SWE523 PROJECT STUDY 5 (2024)

Due date: 27 Dec 2024, class time.

In this study you will develop a micro-service architecture for your project. At least 3 Rest-API services will be provided in your implementation, you can name your services properly (see Figure 1). You are supposed to implement the following steps:

- Create Dockerfile and docker-compose.yaml in your local computer along with your project. These will generate containerized app and organize the containers interactions.
- After completing coding and testing of your project in local computer, obtain a jar file and containerized services using proper dockerfiles.
- Push your dockerized app (docker image) to the DockerHub.
- Create an EC2 instance on the AWS with minimum settings and Linux OS.
- Install Docker tools on EC2.
- Ftp the docker-compose.yaml file to the EC2 instance.
- Start up first the separated databases using a compose file by fetching from docker-hub as shown in the class.
- Run docker-compose command with your “docker-compose.yaml” file to start your micro-services up.
- Observe that required service images are pulled form the hub and starts up correctly.
- Install Nginx and configure it so the external port 80 will be forwarded to proper services.
- Show that your application is accessible from remote browser or postman, and everything works properly.

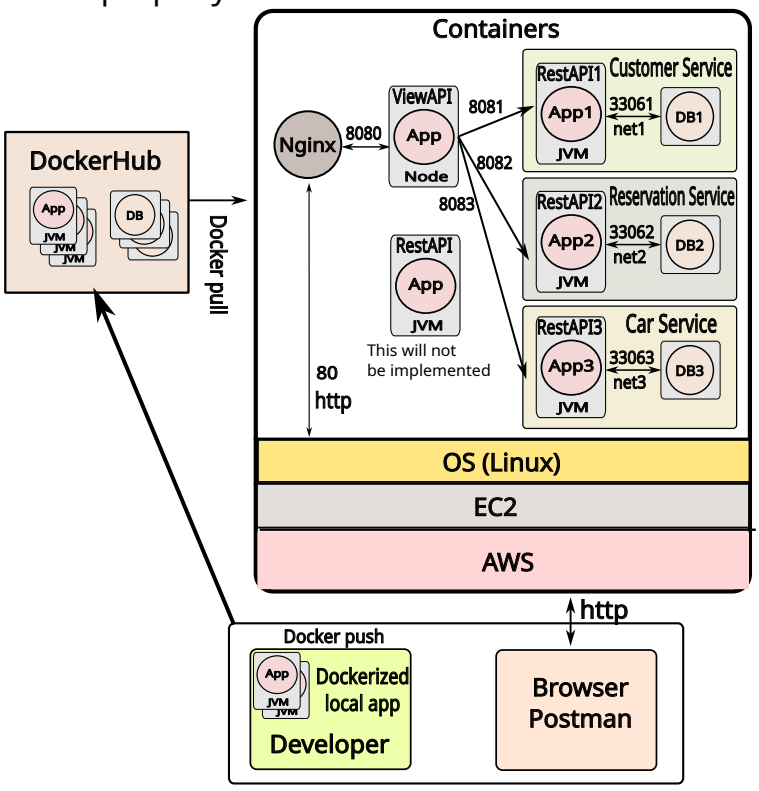

Figure 1. Micro-service structure of the project.

Grading:

No	Task	Grade
1	Project docker image is created locally.	20
2	Local image is pushed to the DockerHub.	10
3	Project and the other required images pulled from DockerHub to EC2.	20
4	Required software is installed and configured properly on the EC2.	20
5	Project is published correctly.	20
6	Everything works as described with no error, exceptions handled properly.	10

PS: Student must show up for presentation to collect points.