**Assignment Details and Instructions**

Hi Jared,

Hope you had a good weekend. I have completed the assignment given by you. Please find all details in this document. Please verify and let me know if you see any details missing. Please let me know your feedback on this. Thanks

Regards,

Amol Bhatia

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**System requirements**

Setup a web service to serve the REST api of the goa Cellar example application hosted here:

<https://github.com/goadesign/goa-cellar>

**Solution artifacts**

1. Create a github repository for storing your solution artifacts.
2. Copy the codebase for the goa-cellar application into your github repository.
3. Edit the goa-cellar code for the server to listen on port 5000 instead of the current port.
4. Create a Dockerfile that will compile and run your goa-cellar application.
5. Create a Kubernetes Helm chart to deploy the application in Kubernetes. This should include at a minimum a values.yaml file for any deployment parameters, a deployment.yaml file for the Kubernetes deployment and a service.yaml file for the Kubernetes service.
6. Add the Dockerfile and Helm chart to your github repository with instructions on how to build the Dockerfile, how to deploy the Helm chart, and where to access the service once it is running.

**Solution Details** (Numberings below are in sync with point numbers mentioned above for assignment.):

1. Github repo created:
   1. <https://github.com/BlueMaverick/EPAMassignment>
   2. Clone url : <https://github.com/BlueMaverick/EPAMassignment.git>
2. Done. Code is copied and pushed to githum /BlueMaverick/EPAMassignment master branch.
3. Done. Port updated as 5000 in main.go file. It can also be verified in startup logs of the container. Link:
   1. <https://github.com/BlueMaverick/EPAMassignment/blob/master/main.go>
4. Done. Dockerfile created and added in repo.
   1. <https://github.com/BlueMaverick/EPAMassignment/blob/master/Dockerfile>
5. Done. Helm charts are uploaded in repo also. Links:
   1. https://github.com/BlueMaverick/EPAMassignment/tree/master/helm%20charts/goa-cellar
6. Github repository is updated with Solution artifacts. Please follow below mentioned instructions to run the code using docker and helm.

Instructions:

1. Clone my guthub repo (master branch) in your local:
   1. <https://github.com/BlueMaverick/EPAMassignment.git>
2. Go to local directory where guthub repo is cloned.
3. Create image from Dockerfile that will compile and run your goa-cellar application:
   1. docker build -t goa-cellar-amol .
4. once image is created, verify the image is present:
   1. docker images
5. login into docker hub:
   1. docker login -u username -p password
6. Tag docker image to central repository:
   1. docker tag << IMAGE ID>> devopsmaverick/goa-cellar-amol:v1
7. push the image to docker hub
   1. docker push devopsmaverick/goa-cellar-amol
8. Initiate helm
   1. helm init
9. Create a new helm chart
   1. helm create goa-cellar
10. Update all of three yamls files in the new chart with yaml provided by me in github repo. Location shared above. Update namespace with namespace of your K8S cluster.
11. Deploy the charts:
    1. helm install --name goa-cellar-amol ./goa-cellar
12. Verify if service & pod is correctly created on Kubernetes and are up and running.
13. Application is available now and can be tested by hitting these urls.
    1. <K8S master>>:<<service Nodeport>>/cellar/accounts/1/bottles
    2. <K8S master>>:<<service Nodeport>>/ui