**Description about some change:**

Because I couldn't run PostgreSQL and web application with one helm chart I use two helm charts.  
the first is related to the official chart of PostgreSQL and I run it with these parameters:  
  
helm install paxful-task \  
  --set global.postgresql.postgresqlDatabase="paxfuldb",global.postgresql.postgresqlUsername="reza",global.postgresql.postgresqlPassword="reza\_pass",nameOverride="paxful-db",fullnameOverride="paxful-db-chart",serviceAccount.name="negetive",replication.enabled="true",replication.user="repl\_reza",replication.password="repl\_reza\_pass",replication.readReplicas="1",persistence.enabled="false"\  
    bitnami/postgresql  
  
For the web application, I create a docker image (paxful-app) and put it on the Kubernetes server. then I create a simple chart with these steps:  
1. helm create reza  
2. edit reza/values.yaml  
    image:  
    repository: paxful-app  
    pullPolicy: IfNotPresent  
    tag: "latest"  
  
    imagePullSecrets: []  
    nameOverride: "paxful-app"  
    fullnameOverride: "paxful-app-chart"  
  
3. helm install paxful-app-chart reza/ --values reza/values.yaml  
  
Because of my lack of experience in writing a python web application, the section of adding IP address into PostgreSQL has some problems that I couldn't solve.

I put tow helm charts in GitHub.

**PostgreSQL:**

At first step I install PostgreSQL using this helm chart whit these specifications:

helm install paxful-task \

  --set global.postgresql.postgresqlDatabase="paxfuldb",global.postgresql.postgresqlUsername="reza",global.postgresql.postgresqlPassword="reza\_pass",nameOverride="paxful-db",fullnameOverride="paxful-db-chart",serviceAccount.name="negetive",replication.enabled="true",replication.user="repl\_reza",replication.password="repl\_reza\_pass",replication.readReplicas="1",persistence.enabled="false"\

    bitnami/postgresql

as you can see the database will create with these settings:

database name: paxfuldb

username: reza

user password: reza\_pass

also based on the task this command will create one replica for database.

**Web application:**

After creation of database, I write python web application in flask framework that I attached the codes in email.

When I complete the application, I create Dockerfile and docker image then I put it in my Kubernetes cluster and I create simple helm chart for installing the application.

**Dockerfile:**

# python runtime

FROM python:3.6

# working directory and set ENV

RUN mkdir /app

WORKDIR /app

ENV FLASK\_APP=paxful.py

# copy current directory into the container

ADD . /app

# install requirements

RUN pip3.6 install -r requirements.txt

# make port 5000 available to the world outside

EXPOSE 5000

#CMD ["flask run --host=0.0.0.0"]

ENTRYPOINT [ "python3.6" ]

CMD [ "paxful.py" ]

**Helm Chart:**

1. helm create reza

2. edite values.yaml

image:

repository: paxful-app

pullPolicy: IfNotPresent

tag: "latest"

imagePullSecrets: []

nameOverride: "paxful-app"

fullnameOverride: "paxful-app-chart"

3. helm install paxful-app-chart reza/ --values reza/values.yaml

I attached all files that I work on them.