

RockFIIT Server Architecture

Louis Doherty

Software

- Developed on Ubuntu 20.04.4
- Code is written in Python 3.8
- The Flask module in Python is used to handle HTTP requests

Environment

- **Local Development**
 - Lenovo Thinkpad T430 Laptop running Ubuntu 20.04.4 locally
 - Python 3.8
 - Flask 1.0
- **Initial Online Testing**
 - Replit will be used for initial testing with the project team
 - The front-end's React Native js code will interacting with the server hosted by Replit
 - Flask 1.0
 - Python 3.8
- **Production**
 - Planning to run the server on a cloud service (Google, AWS, etc)

Design

- **Using Flask**
 - Flask runs a web server that accepts API client requests and responses
 - This allows for focus upon client interactions without dealing with networking code
- **Database**
 - Using a sqlite3 database which is included with Python3
 - The central database that contains all exercises, user information, and logged exercises
 - This enables centralized distribution of data to the mobile app installation
- **Code Structure**
 - One function for each API call (routes)
 - Structure is consistent for each route
 - Check the format of request
 - Unpack the request data from json
 - Use the 'info' and 'data' fields in 'msgResponse' to relay information back to the client

- **Security**
 - Using bcrypt to hash plaintext passwords after the plaintext is sent over HTTPS
 - Hashed password is stored in central database