Current Trends in Software Engineering
IT4010

Group: 2022-REG_31

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ABC Company – Product Microservice

ABC Company sells a range of exclusive products across Sri Lanka online. In this existing system, my component is managing products. In this component, there are four main functionalities.

1. Add Products
2. View Products (Single by Id or All)
3. Update Product Information
4. Delete Product

Product microservice is an independent microservice that runs on the docker container. MongoDB is the database used in this microservice and it works on a separate MongoDB Atlas database. Finally, this microservice is connected to a CI/CD pipeline which works real time with the changes of the master branch of product service.

Task 1

Docker Hub Link: https://hub.docker.com/r/sandun01/it19362854_api

Docker Pull Command: docker pull sandun01/it19362854_api

```
FROM node:14-alpine

WORKDIR /usr/src/app

COPY package*.json ./

RUN npm ci

COPY . .

EXPOSE 5000

CMD ["npm", "run", "dev"]
```

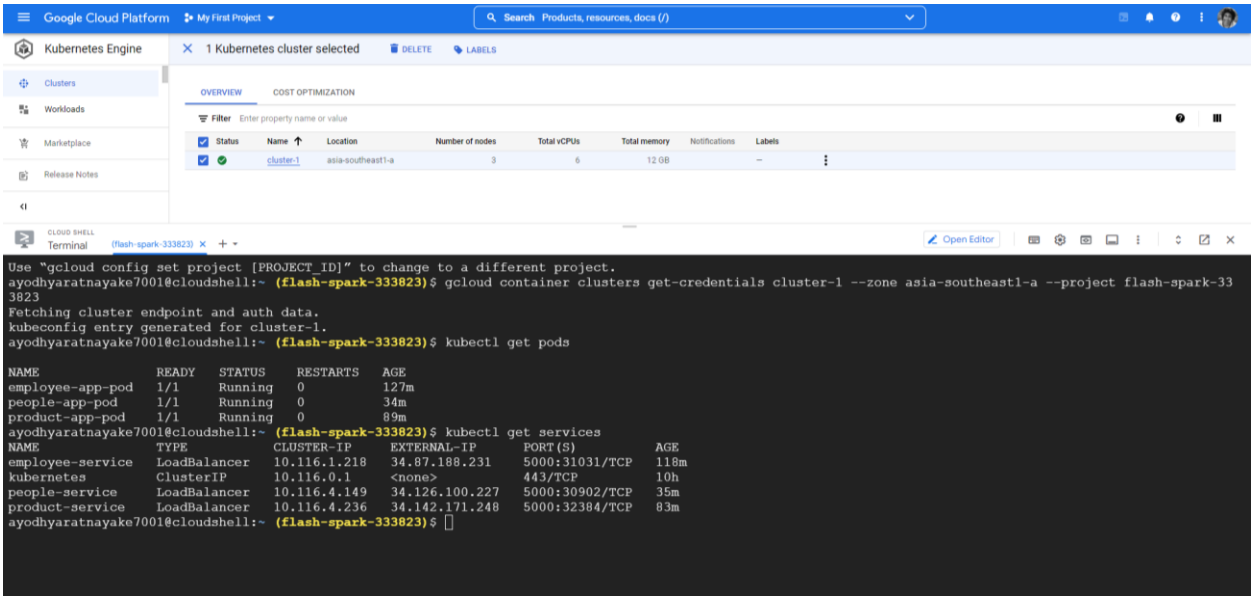
Task 2

product_pod.yml

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: product-app-pod
  labels:
    name: product-app-pod
    app: demo-abc-app

spec:
  containers:
    - name: product-app
      image: sandun01/it19362854_api
      ports:
        - containerPort: 5000
```

product_service.yml

```yaml
apiVersion: v1
kind: Service
metadata:
  name: product-service
  labels:
    name: product-service
    app: demo-abc-app

