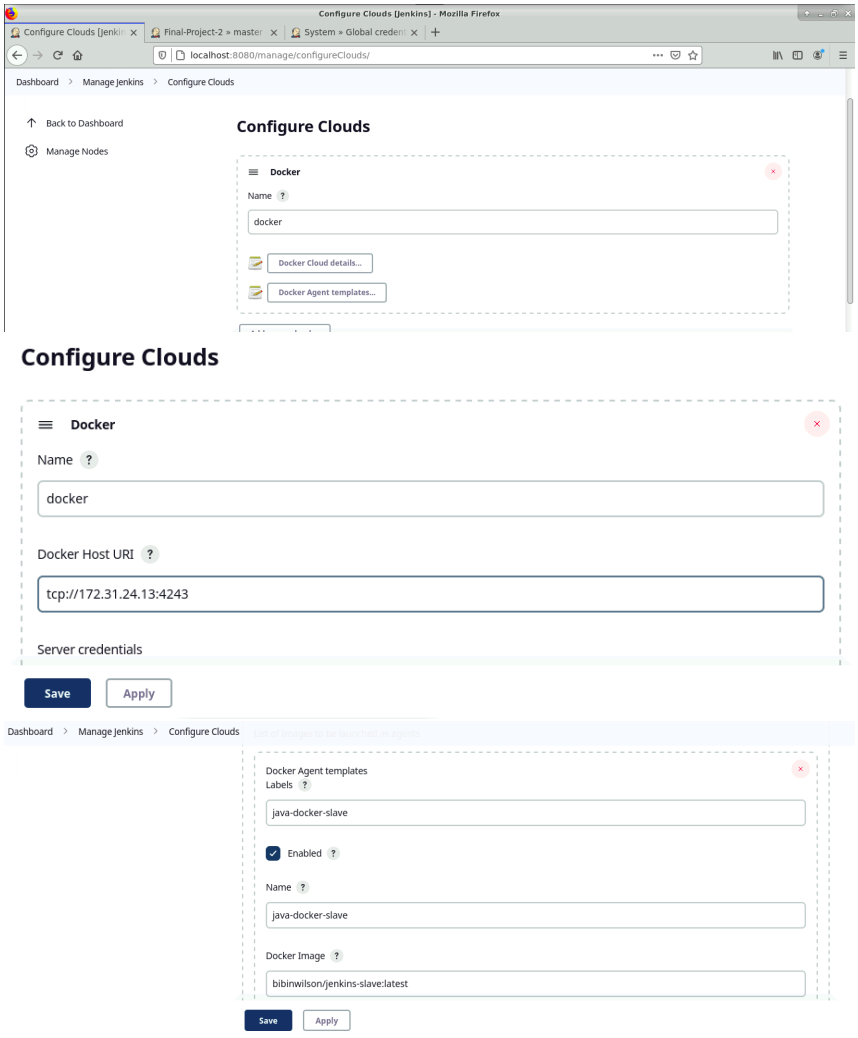
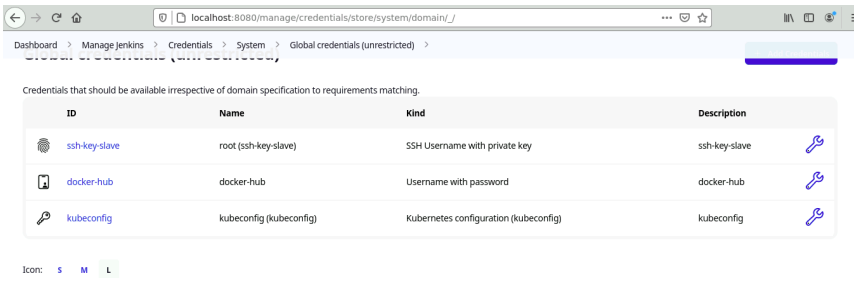
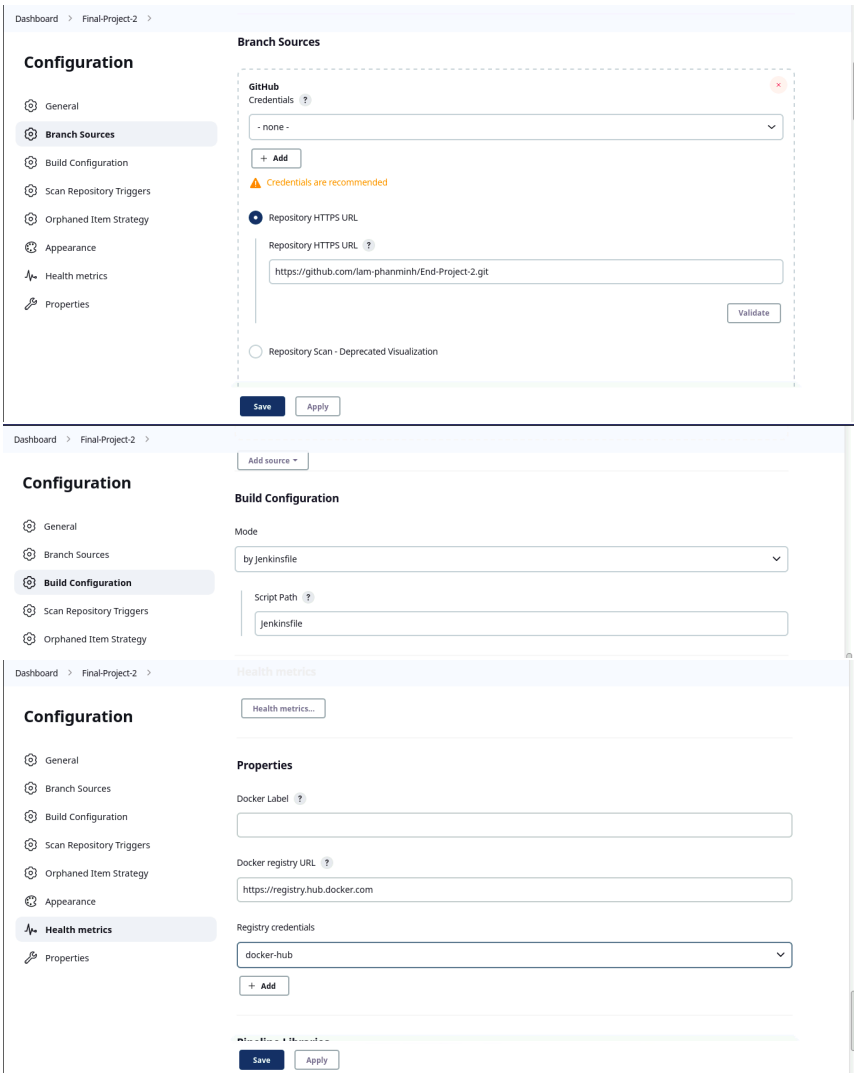
1. Link github repo: https://github.com/lam-phanminh/End-Project-2
2. To run Jenkinsfile. I set up a node docker.

