Jenkins

1.Install Jenkins with Helm v3

brew install helm

Configure Helm

helm repo add jenkinsci https://charts.jenkins.io
helm repo update

Create a persistent volume

kubectl apply -f jenkins-volume.yaml

reference:https://raw.githubusercontent.com/installing-jenkins-on-kubernetes/jenkins-volume.yaml

Create a service account

```
kubectl apply -f jenkins-sa.yaml
```

reference:https://raw.githubusercontent.com/installing-jenkins-on-kubernetes/jenkins-sa.yam

Install Jenkins

jenkins-values.yaml.

reference:raw.githubusercontent.com/jenkinsci/helm-charts/main/charts/jenkins/values.yaml i

change all serviceType to LoadBalancer

```
  # For minikube, set this to NodePort, elsewhere uses LoadBalancer
  # Use ClusterIP if your setup includes ingress controller
  # -- k8s service type
  serviceType: LoadBalancer
```

```
chart=jenkinsci/jenkins
helm install jenkins -n jenkins -f jenkins-values.yaml $chart
```

```
(base) ll@LantingHou course-project-option-1-Lantinghh % kubectl get pods -n jenkins
NAME        READY   STATUS    RESTARTS        AGE
jenkins-0   2/2     Running   2 (7h36m ago)   21h
```

Get your 'admin' user password by running:

```
jsonpath="{.data.jenkins-admin-password}"
secret=$(kubectl get secret -n jenkins jenkins -o jsonpath=$jsonpath)
echo $(echo $secret | base64 --decode)
```

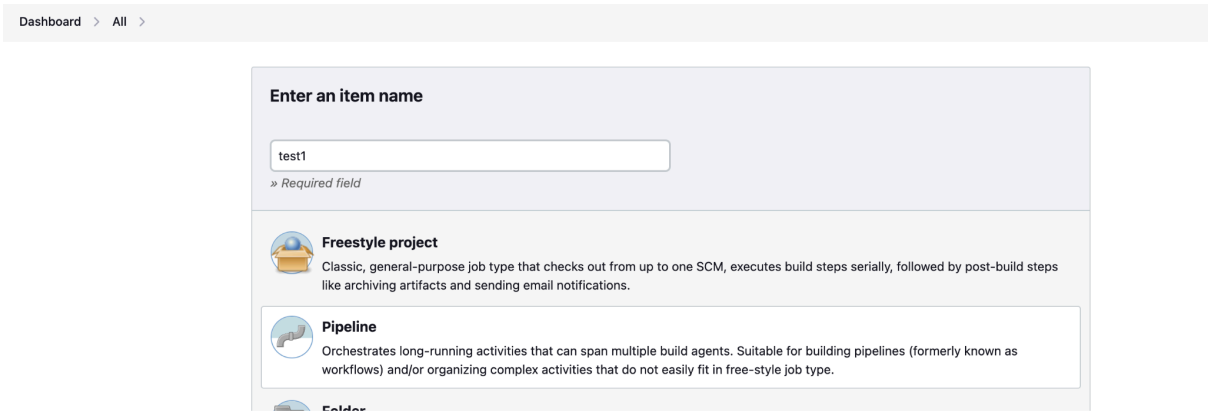
```
(base) ll@LantingHou course-project-option-1-Lantinghh % jsonpath="{.data.jenkins-admin-password}"
secret=$(kubectl get secret -n jenkins jenkins -o jsonpath=$jsonpath)
echo $(echo $secret | base64 --decode)

hXjJe9ehwRhjP8ONt89SNM
```

