Introduction to Backend Development

Instructor: SY

Last Update: 2021-07-16

# Introduction

This course will introduce you to broad classes of techniques and tools for backend development. It emphasizes how to complement microservices for common use cases. This course will cover the most common and popular backend technologies in industry.

Estimated hours: **12 hours**

# Course Goals

* Learn **backend development** techniques and tools and gain a **breadth** of knowledge
* Work on real **microservices and databases**
* Learn **practical** know-how through significant hands-on coding samples
* Identify, formulate, and solve common engineering problems
* Apply engineering design to produce solutions that meet specified needs

# Materials

* [Slides and other documents](https://drive.google.com/drive/folders/1Onii4gx7GAqEvbc-CKbQSsYs0qaRCklK?usp=sharing)
* Github link: [techbow-web-development](https://github.com/asiawildboar/techbow-web-development)

# Syllabus

* Getting Started: build your first HTTP API using Python Flask
* Introduction to Redis
* Include Redis to your backend
* Deploy backend to Docker
* Your first RESTful API
* Introduction to MySQL
* Storing resources in a SQL databases
* Introduction to RabbitMQ and air sensor demo project
* [Optional] Simplify RESTful API development using Flask-restful
* [Optional] Simplify storage with Flask-SQLALchemy
* [Optional] Orchestrate Docker using Kubernete