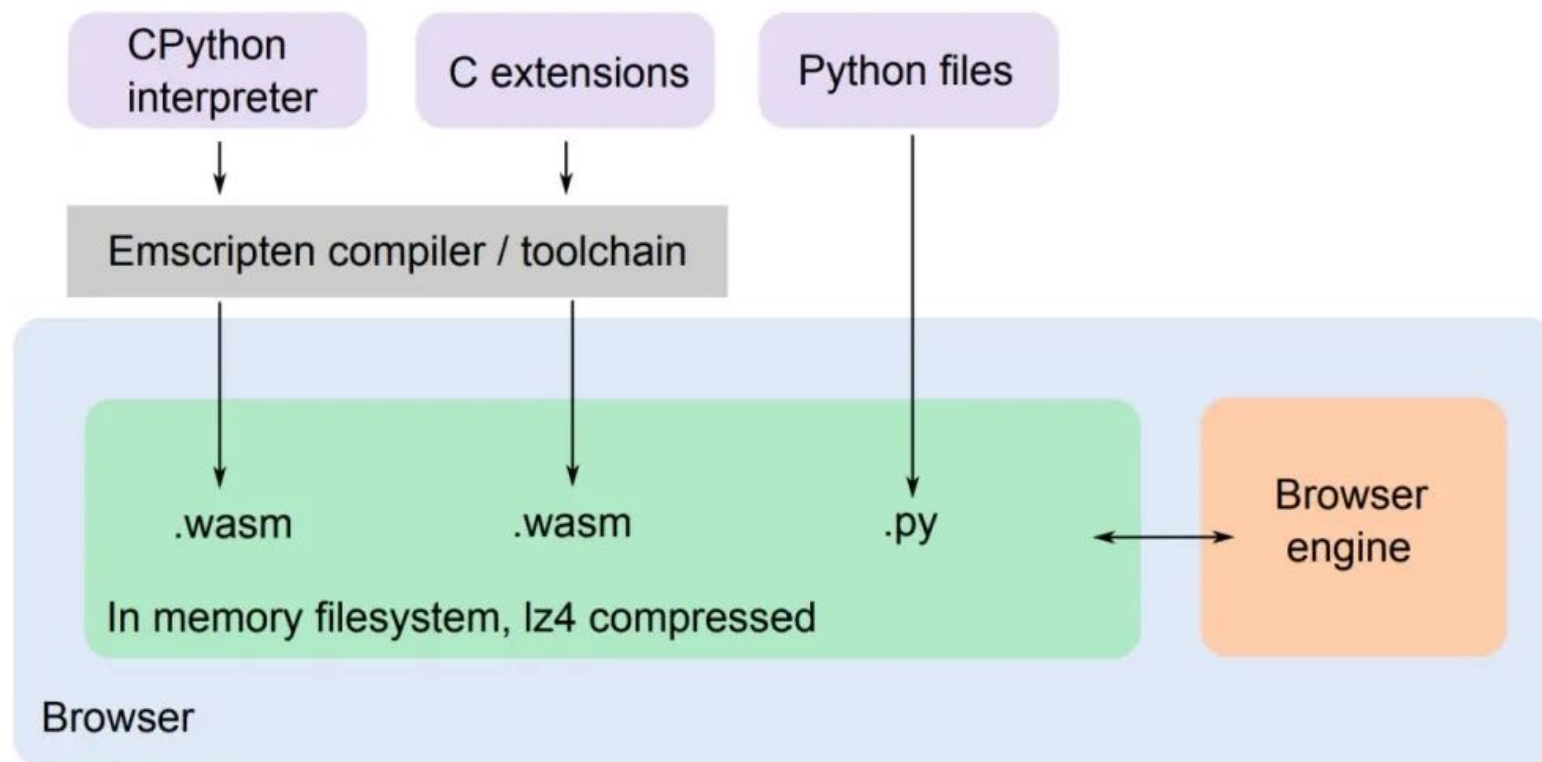
[Show this thread](#)