login

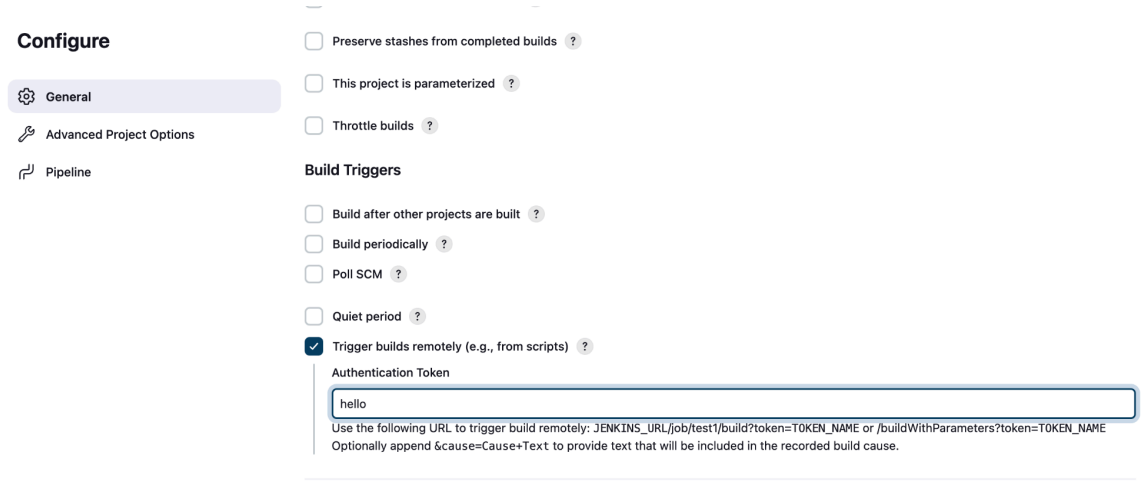
username: admin
password : hXjJe9ehwRhjP8ONt89SNM

