



# Get Productive with Python and VS Code

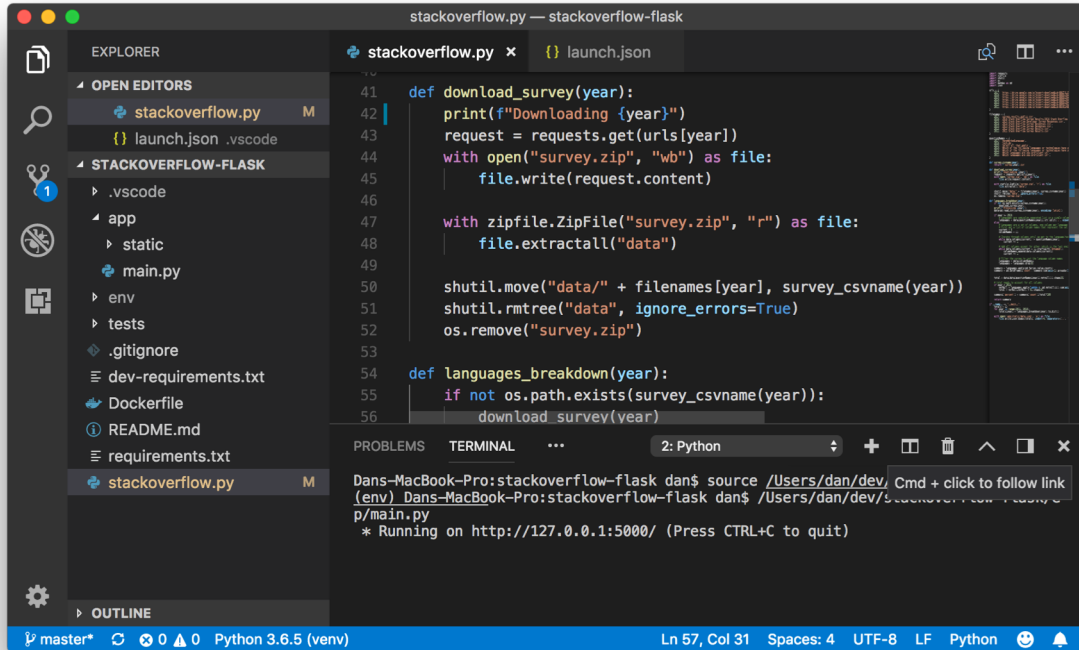
**Dan Taylor**

Program Manager  
Python Developer Tools





# Visual Studio Code



Built JavaScript/TypeScript support



IntelliSense




Debugging




Source Control

Free, cross-platform, open source  
Fast and lightweight  
Rich extension ecosystem

# + Python Extension



**Python**  
Microsoft |  14,844,986 installs | ★★★★★ (183)

Linting, Debugging (multi-threaded, remote), Intellisense, code formatting, refactoring, unit tests, snippets, and more.

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

Python Engineering at Microsoft  
Using Python to drive innovation

Don Jayamanne, creator of the Python extension for Visual Studio Code, joins Microsoft

Rate this article ★★★★★

Brett Cannon November 9, 2017

 Share 194  200  0  51

I'm delighted to announce that Don Jayamanne, the author of the most popular Python extension for Visual Studio Code, has joined Microsoft! Starting immediately, Microsoft will be publishing and supporting the extension. You will receive the update automatically, or visit our [Visual Studio Marketplace page](#) and click "Install".

Python has a long history at Microsoft, starting with [IronPython](#), [Python For Visual Studio](#), the [Python SDK for Azure](#), [Azure Notebooks](#) as well as contributing developer time and support to [CPython](#).

While some people like using a full-featured IDE such as Visual Studio, others prefer to have a lighter weight, editor-centric experience such as Visual Studio Code. Don has been working on the Python extension part-time for the past couple of years. We were impressed by his work and have hired him to work on it full-time, along with other members of our Python team.

[aka.ms/pythonblog](https://aka.ms/pythonblog)

Adds Python support: IntelliSense, Debugging, Linting, Testing, Refactoring


Fastest growing language and most popular extension on the VS Code Marketplace

Fully open source, originally created by the community (Don)

Published as Microsoft in Nov, new release every month

# Some Key Extensions

## Keybindings




### Vim

vscodevim 3M

★★★★★

FREE




### Sublime Text Keymap

Microsoft 729K

Import Sublime Text settings and keybindings into VS Code.

