DevOps Home Assignment
Dig Security

Overview

Please invest in this task not more than 3-4 Hours.

In this task, you will be required to simulate an E2E DevOps process for an existing application.

1. Create a K8s cluster
2. Clone the next Github repository:
   https://github.com/norahsakal/flask-pytorch-backend/tree/master
3. Containerize the app services (Dockerfiles for Frontend and Backend)
4. Deploy local private registry (ECR or Dockerhub)
5. Build a CI/CD to automate the process
6. Create an IAAC template for the architecture.

Task details

1. **K8s cluster**
   a. Create a Kubernetes cluster with your preferred method (all-in-one, minikube, 1master-1Worker) To hold the application services
   b. Create a YAML for each of the application services
      Each service needs to have:
      - **Basic CPU HPA**

      For the FrontEnd service only, include a load balancer
   c. Mount a Postgres DB data path as a persistent volume
   d. Deploy metrics monitoring solution (Optional)

2. **Private registry**

   Create a local private registry for the the app services containers with your preferred methodology, and make sure that all images will persist after restart

3. **CI/CD**

   Build a CI/CD process with your preferred technology (Github Actions,Jenkins server, CircleCI, etc)
   The process needs to do:
   1. Build each container service
   2. Deploy each image to the private registry
   3. Update the K8s cluster with new containers services

4. **IAAC**

Create a configuration of Terraform files that deploy the whole app service and infrastructure

Task registration

Please provide a link to your GitHub (or any other git platform) that holds your solution.

You must include:

- All YAML files/Dockerfiles
- README file with your comments explanations, etc
- Diagrams (if needed)
- In case you do the bonus - include the tf files also