Link to SonarQube and GitHub

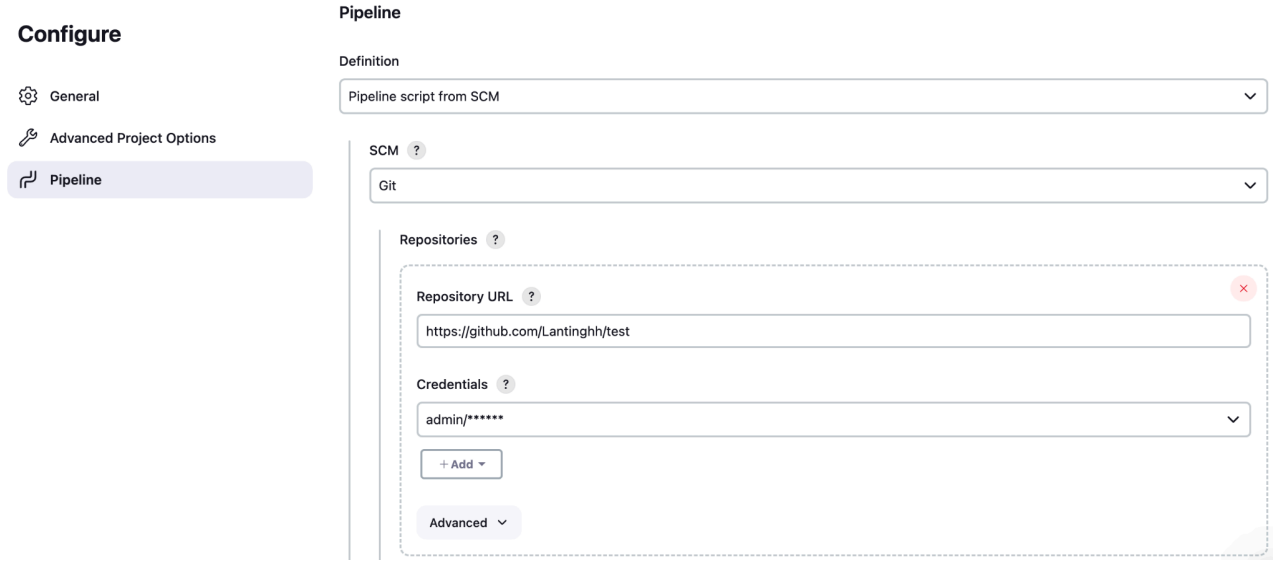
click new Item



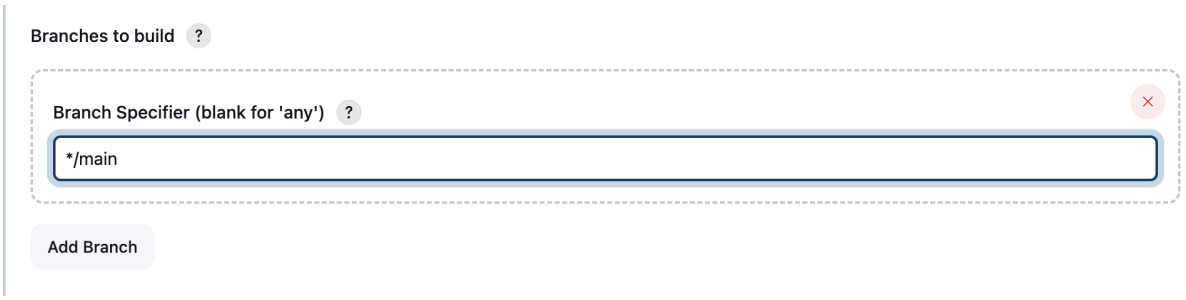
configure as picture
Create your own token , here i use hello



link to Github,In the pipeline part , choose pipeline script from SCM, and choose SCM Git . The repository is https://github.com/Lantinghh/test



the branch is main

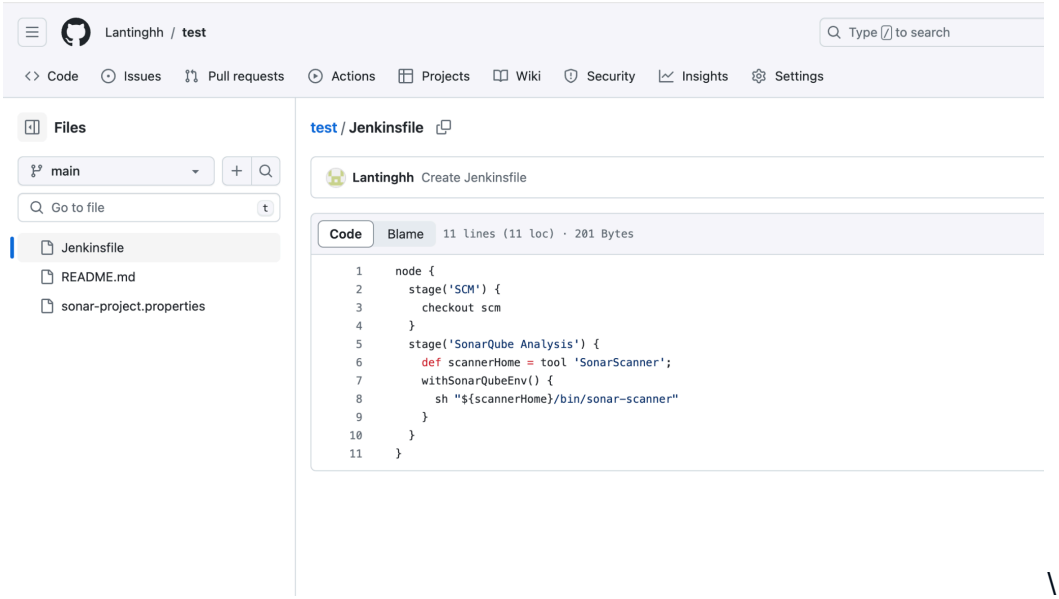


Apply Configuation

reference
https://www.jenkins.io/doc/book/installing/kubernetes/

Github part:

Jenkinsfile



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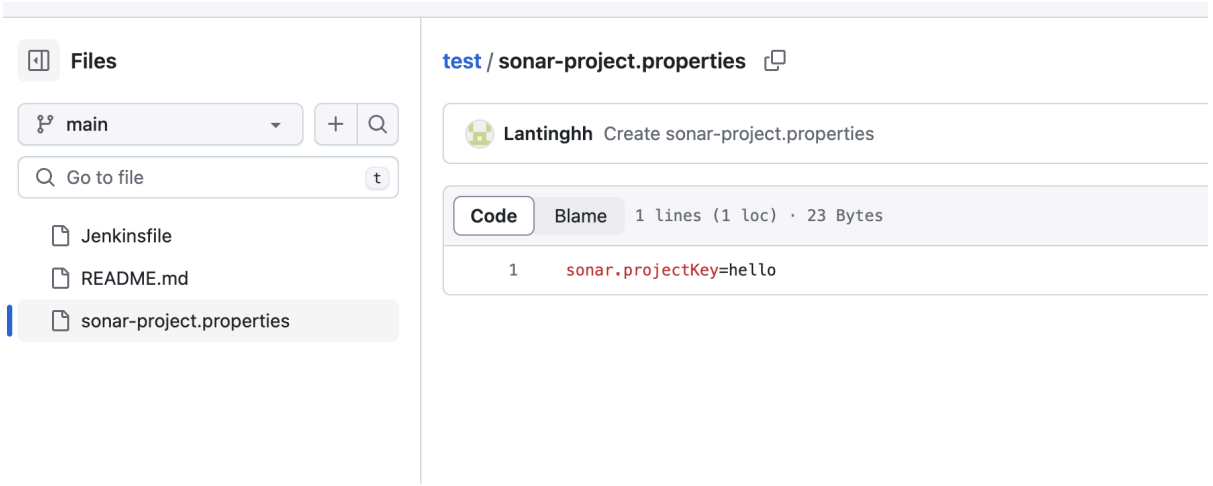
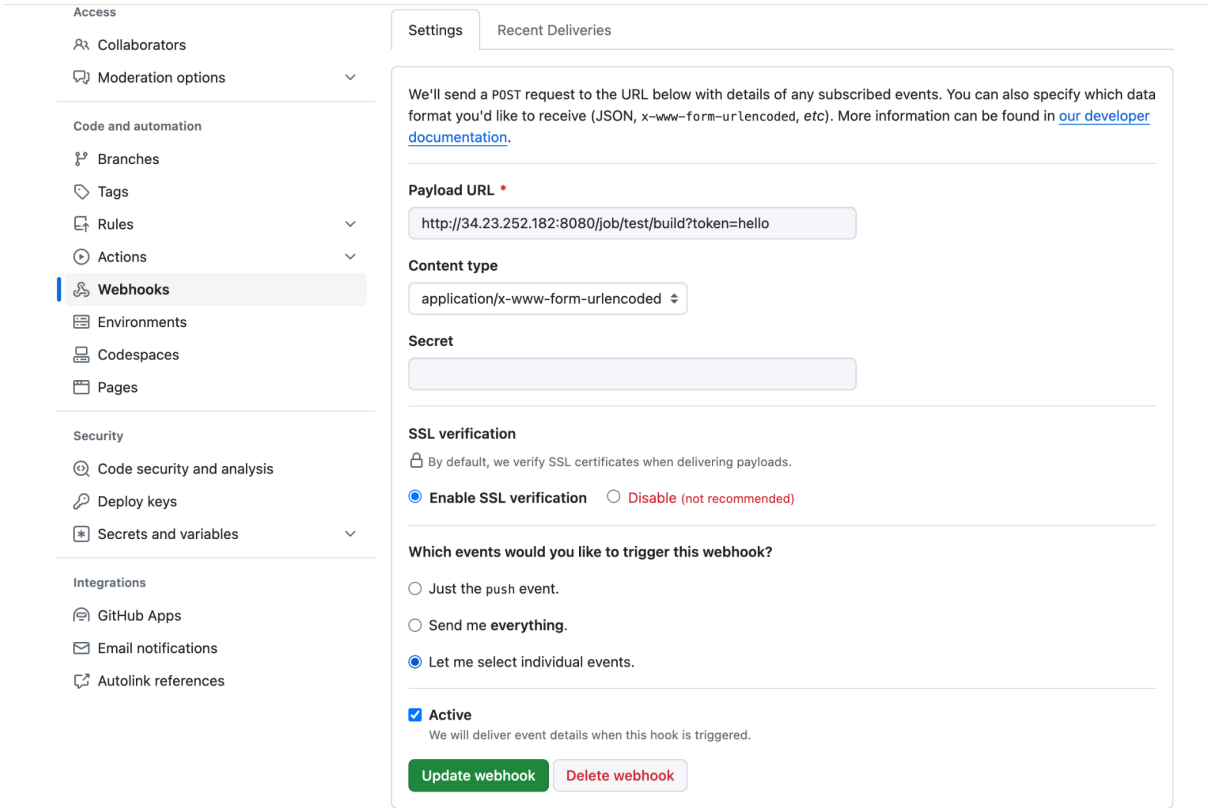
creat sonar-project.properties