spec:
  type: LoadBalancer
  ports:
    - port: 5000
      targetPort: 5000
  selector:
    name: product-app-pod
    app: demo-abc-app
```



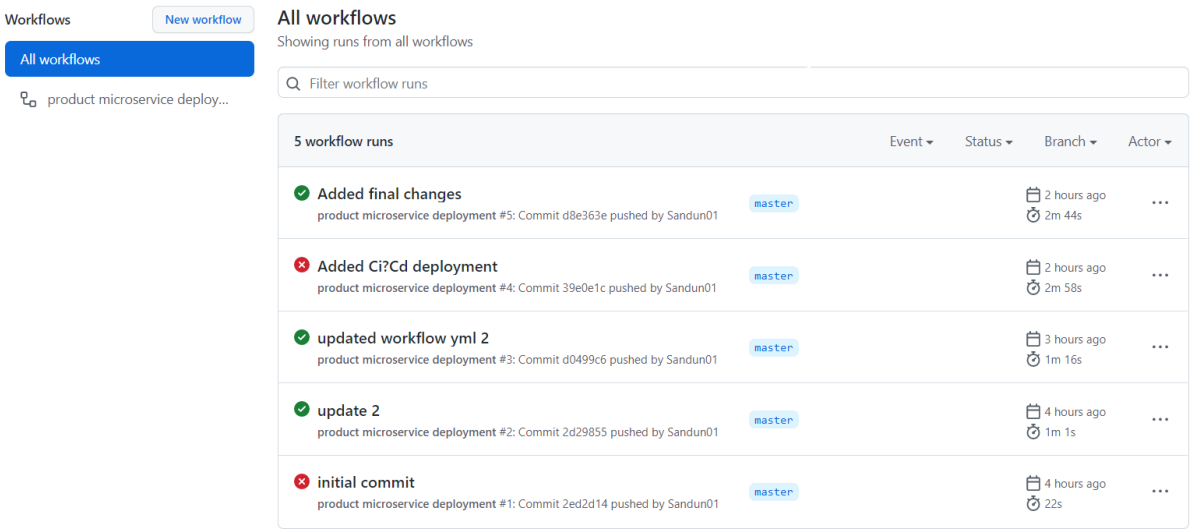
Task 3

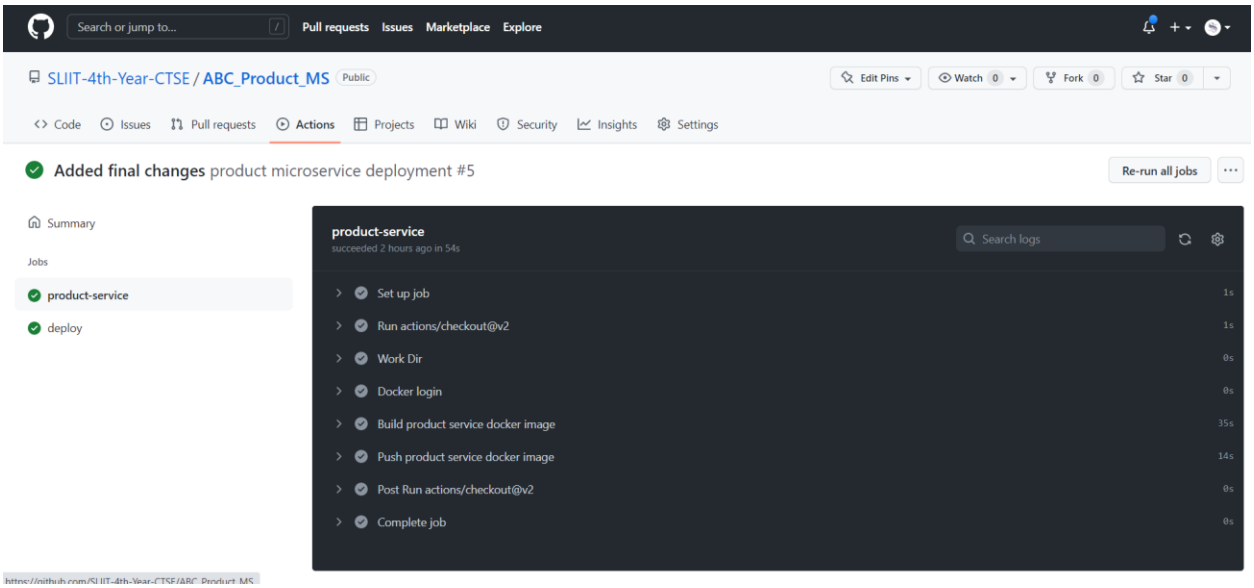
Github Action Yml

```yaml
name: product microservice deployment

on:
  push:
    branches: [ master ]
  workflow_dispatch:

env:
  DOCKER_USER_NAME: ${{secrets.DOCKER_USER_NAME}}
  DOCKER_TOKEN: ${{secrets.DOCKER_TOKEN}}
  PRODUCT_REPO_NAME: ${{secrets.PRODUCT_REPO_NAME}}

jobs:
  product-service:
    runs-on: ubuntu-latest
    steps:
    - uses: actions/checkout@v2
    - name: Work Dir
      run: |
        echo $DOCKER_USER_NAME
        echo $DOCKER_TOKEN
        echo $PRODUCT_REPO_NAME
    - name: Docker login
      run: |
        docker login -u $DOCKER_USER_NAME -p $DOCKER_TOKEN
```

```
    - name: Build product service docker image
      run: docker build . --file Dockerfile -t
"$DOCKER_USER_NAME/$PRODUCT_REPO_NAME:latest"
    - name: Push product service docker image
      run: docker push "$DOCKER_USER_NAME/$PRODUCT_REPO_NAME:latest"

  deploy:
    needs: [product-service]
    runs-on: ubuntu-latest
    steps:
    - uses: actions/checkout@master
    - name: kubectl - Google Cloud GKE cluster.
      uses: ameydev/gke-kubectl-action@master
      env:
        PROJECT_ID: ${{ secrets.PROJECT_ID }}
        APPLICATION_CREDENTIALS: ${{ secrets.GOOGLE_APPLICATION_CREDENTIALS }}
        CLUSTER_NAME: ${{ secrets.CLUSTER_NAME }}
        ZONE_NAME: asia-southeast1-a
      with:
        args: apply -f deployment/
```

Logs




Search or jump to...
Pull requests
Issues
Marketplace
Explore
SLIIT-4th-Year-CTSE / ABC_Product_MS
Public
Edit Pins
Watch 0
Fork 0
Star 0
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Added final changes product microservice deployment #5
Re-run all jobs
Summary
Jobs
product-service
deploy
product-service
succeeded 2 hours ago in 54s
Search logs
Set up job 1s
Run actions/checkout@v2 1s
Work Dir 0s
Docker login 0s
Build product service docker image 35s
Push product service docker image 14s
Post Run actions/checkout@v2 0s
Complete job 0s