IAS Project

TEAM REPORT

Deployment Manager and Monitoring Service

Submitted By :
Dharmesh Gusai
Smit Khanapara

Contents

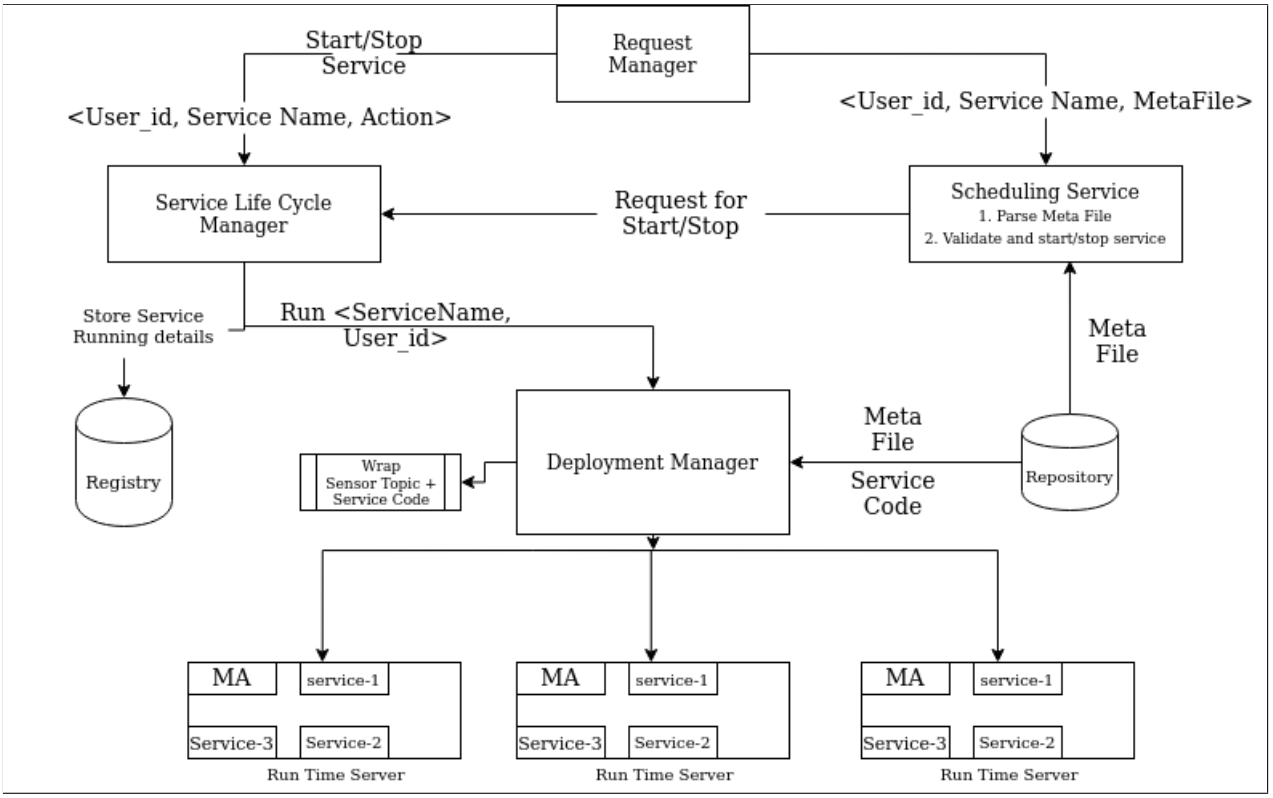
1 Introduction

- Deployment Manager is responsible for deployment of an algorithm on machine. Monitoring Service is Resposible for fetching cpu stats of each machine and store it.

- So ,There are two sub-parts of the Module.
  1) Deploymeny Manager
  2) Monitoring Service

2 Deployment Manager

- Task of Deployment Manager is to deploy all kind of user service.
- Overview of each sub module and their interaction

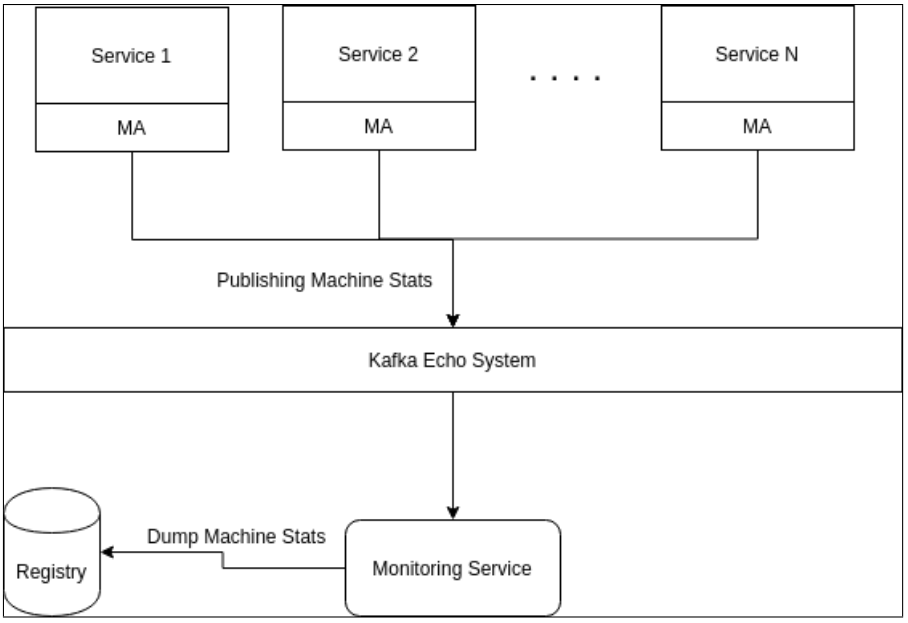


- Input Format: $\langle ServiceId, PathtoServiceRootDir \rangle$

- Output Format: Deployment status to Service Life Cycle Manager
- Steps Followed by Deployment Manager
  - Deployment Manager will get request having details of machine and service name to be deployed on given machine from Service Life Cycle Manager.
  - Deployment manager will fetch Service code, Meta file from Repository. It will parse Meta file.
  - Using gathered information it will create docker file and run it on container in given machine. This file is responsible for creating run time environment for service to be deployed.
  - After executing this file on machine, It will run Machine Agent code on machine.
  - Using meta file it will get sensor details required by User service and send it to sensor manager. Sensor manager will return topics for reading data from sensors.
  - Now by service code and sensor topics deployment manager will run user service on machine and send status of deployment to service life cycle manager.

3 Monitoring Service

Monitoring Service is responsible for continuously fetching cpu information like RAM, cpu load etc. details from each machine within system and store it in Repository which is in Mongodb form. In each machine machine agent is running, which is keep sending cpu status to monitoring service vai kafka.



4 Technology used

- MongoDB : For Database Registry

- Kafka : For communication among Scheduler, Deployer, Heart Beat Manager and Node manager
- Docker : For creating container and run each service in once container