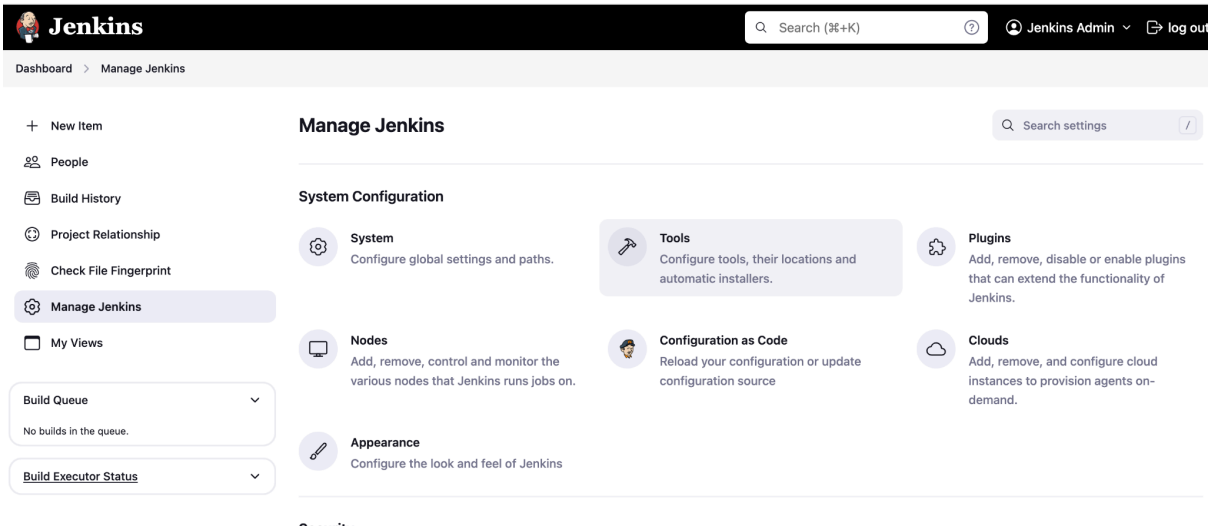


settings: webHook
in payload part, the IP is Jenkins IP; the token is hello (corresponding with the above we made in Jenkins)