★★★★★

FREE




### Emacs Friendly Keymap

Leaping Frog Studio 15.7K

Emacs keybindings and selection, friendly interaction with the system clipboard.

★★★★★

FREE



### IntelliJ IDEA Keybindings


Keisuke Kato 432K

Port of IntelliJ IDEA Keybindings, including for WebStorm, PyCharm, PHP...

★★★★★

FREE

## Django + Flask Snippets/templates




### Django Template

bibhasdn 180K

Django template language support for Visual Studio Code

★★★★★

FREE




### Django Snippets

bibhasdn 145K

Common Django snippets for everyday use

★★★★★

FREE




### flask-snippets

cstrap 13K

Flask snippets

★★★★★

FREE



### Jinja

wholroyd 174K

Jinja template language support for Visual Studio Code

★★★★★

FREE

# Overview

## The Essentials

- Install + Setup

- Selecting Interpreter

- Editing + Running Code

- Linting + Refactoring

## More Powerful Features

- Debugging

- Unit Testing

- Tasks

- Docker Extension

## Preview Capabilities

- IntelliCode

- Live Share

- Python Language Server

# The Essentials

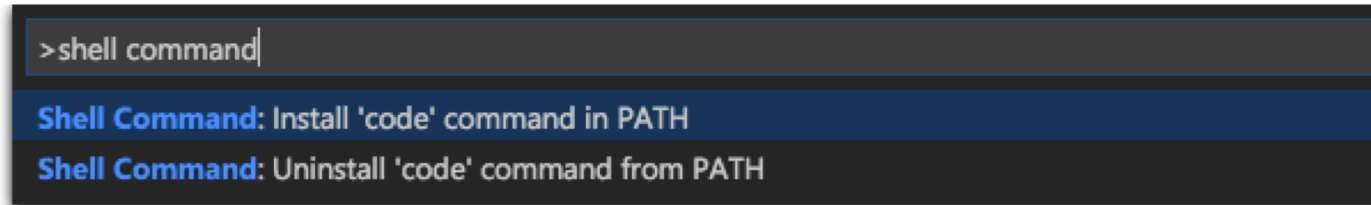
# Demo: Getting Started

Download from [code.visualstudio.com](https://code.visualstudio.com)

Add Code to Path

Windows: done during install

Ctrl+Shift+P, Command+Shift+P



Install Python Extension

Create File

Run Python File in Terminal

# Demo: Scripting with Python

Select Interpreter

Run File in Terminal

Linting

Snippets

Run Selection in Terminal (Shift+Enter)

Refactoring



# Using Virtual Environments

## Create new environment:

```
py -3 -m venv env
```

```
Env\scripts\activate
```

```
mac/Linux: python3 -m venv env
```

```
mac/Linux: source env/bin/activate
```

## Install packages:

```
pip install [list of packages]      OR
```

```
pip install -r requirements.txt
```

## Save package list:

```
pip freeze > requirements.txt
```

## Deactivate:

```
Deactivate
```

Also support pyenv, pipenv, conda environments

More Powerful Features

# Demo: Analyzing Data with Python

## Debugging

- Start Debugging
- Stepping
- Inspecting Variables
- Debug Console
- Run to Cursor

## Unit testing

## Tasks

| Shortcut              | Action           |
|-----------------------|------------------|
| Ctrl-G                | Go to Line       |
| Ctrl/⌘ P              | Go to File       |
| ⇧⌘O                   | Go to Symbol     |
| F12 or Ctrl/⌘ + Click | Go to definition |
| Ctrl/⌘ \              | Split Window     |

