Kubernetes Lab

Base repository - https://github.com/code100x/algorithmic-arena/

Things to do -

1. Create a PV, PVC for the postgres database.

2. Create a PV, PVC for redis.

3. Create deployments for redis, postgres.

4. Create ClusterIP services for redis, postgres

5. Create a deployment for the nextjs app, expose it via a loadbalancer service on ‣

6. Create a deployment for the judge api server. Expose it via a ClusterIP service

7. Create a deployment for the judge workers. Add resource limits and requests to it

8. Create a HPA that scales based on the pending submission queue length in the redis queue

   1. You can either expose an endpoint that you use as a custom metric

   2. You can put all metrics in prometheus and pick them up from there

   3. You can use KEDA to scale based on redis queue length