Apply Configuation

Made Tools



SonarScanner for MSBuild installations

SonarScanner for MSBuild installations Edited

Add SonarScanner for MSBuild

SonarScanner for MSBuild

Name

SonarScanner

Install automatically

Install from GitHub

Version

SonarScanner for MSBuild 5.15.1.88158 - .NET Fwk 4.6

Add Installer

Add SonarScanner for MSBuild

SonarQube Scanner installations

SonarQube Scanner installations Edited

Add SonarQube Scanner

SonarQube Scanner

Name

SonarScanner

Install automatically

Install from Maven Central

Version

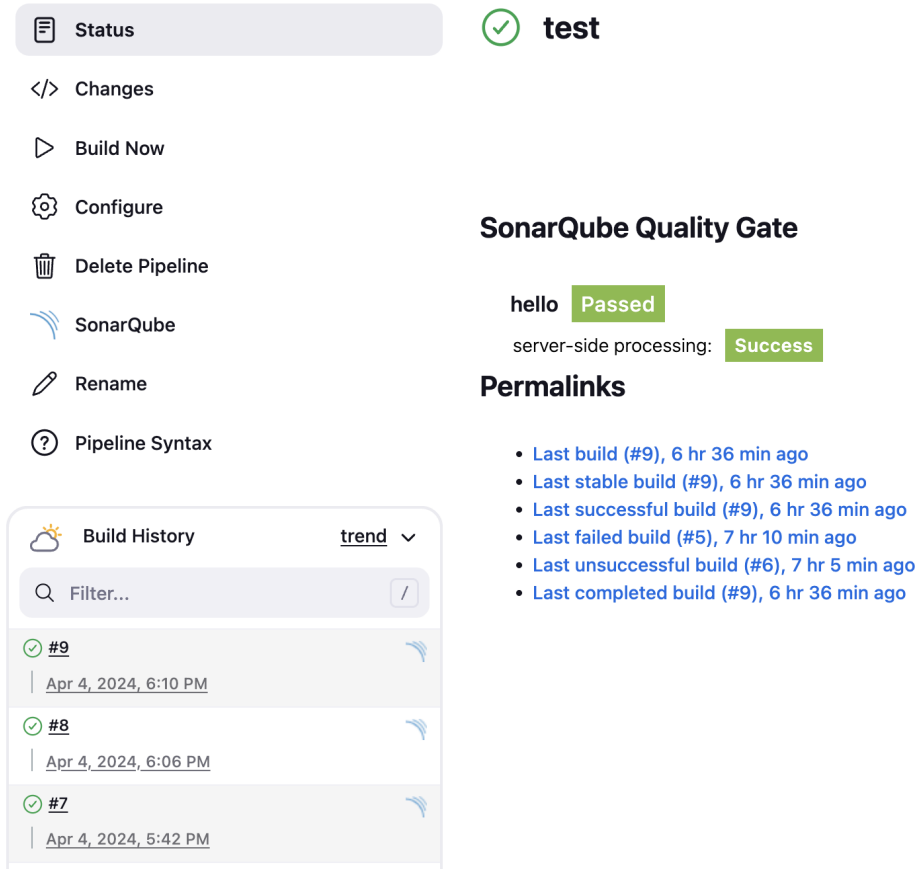
SonarQube Scanner 5.0.1.3006

Add Installer

Add SonarQube Scanner

Apply configuration

Build the item we made



SonarQube

1. Installing SonarQube using Helm 3

brew install helm

2.Apply Node Taints

kubectl get nodes

Apply taint to one of the selected nodes

kubectl taint nodes gke-hadoop-cluster-default-pool-2abfa0aa-9cr3 sonarqube=true:NoSchedule

Mark the nodes that apply the taint

kubectl label node gke-hadoop-cluster-default-pool-2abfa0aa-9cr3 sonarqube=true

Modify the SonarQube service type to load balancer:

```
service:
  type: LoadBalancer
  externalPort: 9000
  internalPort: 9000
  labels:
  annotations: {}
```

```
(base) ll@lantinghou api-hadoop7 % kubectl get nodes
NAME                                              STATUS   ROLES    AGE   VERSION
gke-hadoop-cluster-default-pool-2abfa0aa-9cr3   Ready    <none>   14h   v1.27.8-gke.1067004
gke-hadoop-cluster-default-pool-2abfa0aa-g624   Ready    <none>   14h   v1.27.8-gke.1067004
gke-hadoop-cluster-default-pool-2abfa0aa-n6zw   Ready    <none>   14h   v1.27.8-gke.1067004
(base) ll@lantinghou api-hadoop7 % kubectl taint nodes gke-hadoop-cluster-default-pool-2abfa0aa-9cr3 sonarqube=true
:NoSchedule
node/gke-hadoop-cluster-default-pool-2abfa0aa-9cr3 tainted
(base) ll@lantinghou api-hadoop7 % kubectl label node gke-hadoop-cluster-default-pool-2abfa0aa-9cr3 sonarqube=true
node/gke-hadoop-cluster-default-pool-2abfa0aa-9cr3 labeled
(base) ll@lantinghou api-hadoop7 % helm repo add sonarqube https://SonarSource.github.io/helm-chart-sonarqube
helm repo update
kubectl create namespace sonarqube-lts
helm upgrade --install -n sonarqube-lts sonarqube sonarqube/sonarqube-lts
"sonarqube" has been added to your repositories
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "apache-hadoop-helm" chart repository
...Successfully got an update from the "sonarqube" chart repository
...Successfully got an update from the "cloudnativeapp" chart repository
```