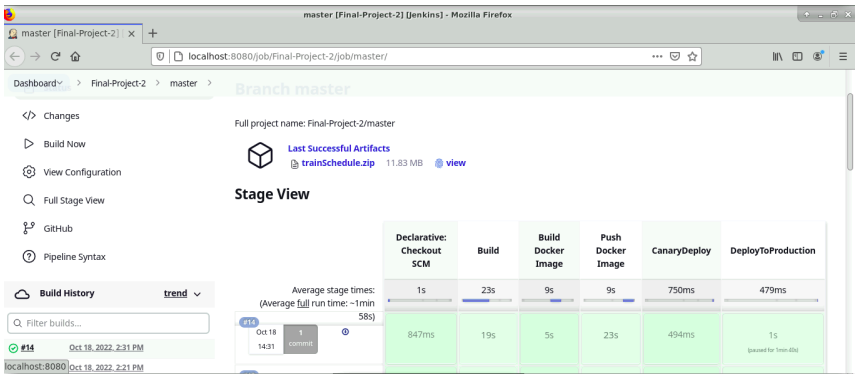


3. Set up credentials:



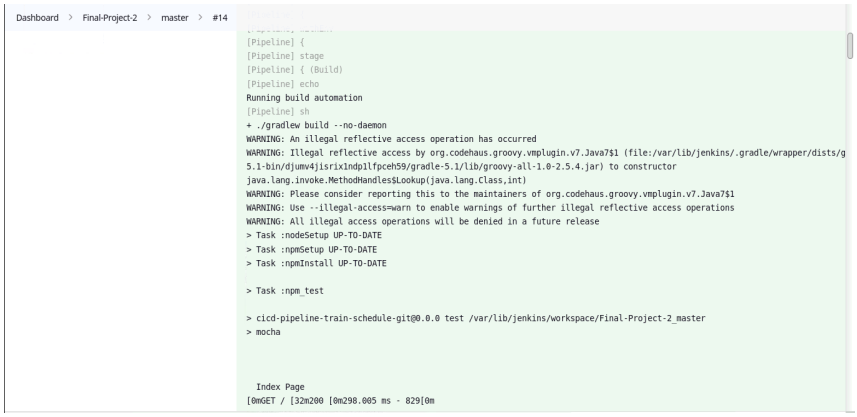
4. Create job multi branch:



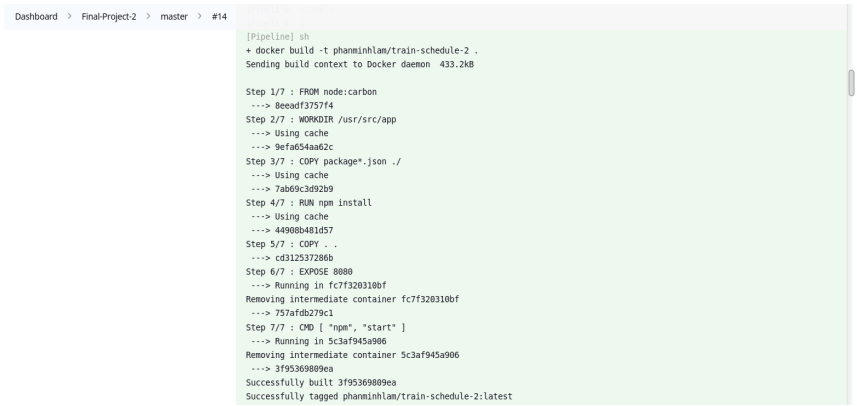


5. Console output:

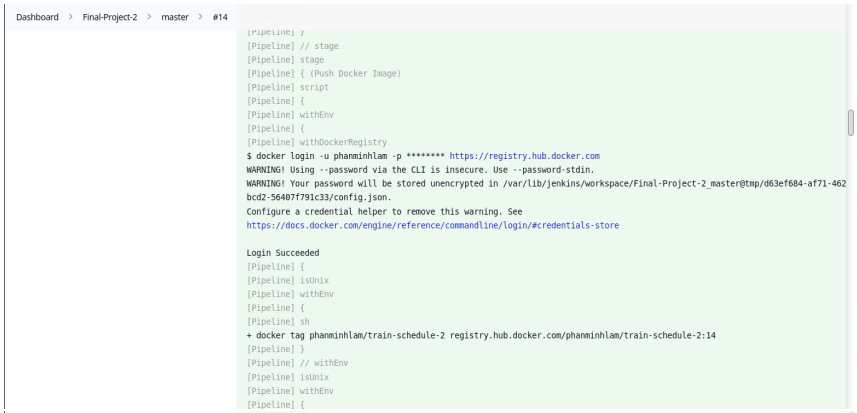
- Stage: `Build`



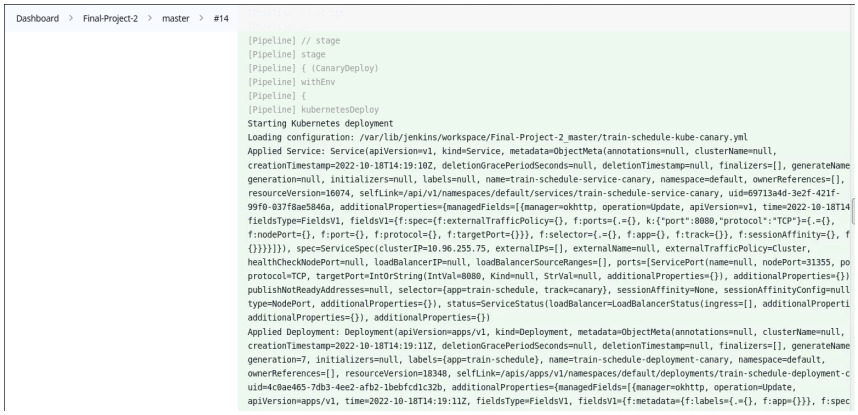
- Stage: `Build Docker Image`

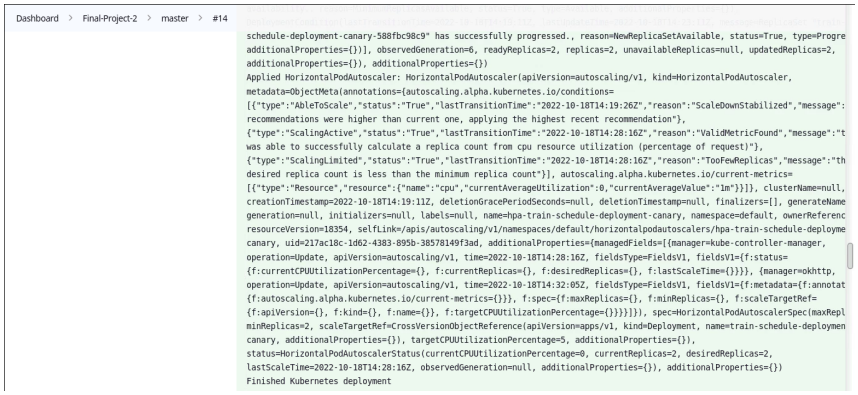


- Stage: `Push Docker Image`

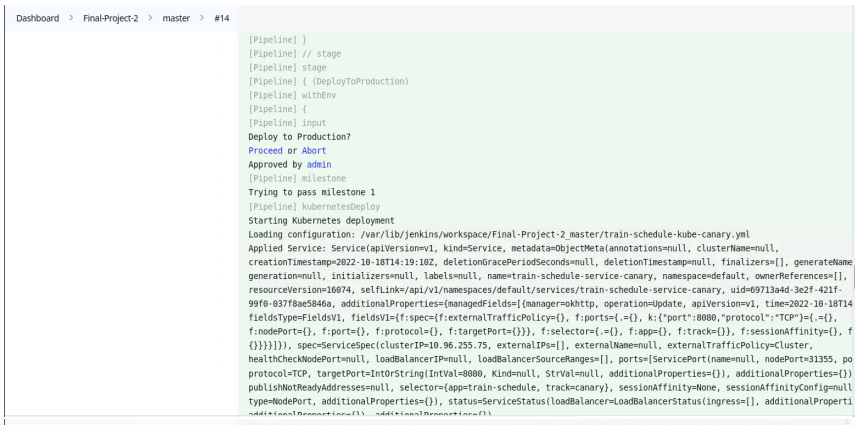


