

Scaling Python using First Principle

Writing Efficient & Robust Services for Real World

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About Me

- Engineering Manager at FYND
- Use Everything & Anything in Python to Build Commerce Platform - OMS, WMS, Workflow, Libraries
- We have been doing this since 2015

What is the Talk About ?

- 1 HTTP World
 - Rule of Thumb - Async
- 2 Using Python For Building Event Driven Services
 - Queuing Systems
 - Event Bridge
 - Scheduling
 - Sink
- 3 Recommendation
- 4 Every "Software Engineer" Should
- 5 Goodbye

Python is an orchestration Language - The James Powell

- Numpy APIs - Python <> Underlying Constructs - C
- Pandas - Python <> Underlying Constructs - C
- Sanic - Python <> Underlying Constructs - C

How this Applies in the HTTP World ?

HTTP World

- It will always be I/O - Network will always be a bottleneck almost all the time
- Always Optimize for I/O First

HOW ?

Using Async for Everything Web

- Making Async First Class Function
- Never Call Blocking Function - You are as good as the weakest link
- Understand EventLoop in Depth

Using Python For Building Event Driven Services

Queuing Systems

- Use Kafka!
- Consumer for Everything Heavy
- Scale independently - Scale Indifferently

Event Bridge

- Extension of Using Any Queue Service - Kafka / Rabbit / ZMQ
- Common Python Lib & Pattern - Avoid Pitfalls Across Org

Scheduling

- Kube Cron or Use Kafka Based Cron Mechanism
- Scales to Million using Confluent Kafka Python Client - Written in C!

Sink System

- Daniele Varrazzo - The Psycopg 3 project Follow the active Development @ <https://www.varrazzo.com/blog/tag/psycopg/>
- psycopy with Postgres
- Or Clojure or Scale Consumer for Doing the Heavy Lifting

Python Packages to Use & Explore

- 1 Sentry - Beautiful Codebase I have seen till date
- 2 Structlog for logging
- 3 aioHttp - Everything for Web

Books Recommendation & Podcast Recommends

Read Everything by Bob Martin

- 1 python cookbook by david beazley
- 2 Beautiful Code by Andy Oram
- 3 CoRecursive - The Stories Behind The Code (Active)
- 4 This Developer's Life (Stopped since 2015)

Hiring!

- Thanks Everyone, Feel Free to ask Anything
- Drop CV at arvindmishra@gofynd.com