4:39 AM · Mar 28, 2019 · Twitter Web Client

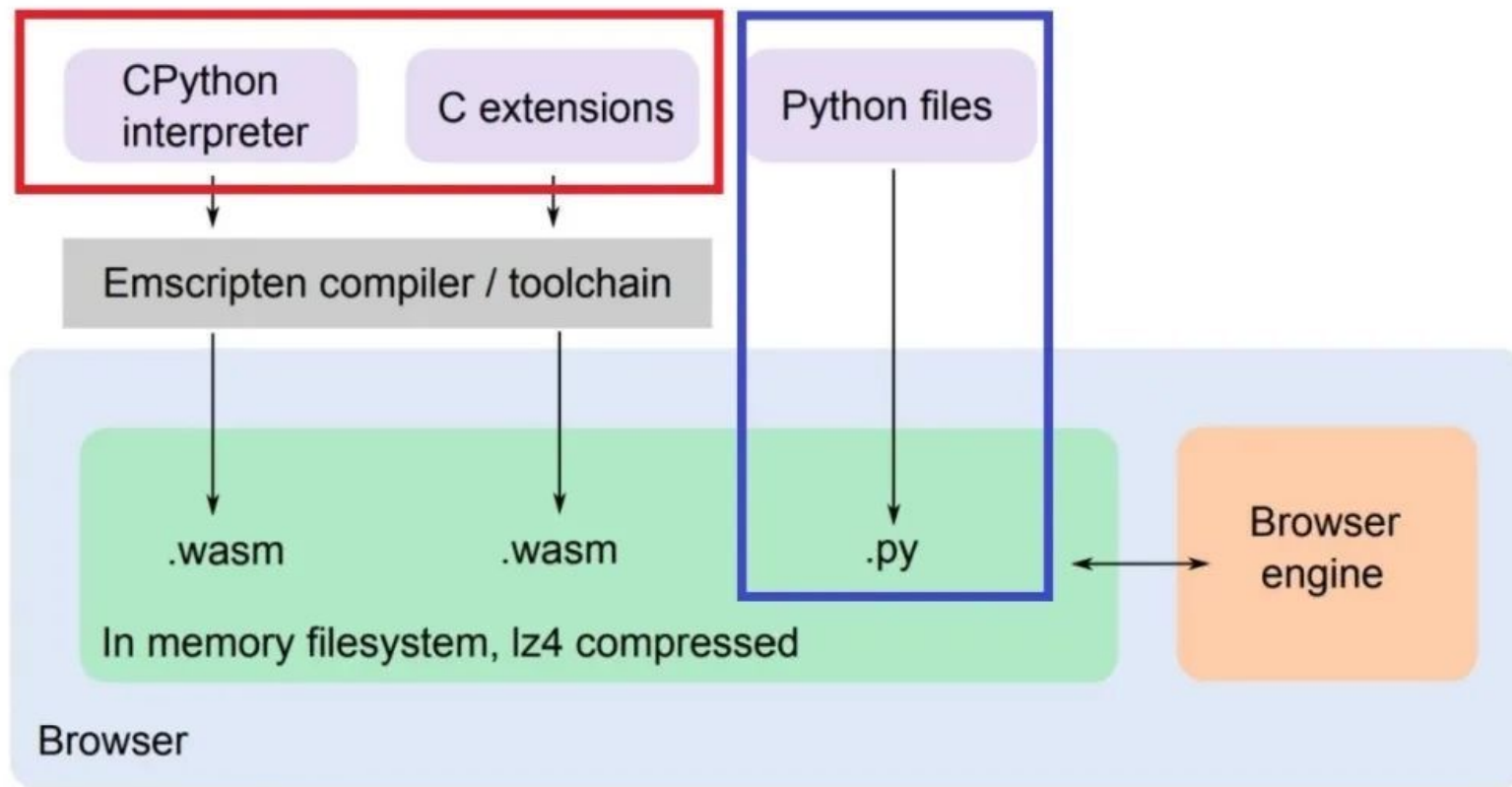
834 Retweets 163 Quote Tweets 2,189 Likes



# Build process



## Build process



- <https://github.com/formulahendry/vscode-code-runner-for-web>
- <https://github.com/microsoft/vscode-python-web-wasm>



### Code Runner for Web

Jun Han | 📄 2,748 installs | ★★★★★ (1) | Free

Run Code (Python) in browser

**Install**

[Trouble Installing?](#)



