Project 1 Run Book

System Overview

System Name: Project 1 - Microservices

Support Contacts

Level	Position	Contact Information
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Overview

Application includes a pair of web microservices that provide functionality for a reddit-style application as well as two automation test suites for these specific services. These microservices allow for voting and posting back-end functionality on the site.

Github repository: https://github.com/tpham523/CPSC_449_Project_1

Run Guide

Installations required:

- pip3 install flask
- sudo apt install --yes gunicorn3

Creating instances:

1. Generating 2 instances of foreman in the terminal:
   foreman start -m post=3,vote=3
2. Open a separate terminal and run the following:
   ulimit -n 8192 && caddy
3. Open localhost:2015/posts or localhost:2015/votes on a browser.

API uses:

1. Create a sample post:
   curl -i -X POST -H 'Content-Type:application/json' -d '{"title":"Post Title", "description":"Post description!", "username":"user", "community_name":"cheesecake"}' http://localhost:2015/posts/create

2. Create a sample vote:
   curl -i -X POST -H "Content-Type: application/json" -d '{"vote_id":"0"}' http://localhost:2015/votes/upvotes

3. Remove a post:
   curl -i -X DELETE http://localhost:2015/posts/delete?post_id=2

4. Add a downvote to a post:
   curl -i -X POST -H "Content-Type: application/json" -d '{"vote_id":"0"}' http://localhost:2015/votes/downvotes

5. Get a post:
   curl -i http://localhost:2015/posts/get?post_id=2

6. Get votes:
   curl -i http://localhost:2015/votes/get?vote_id=0

7. Get most recent posts:
   - Overall:
     curl -i http://localhost:2015/posts/filter?n=2
   - By Community:
     curl -i http://localhost:2015/posts/filter?n=5&community_name=coronavirus

8. Get most popular post:
    - Overall:
      curl -i http://localhost:2015/votes/getTop?n=3
    - Sort posts by popularity:
      curl -i -X POST -H "Content-Type: application/json" -d '{"post_ids":["0","1", "2"]}' http:// localhost:2015/getList

Function Testing

1. Install tavern:
   pip3 install tavern[pytest]

2. Install configobj:
   pip3 install configobj

3. Run to test:
   py.test

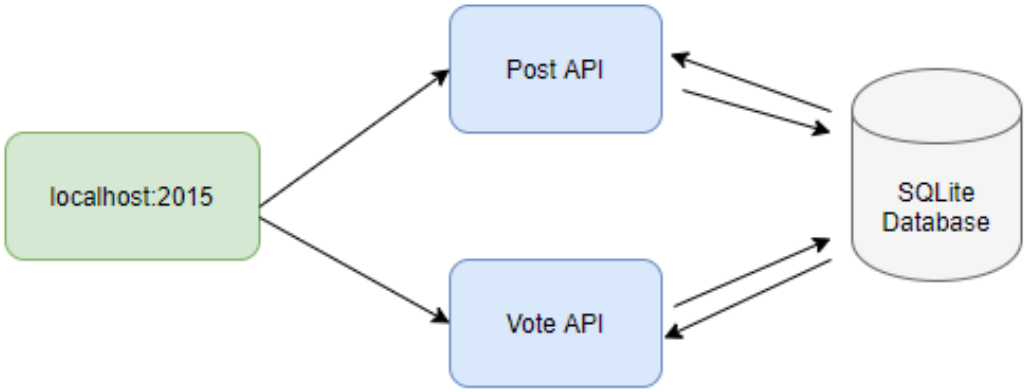
Load Testing

1. Install faker:
   pip3 install faker

2. Install locustio:
   pip3 install locustio

3. Run to demonstrate 500 simultaneous users, adding 20 users per second.
   locust -f tests/loadTest.py --host=http://localhost:2015 --no-web -c 500 -r 20

Architecture



SQL Schema

Hosts

Env	Role	Hostname
Test	Post	localhost:2015/posts
	Vote	localhost:2015/votes
	Database	localhost:2015
Production	Post	localhost:2015/posts
	Vote	localhost:2015/votes
	Database	localhost:2015

Network

Service	Port	Protocol
Post	2015	TCP - HTTP
Vote	2015	TCP - HTTP
Database	2015	TCP - SQLite

Directory Locations

Service	Configuration	Logs	Data
Post	/posts	n/a	n/a
Vote	/votes	n/a	n/a
Database	/data.sql	n/a	/data.db

Monitoring

Host	Item	Severity	Resolution
Application	post	SEV1	Restart process
	vote	SEV2	Restart process
Database	data	SEV1	Restart process