CPSC 449 WEB BACK-END ENGINEERING

PROJECT 5- FALL 2020

Project by:

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Project Description:

This is a web back-end project in which two microservices are created:

1. Users

2. Timeline

These microservices are created for a microblogging service. This project has used Python Flak, SQLite3 Database. The User microservice includes creating user, authenticating user, add followers, remove followers. Timeline microservice posts a post on timeline, Displays post of the user, Displays post of all the followers user follows, Displays post of the all the users.

Steps to run the project:

To run this project on Tuffix OS-

1. Install python 3

$ sudo apt-get install python3.8

1. Install pip

$ sudo apt install python3-pip

1. Install Flak API and pugsql

$ sudo apt update

$ python3 -m pip install Flask-API pugsql

1. Install Foreman and HTTPie

$ sudo apt install –yes ruby-foreman httpie

1. Clone the GitHub repository

<https://github.com/ankitakulkarnigit/MicrobloggingService>

1. Configure AWS CLI

$ sudo apt update

$ sudo apt install –yes awscli

$aws configure

AWS Access Key ID [None]: fakeMyKeyId

AWS Secret Access Key [None]: fakeSecretAccessKey

Default region name [None]: us-west-2

Default output format [None]: table

1. Install Boto3

$ sudo apt install –yes python3-boto3

1. Adding the DynamoDB Flask extension

$ python3 -m pip install –user flask-dynamo

(not required. You may use Boto 3 libraray from Flask service)

1. Configure Flask-Dynamo for DynamoDB Local

DYNAMO\_ENABLE\_LOCAL=True

DYNAMO\_LOCAL\_HOST=localhost

DYNAMO\_LOCAL\_PORT=8000

1. cd to MicrobloggingService dir and run following commands:

$ flask init

$ foreman start

After this we can see the two applications running on different ports.

APIs can now be tested using the curl commands mentioned below or in app.py.

1) User

* + 1. Create a new user:

$ curl -i -X POST -H 'Content-Type:application/json' -d '{"usernameAPI":"newuser", "emailAPI":"newuser@gmail.com", "passwordAPI":"newuser@123"}' <http://localhost:5000/createUser>;

* + 1. Authenticate an existing post:

$ curl -i -X GET -H 'Content-Type:application/json' -d '{"usernameAPI":"ankita", "passwordAPI":"ankita@123"}' <http://localhost:5000/authenticateUser>;

* + 1. Follow an existing user:

$ curl -i -X POST -H 'Content-Type:application/json' -d '{"usernameAPI":"om", "usernameFollowingAPI":"ankita"}' <http://localhost:5000/addFollower>;

* + 1. Remove an existing follower:

$ curl -i -X DELETE -H 'Content-Type:application/json' -d '{"usernameAPI":"om", "usernameFollowingAPI":"ankita"}' <http://localhost:5000/removeFollower>;

2) Timeline

* + 1. Get user timeline:

$ curl -i -X GET -H 'Content-Type:application/json' -d '{"usernameAPI":"ankita"}' <http://localhost:5100/getUserTimeline>;

* + 1. Get public timeine:

$ curl -i -X GET <http://localhost:5100/getPublicTimeline>;

* + 1. Get a home timeline:

$ curl -i -X GET -H 'Content-Type:application/json' -d '{"usernameAPI":"ankita"}' <http://localhost:5100/getHomeTimeline>;

* + 1. Post a tweet:

$ curl -i -X POST -H 'Content-Type:application/json' -d '{"usernameAPI":"ankita", "tweetAPI":"This is an example post"}' <http://localhost:5100/postTweet>;

3) Direct Message

* + 1. Send Direct message:

$ curl -i -X POST -H 'Content-Type:application/json' –

d '{"to":"ankita", "from":"aditi", "message":"How are you?"}' <http://localhost:5200/sendMessage>;

* + 1. Reply to Direct message:

$ curl -i -X POST -H 'Content-Type:application/json' –

d '{"messageId":"00bf7f51-4636-4008-80fe-f65d925c17ab", "reply":"I am fine"}' <http://localhost:5200/reply>;

* + 1. List Direct Message for user:

$ curl -i -X GET -H 'Content-Type:application/json' -d '{"username":"Rick"}' <http://localhost:5200/list/messages>;

* + 1. List Replies to message id:

$ curl -i -X GET -H 'Content-Type:application/json' -d '{"messageId":"9d529dd4-548b-4258-aa8e-23e34dc8d48i"}' <http://localhost:5200/list/replies>;