# Demo: Web Development

## Debugging

- Flask/Django debug configurations

- Ctrl+Click URL in terminal

## Docker Extension

- Add Docker Files to Workspace

- Dockerfile completions

- Build/run container

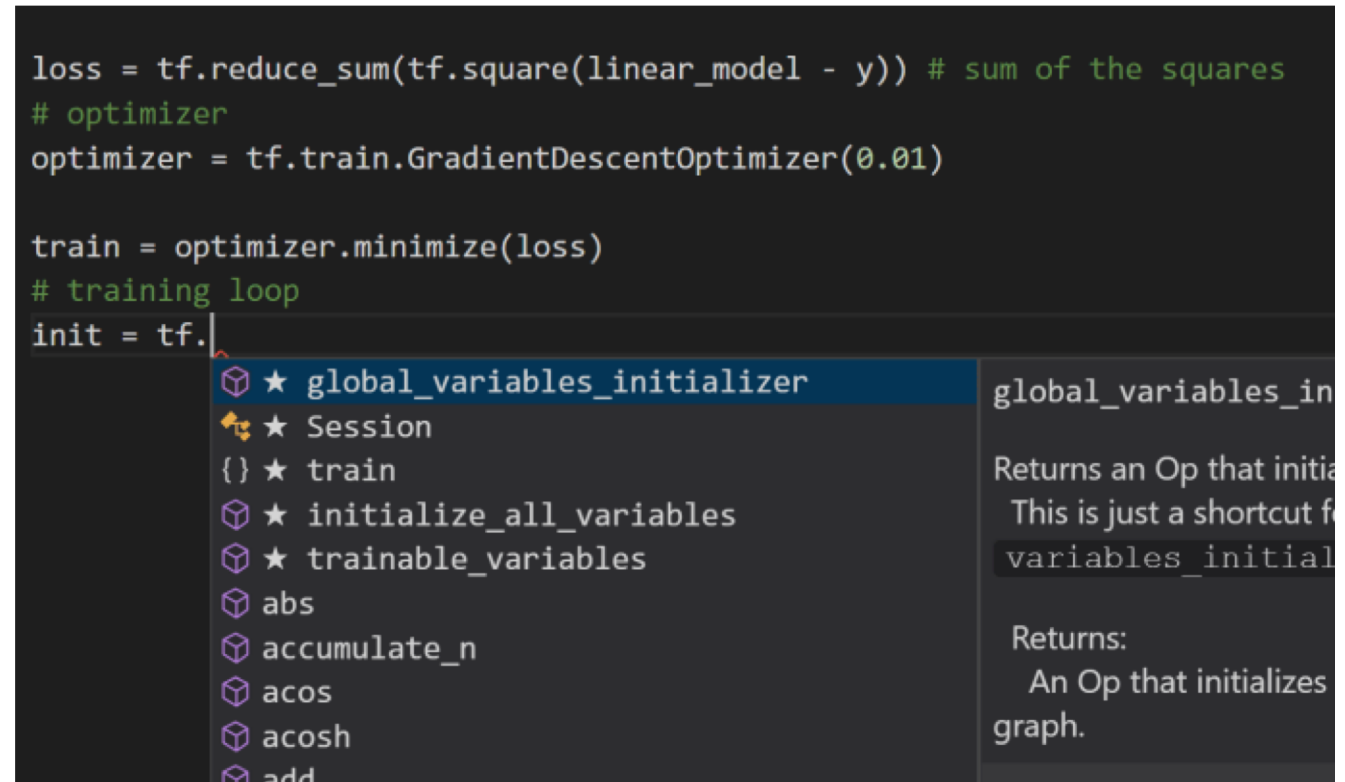
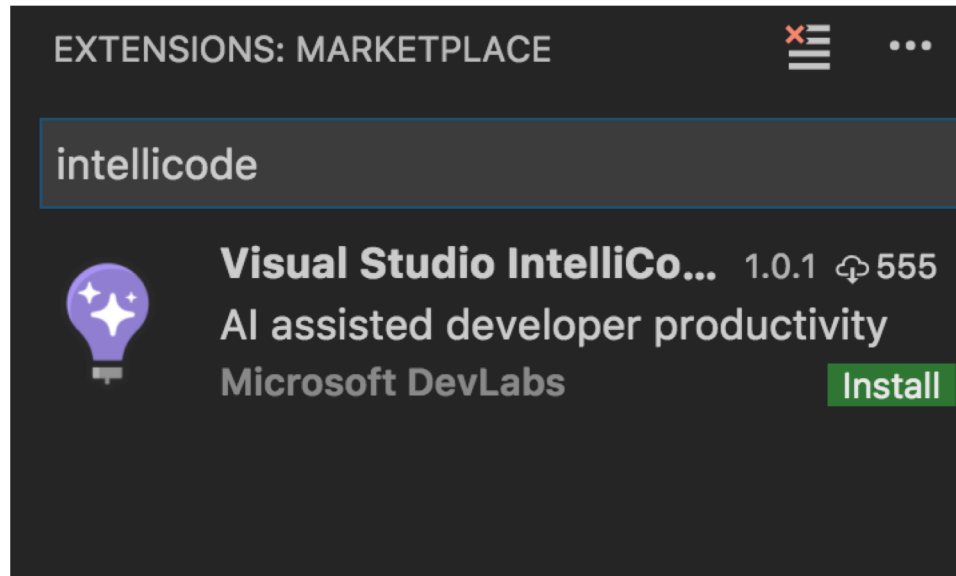
Code at: **[github.com/qubitron/stackoverflow-flask](https://github.com/qubitron/stackoverflow-flask)**