### Experimental - Python for the Web

Preview

Microsoft 🛡️ | 📄 160 installs | ★★★★★ (0) | Free

Experimental support for Python in the Web using WebAssemblies

**Install**

[Trouble Installing?](#)

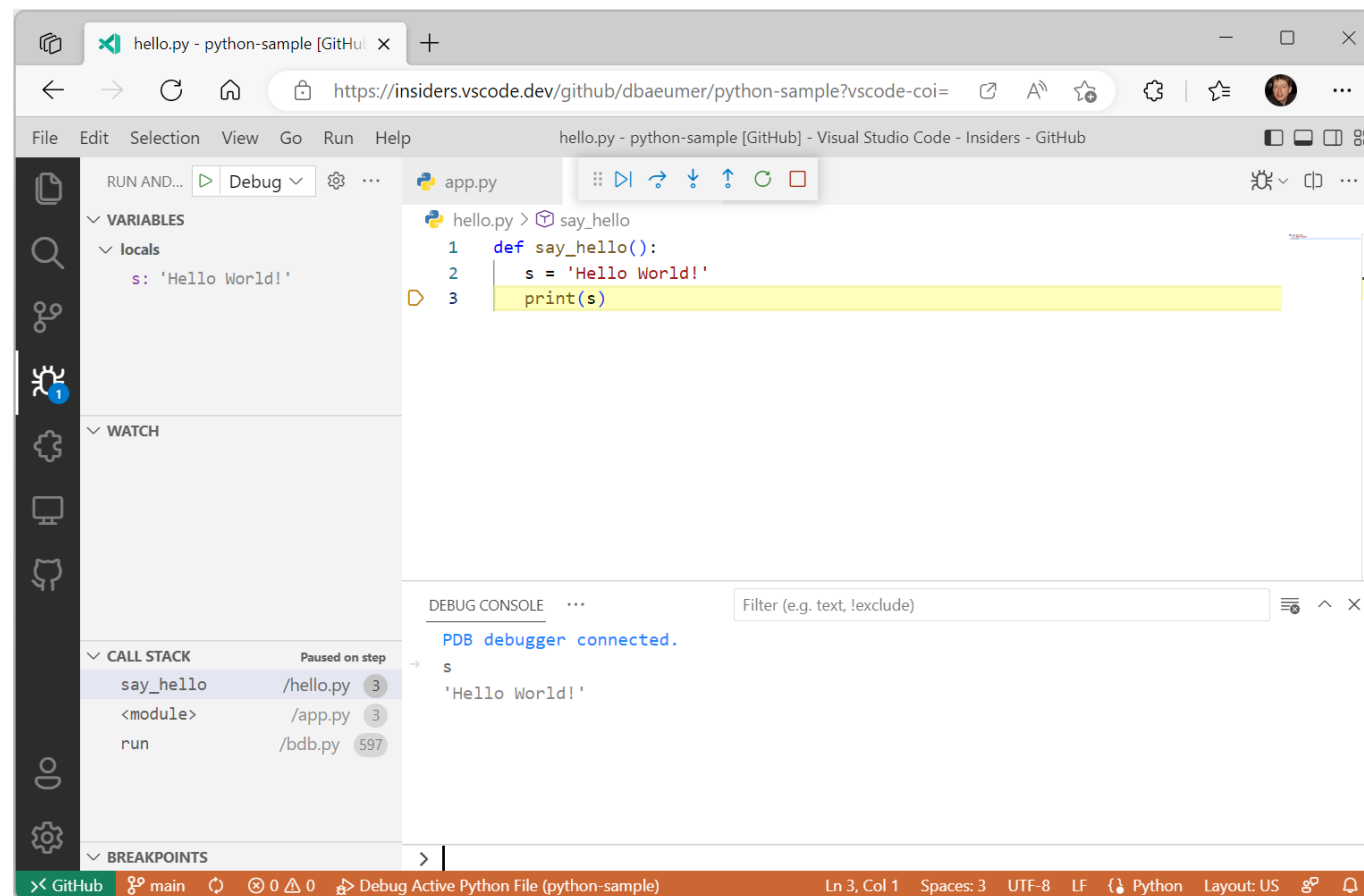
One More Thing!