- Stage: `CanaryDeploy`

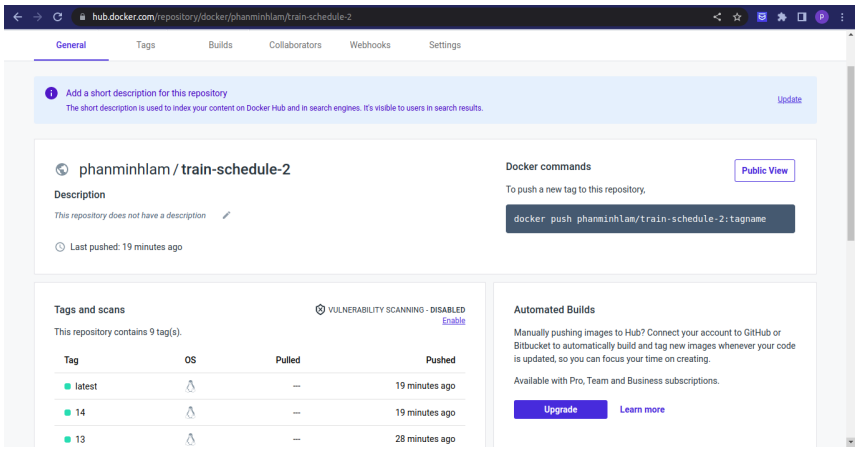




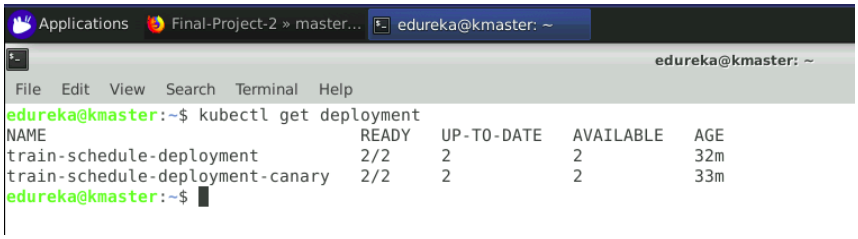
- Stage: `DeployToProduction`



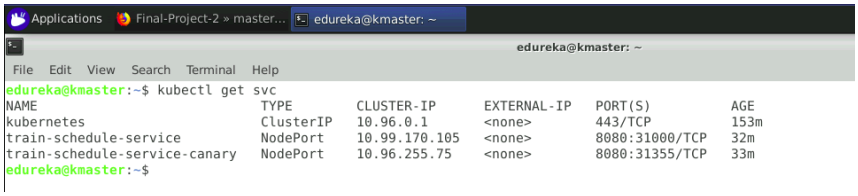
6. Images pushed to dockerhub:



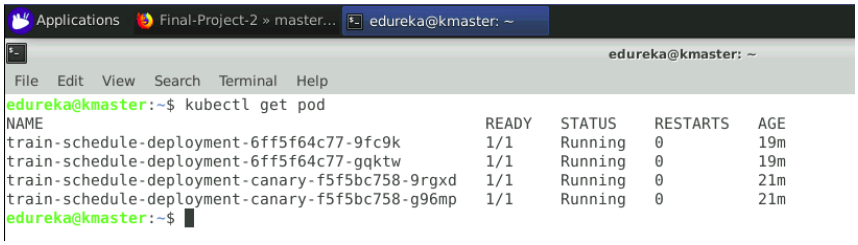
7. Deployments:



8. Services:

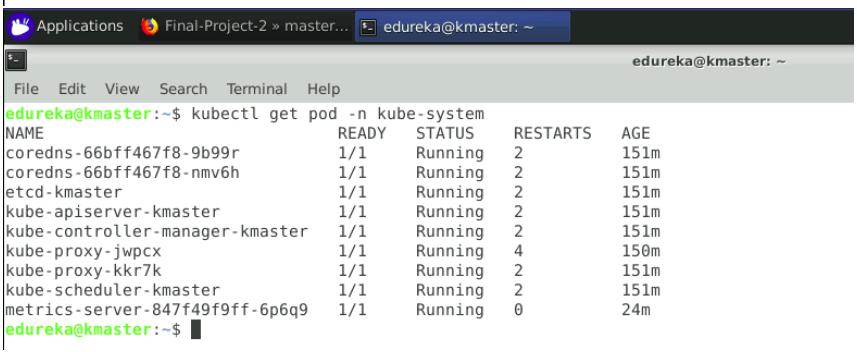


9. Pods:

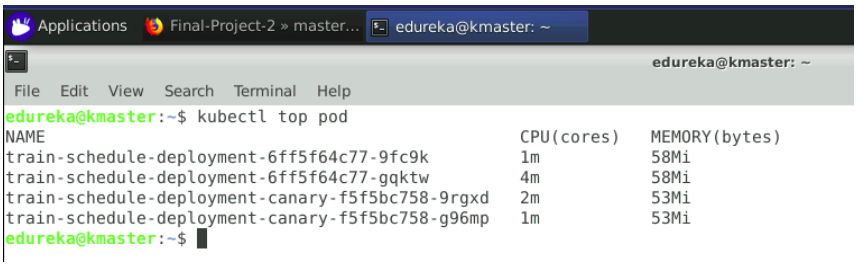


10. Install metric-server: `kubectl apply -f https://github.com/kubernetes-sigs/metrics-server/re`

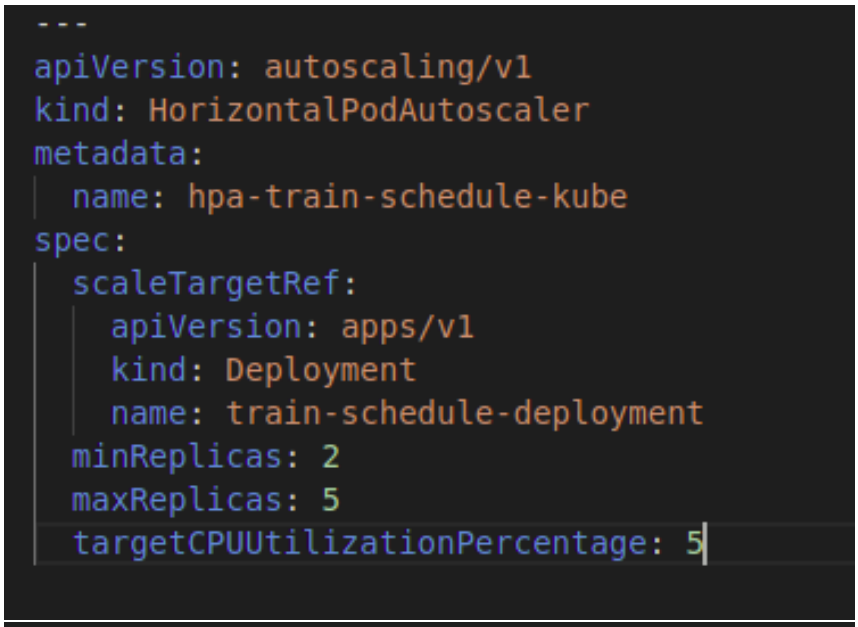
```
edureka@kmaster:~$ kubectl get deployment -n kube-system
NAME              READY   UP-TO-DATE   AVAILABLE   AGE
coredns           2/2     2            2           152m
metrics-server    1/1     1            1           26m
