Task 3 - Robert Zacchia

Setup

Since I had Probems with my own application, I used the BookInfo example application from
https://github.com/digitalocean/kubernetes-sample-apps for this task.

grafana pw (lxJvuAow6RmkI1adET7le4L7UUCWnW9dw34eEK7R)

```
# start cluster resources
minikube start --cpus=4 --memory=12g --profile=bookinfo

# install helm image
helm install prometheus prometheus-community/kube-prometheus-stack

# get grafana pw
kubectl --namespace default get secrets prometheus-grafana -o jsonpath="
{.data.admin-password}" | base64 -d ; echo

#forward grafana port
export POD_NAME=$(kubectl --namespace default get pod -l
"app.kubernetes.io/name=grafana,app.kubernetes.io/instance=prometheus" -
oname)
kubectl --namespace default port-forward $POD_NAME 3000 &

# start app and forward ports
kubectl apply -f bookinfo-example/kustomize/kustomization.yaml
kubectl port-forward service/productpage -n default 9080:9080

# check resources
kubectl get all

NAME                                                           READY    STATUS
RESTARTS    AGE
pod/alertmanager-prometheus-kube-prometheus-alertmanager-0    2/2
Running   0         18m
pod/details-v1-66b77d8df4-vdcwf                               1/1
Running   0         2m40s
pod/productpage-v1-69f869f7c6-kxpv7                           1/1
Running   0         2m40s
pod/prometheus-grafana-6f8bc9b4d7-j6rpw                       3/3
Running   0         18m
pod/prometheus-kube-prometheus-operator-787c69dfc5-lx4zc      1/1
Running   0         18m
pod/prometheus-kube-state-metrics-7bbd865dd5-lwblm            1/1
Running   0         18m
pod/prometheus-prometheus-kube-prometheus-prometheus-0        2/2
Running   0         18m
pod/prometheus-prometheus-node-exporter-2tjp8                 1/1
Running   0         18m
```

```
pod/ratings-v1-bc9cd4966-fwqpp                              1/1
Running   0        2m40s
pod/reviews-v1-7c7d7876b4-2695x                             1/1
Running   0        2m40s
pod/reviews-v2-866544874-s66mj                              1/1
Running   0        2m40s
pod/reviews-v3-b747f7876-ll8sd                              1/1
Running   0        2m40s
```

```
NAME                                            TYPE        CLUSTER-IP
EXTERNAL-IP    PORT(S)                       AGE
service/alertmanager-operated                   ClusterIP   None
<none>        9093/TCP,9094/TCP,9094/UDP    18m
service/details                                 ClusterIP   10.96.35.68
<none>        9080/TCP                      2m41s
service/kubernetes                              ClusterIP   10.96.0.1
<none>        443/TCP                       22m
service/productpage                             ClusterIP   10.99.114.241
<none>        9080/TCP                      2m41s
service/prometheus-grafana                      ClusterIP
10.105.115.148   <none>        80/TCP                      18m
service/prometheus-kube-prometheus-alertmanager ClusterIP
10.100.123.125   <none>        9093/TCP,8080/TCP           18m
service/prometheus-kube-prometheus-operator     ClusterIP   10.106.11.26
<none>        443/TCP                       18m
service/prometheus-kube-prometheus-prometheus   ClusterIP
10.107.143.215   <none>        9090/TCP,8080/TCP           18m
service/prometheus-kube-state-metrics           ClusterIP
10.105.169.185   <none>        8080/TCP                    18m
service/prometheus-operated                     ClusterIP   None
<none>        9090/TCP                      18m
service/prometheus-prometheus-node-exporter     ClusterIP
10.110.156.126   <none>        9100/TCP                    18m
service/ratings                                 ClusterIP   10.104.20.66
<none>        9080/TCP                      2m41s
service/reviews                                 ClusterIP
10.110.229.153   <none>        9080/TCP                    2m41s
```

```
NAME                                            DESIRED   CURRENT
READY   UP-TO-DATE   AVAILABLE   NODE SELECTOR          AGE
daemonset.apps/prometheus-prometheus-node-exporter   1        1          1
1         1            kubernetes.io/os=linux   18m
```

```
NAME                                            READY   UP-TO-DATE
AVAILABLE   AGE
deployment.apps/details-v1                       1/1     1
1         2m41s
deployment.apps/productpage-v1                    1/1     1
1         2m41s
deployment.apps/prometheus-grafana               1/1     1
1         18m
deployment.apps/prometheus-kube-prometheus-operator   1/1     1
1         18m
deployment.apps/prometheus-kube-state-metrics    1/1     1
```

```
1           18m
deployment.apps/ratings-v1                                      1/1      1
1           2m40s
deployment.apps/reviews-v1                                      1/1      1
1           2m40s
deployment.apps/reviews-v2                                      1/1      1
1           2m40s
deployment.apps/reviews-v3                                      1/1      1
1           2m40s

NAME                                                                 DESIRED
CURRENT    READY    AGE
replicaset.apps/details-v1-66b77d8df4                                1
1          1        2m41s
replicaset.apps/productpage-v1-69f869f7c6                            1
1          1        2m41s
replicaset.apps/prometheus-grafana-6f8bc9b4d7                        1
1          1        18m
replicaset.apps/prometheus-kube-prometheus-operator-787c69dfc5       1
1          1        18m
replicaset.apps/prometheus-kube-state-metrics-7bbd865dd5             1
1          1        18m
replicaset.apps/ratings-v1-bc9cd4966                                 1
1          1        2m40s
replicaset.apps/reviews-v1-7c7d7876b4                                1
1          1        2m40s
replicaset.apps/reviews-v2-866544874                                 1
1          1        2m40s
replicaset.apps/reviews-v3-b747f7876                                 1
1          1        2m40s

NAME
READY    AGE
statefulset.apps/alertmanager-prometheus-kube-prometheus-alertmanager    1/1
18m
statefulset.apps/prometheus-prometheus-kube-prometheus-prometheus        1/1
18m
```

Prometheus setup files

```
# apply k8s rule
kubectl apply -f bookinfo-example/kustomize/prometheus-custom-rules.yaml

# update helm image with config file
helm upgrade prometheus prometheus-community/kube-prometheus-stack \
  -n default \
  -f bookinfo-example/kustomize/alertmanager-email.yaml


# forward ports
# Prometheus
```

```
kubectl port-forward svc/prometheus-kube-prometheus-prometheus 9090 -n
default

# Alertmanager
kubectl port-forward svc/prometheus-kube-prometheus-alertmanager 9093 -n
default
```