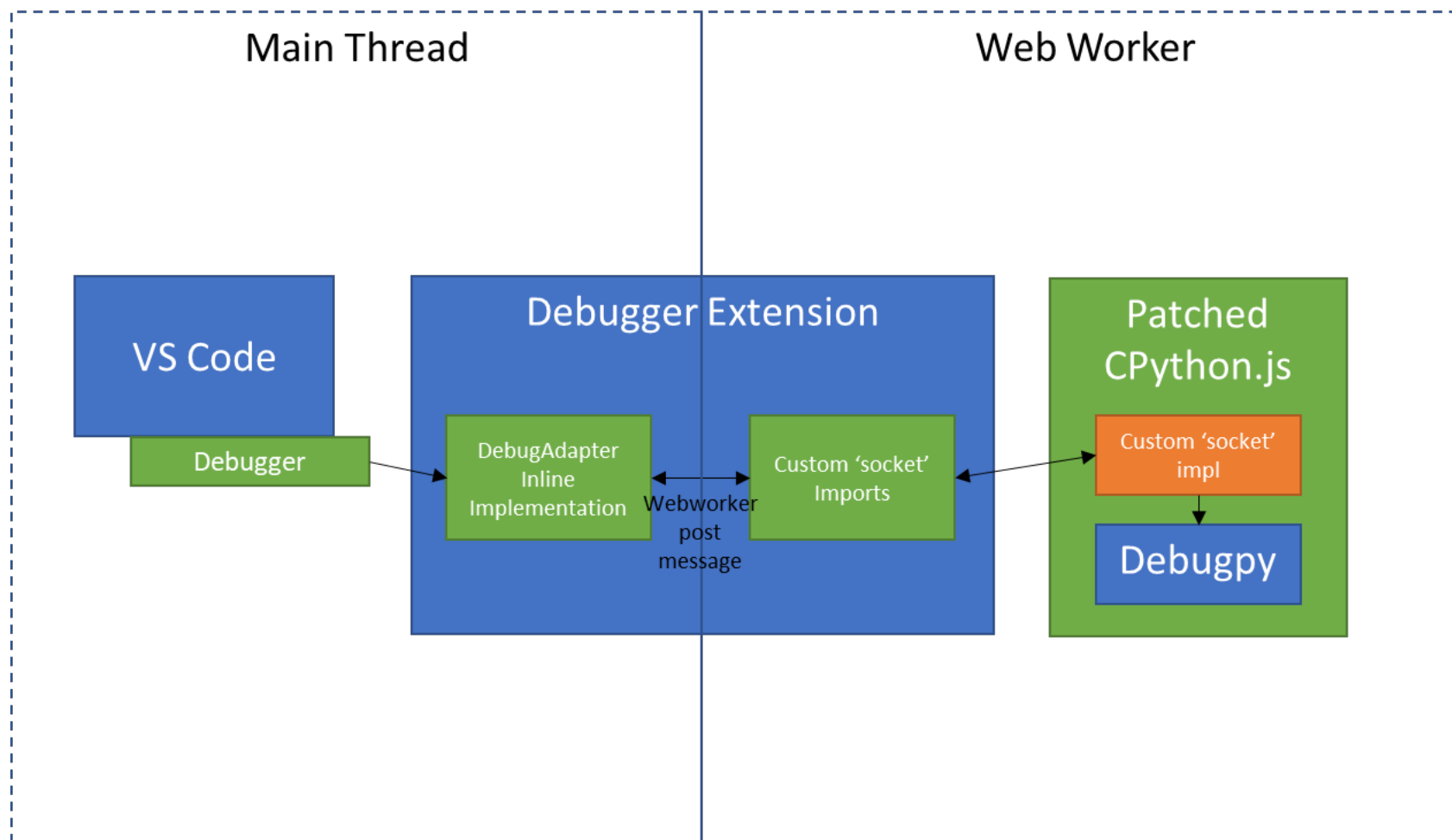


# Debug Python in browser?

[https://code.visualstudio.com/updates/v1\\_74#\\_python-execution-in-the-web](https://code.visualstudio.com/updates/v1_74#_python-execution-in-the-web)

- Setting breakpoints
- Stepping into and out of functions
- Debug across modules
- Evaluate variables in the debug console
- Debug the program in the Integrated Terminal





WebAssembly is the future!

# Thanks!

感谢观看