edureka@kmaster:~$
```



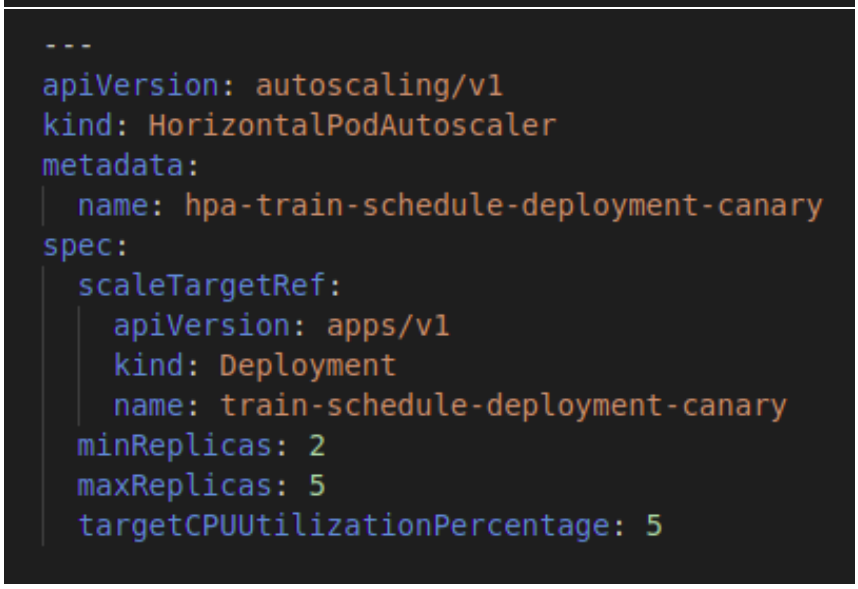
11. `kubectl top pod`



12. Config HPA to deployments:

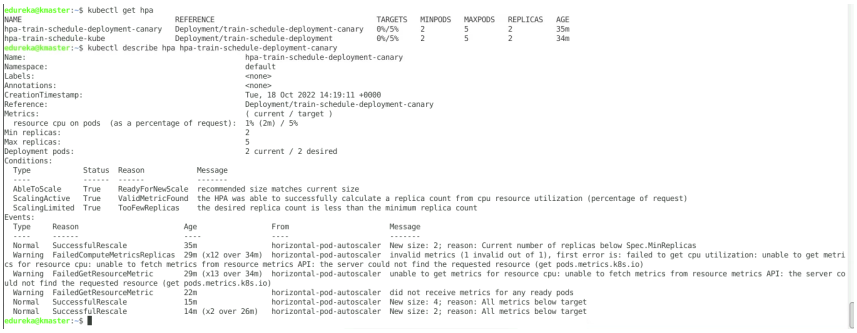


```yaml
---
apiVersion: autoscaling/v1
kind: HorizontalPodAutoscaler
metadata:
  name: hpa-train-schedule-kube
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: train-schedule-deployment
  minReplicas: 2
  maxReplicas: 5
  targetCPUUtilizationPercentage: 5
```

