

Platform Challenge: setting up a cloud based cluster

The main goal of the technical challenge is to Set-up a Kubernetes (K8s) using an Infrastructure as Code approach, in particular:

- As cloud provider, use Google Cloud or Amazon Web Services (AWS)
- Use the Cloud hosted flavor of K8s, EX: EKS (Elastic Kubernetes Service)
- Terraform should be the tool driving the entire configuration.
- Make sure that cluster is not publicly available
- Provision a way to access the cluster
- Provision a load balancer and configure it to distribute traffic to the Kubernetes nodes
- Provision a MySQL database and automate the backup and restore of the database
- Deploy the following application to the previously created cluster:
<https://hub.docker.com/r/swordhealth/node-example> and create the following cloud resources for it:
 - MySQL Database
 - This application should be able to access two buckets, in one bucket should only be able to list and get and in the other bucket should be able to write
 - This application should be able to consume from a queue (SQS if you choose AWS or PubSub if you choose Google Cloud)
 - **Bonus:** Using the Kubernetes API, the application should be able to list all the pods running inside the kube-system namespace
- Deny access to this application from any other pod running inside the cluster

NOTES:

- All configuration made in this challenge should be flexible and reusable to enable the creation of different environments (staging, pre-prod, prod, etc).
- The application running in docker image we are providing doesn't require any of the resources specified. The goal with those resources is to only create them as a code

Regarding additional requirements related to the delivery:

- You are free to choose how terraform state is persisted and how planning and execution should be done (Github and/or Terraform Cloud, etc)
- Share instructions on how to access and execute your solution for creating the cluster.
- **Bonus:** if you have the cluster up and running, it would be ideal to be able to access it too.