*Preview Features*

# Demo: Visual Studio IntelliCode

Context-sensitive completions suggested by machine learning models

Trained on 2,000+ public and high quality open-source repos



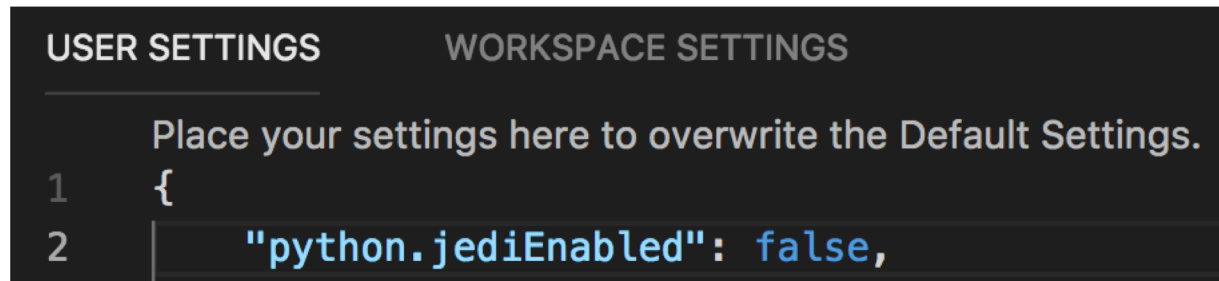
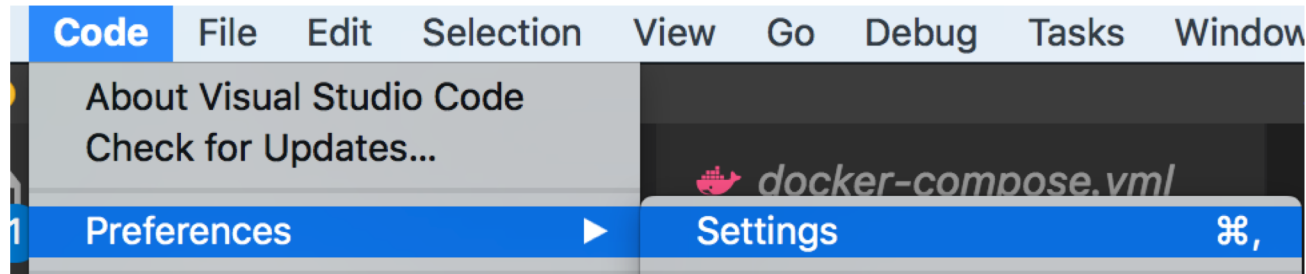
# Microsoft Python Language Server

Syntax errors as you type

Faster startup and completion performance

Augments IntelliSense with typeshed definitions

Try it out:

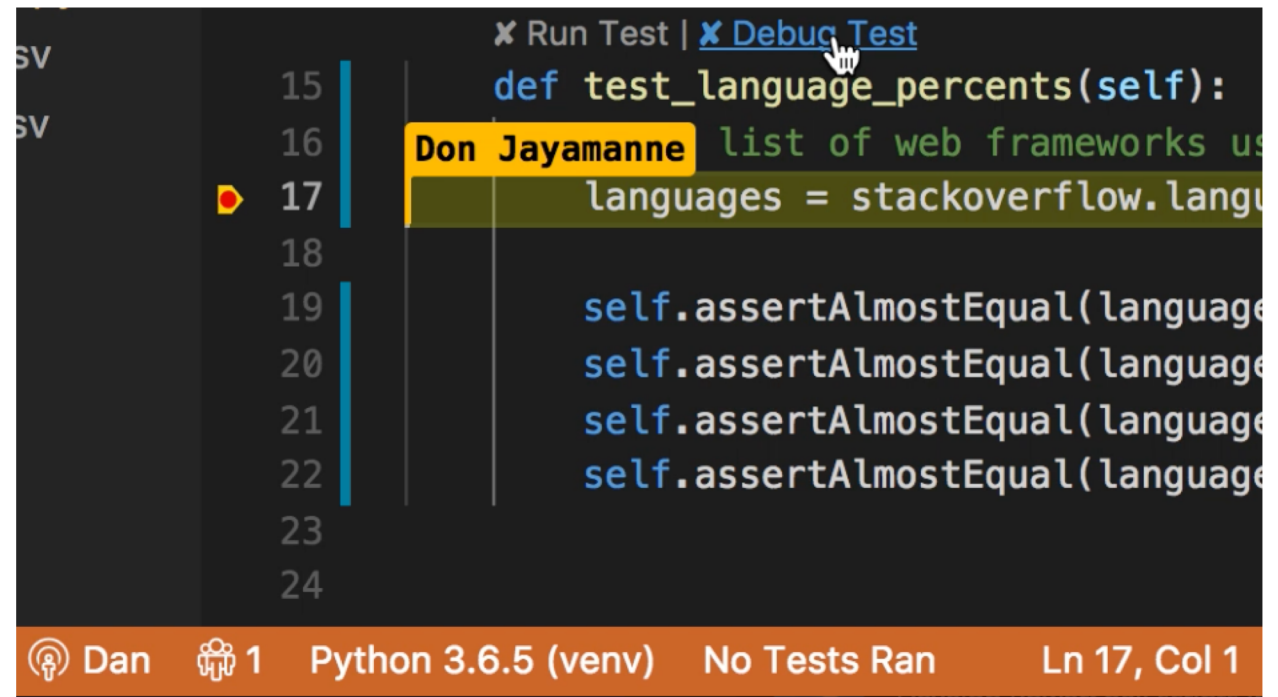
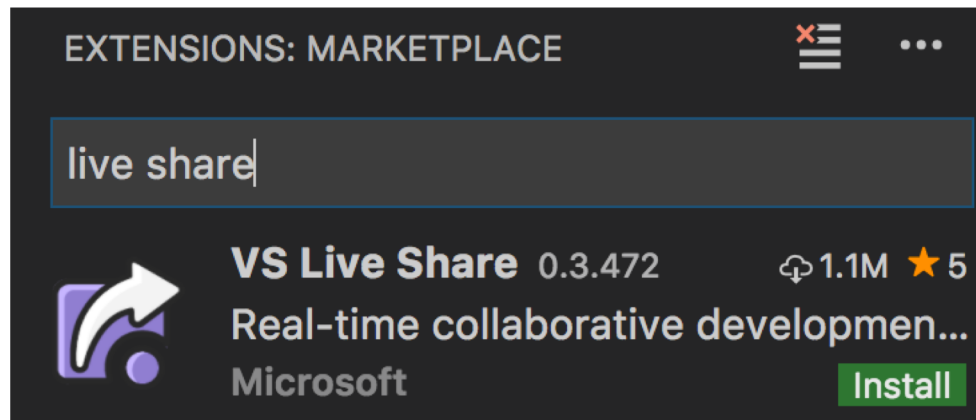


# Demo: VS Live Share

Collaborate with others remotely on any language and OS

Edit and debug together, with shared terminals

Great for pair programming and code reviews





# Getting Productive with Python

Select Interpreter

Run File in Terminal

Linting

Snippets

Run Selection in Terminal (Shift+Enter)

Refactoring

Debugging

Unit testing

VS Code Docker and Azure Extensions

Create Docker Registry

Build Docker Container Image

Tasks

Code navigation

Split windows

Live Share

Manage virtual environments and packages

# Stay Informed

For information and updates, visit our blog at:

**[aka.ms/pythonblog](https://aka.ms/pythonblog)**

Code + slides: [github.com/qubitron/pydemo](https://github.com/qubitron/pydemo)

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