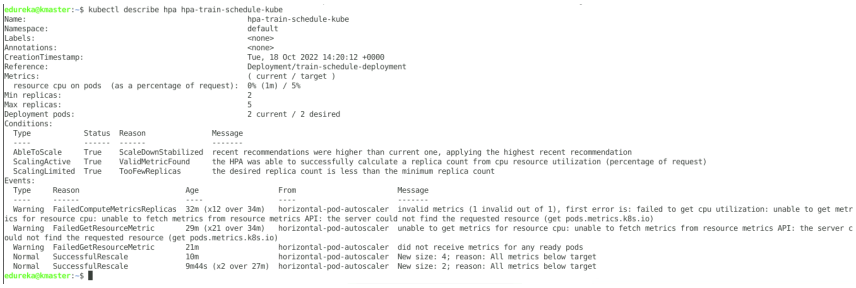


```yaml
---
apiVersion: autoscaling/v1
kind: HorizontalPodAutoscaler
metadata:
  name: hpa-train-schedule-deployment-canary
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: train-schedule-deployment-canary
  minReplicas: 2
  maxReplicas: 5
  targetCPUUtilizationPercentage: 5
```

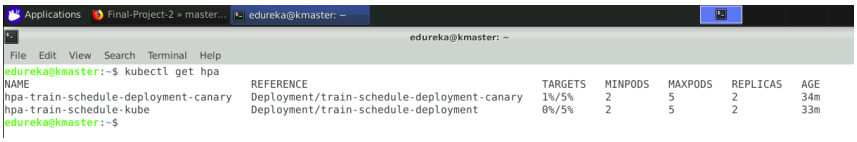
13. `kubectl describe hpa hpa-train-schedule-deployment-canary`



14. `kubectl describe hpa kubectl describe hpa hpa-train-schedule-kube`

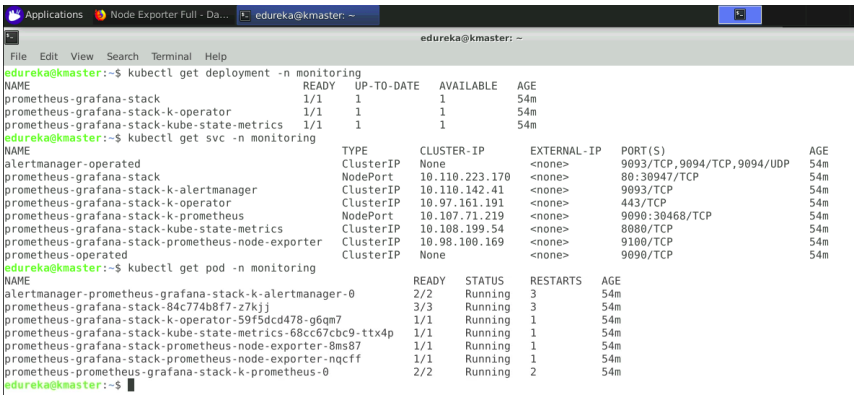


15. `kubectl get hpa`

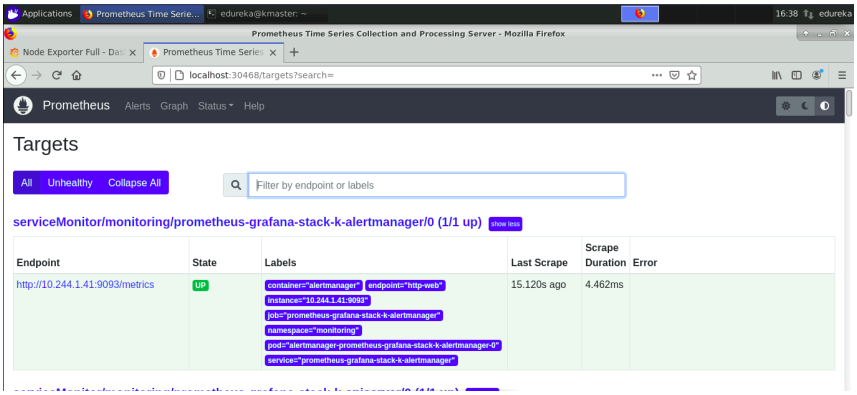


16. Deploy `Prometheus - Grafana` by `helm`

- Run commands:
  - `kubectl create namespace monitoring`
  - `helm repo add prometheus-community https://prometheus-community.github.io/helm-char`
  - `helm repo update`
  - `helm install prometheus-grafana-stack prometheus-community/kube-prometheus-stack --namespace monitoring`



- NodePort Prometheus and Grafana.
- Access Prometheus:



- Access Grafana, login and import dashboard ID 1860