3.Install Helm Chart

helm repo add sonarqube https://SonarSource.github.io/helm-chart-sonarqube
helm repo update
kubectl create namespace sonarqube
helm upgrade --install -n sonarqube sonarqube sonarqube/sonarqube -f values.yaml

4.kubectl get external IP

Managed pods

Name	Status	Restarts	Created on
sonarqube-sonarqube-0	Running	0	Apr 3, 2024, 4:03:09 PM

Exposing services

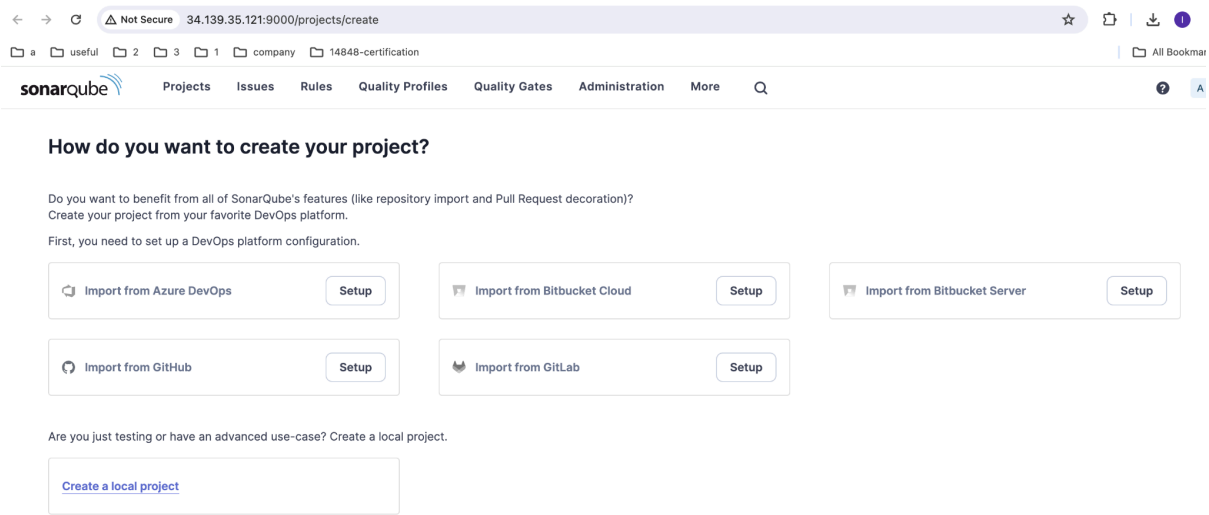
Name	Type	Endpoints
sonarqube-sonarqube	Load balancer	34.139.35.121:9000

http://34.139.35.121:9000

OVERVIEW | OBSERVABILITY | COST OPTIMIZATION

Filter | Is system object : False | Filter workloads

Name	Status	Type	Pods	Namespace	Cluster
hadoop-hadoop-hdfs-dn	OK	Stateful Set	2/2	default	hadoop-cluster
hadoop-hadoop-hdfs-nn	OK	Stateful Set	1/1	default	hadoop-cluster
hadoop-hadoop-yarn-nm	OK	Stateful Set	1/1	default	hadoop-cluster
hadoop-hadoop-yarn-rm	OK	Stateful Set	1/1	default	hadoop-cluster
sonarqube-postgresql	OK	Stateful Set	1/1	sonarqube	hadoop-cluster
sonarqube-sonarqube	OK	Stateful Set	1/1	sonarqube	hadoop-cluster



Reference

https://dev.to/lakkimartin/install-sonarqube-on-kubernetes-aks-49o7
https://docs.sonarsource.com/sonarqube/8.9/setup-and-upgrade/deploy-sonarqube-on-kubernetes/
https://github.com/SonarSource/helm-chart-sonarqube/tree/master/charts/sonarqube