Repo: https://github.com/devanarayanantm/hello1springboot

1) Clone the repo

```
root@master:~# git clone git@github.com:devanarayanantm/hello1springboot.git
Cloning into 'hello1springboot'...
remote: Enumerating objects: 45, done.
remote: Counting objects: 100% (25/25), done.
remote: Compressing objects: 100% (18/18), done.
remote: Total 45 (delta 12), reused 13 (delta 6), pack-reused 20 (from 1)
Receiving objects: 100% (45/45), 13.51 KiB | 576.00 KiB/s, done.
Resolving deltas: 100% (12/12), done.
```

1) Created the docker file

```
root@master:~/hello1springboot# cat Dockerfile
FROM openjdk:17-jdk-slim

WORKDIR /app

COPY target/*.jar app.jar

EXPOSE 8080

CMD java -jar app.jar
```

2) Pushed Dockerfile

```
root@master:~/hello1springboot# nano Dockerfile
root@master:~/hello1springboot# git add .
root@master:~/hello1springboot# git commit -m "Docker file created and added"
[main b99f57d] Docker file created and added
 1 file changed, 1 insertion(+)
root@master:~/hello1springboot# git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 2 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 312 bytes | 312.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:devanarayanantm/hello1springboot.git
   d1f02cf..b99f57d  main -> main
```

3) Created feature branch

Nb: Don’t know about sonarqube so created a branch greeting and with simple message

```
root@master:~/hello1springboot# git checkout -b feature/greeting
Switched to a new branch 'feature/greeting'
```

4) Create a greeting txt filr

```
root@master:~/hello1springboot# cat greeting.txt
Hi! Welcome to my repo..
```

5) Then push it

```
root@master:~/hello1springboot# git add greeting.txt
root@master:~/hello1springboot# git commit -m "File created in greeting.txt of branch feature/greeting"
[feature/greeting 945bb8c] File created in greeting.txt of branch feature/greeting
 1 file changed, 1 insertion(+)
 create mode 100644 greeting.txt
```

```
root@master:~/hello1springboot# git push
fatal: The current branch feature/greeting has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin feature/greeting

To have this happen automatically for branches without a tracking
upstream, see 'push.autoSetupRemote' in 'git help config'.

root@master:~/hello1springboot# git push -u origin feature/greeting
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 2 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 326 bytes | 326.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'feature/greeting' on GitHub by visiting:
remote:      https://github.com/devanarayanantm/hello1springboot/pull/new/feature/greeting
remote:
To github.com:devanarayanantm/hello1springboot.git
 * [new branch]      feature/greeting -> feature/greeting
branch 'feature/greeting' set up to track 'origin/feature/greeting'.
root@master:~/hello1springboot#
```

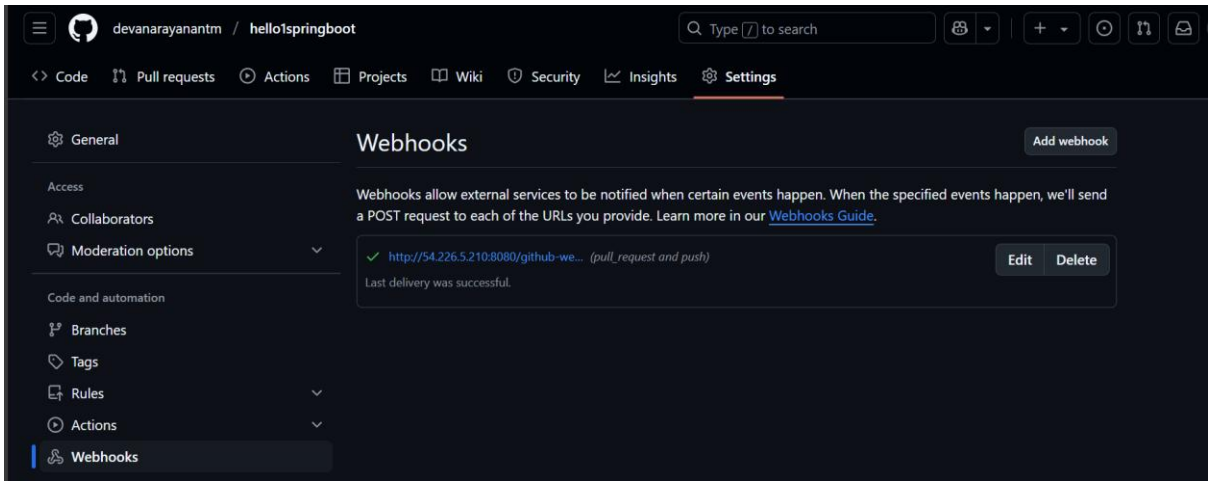

6) Created deployment.yaml then it pushed it

```
root@master:~/hello1springboot/k8smanifest# k create deploy examspring --image=devanarayanantm/examspring --replicas=3 -o yaml > deployment.yaml
root@master:~/hello1springboot/k8smanifest#
root@master:~/hello1springboot/k8smanifest#
root@master:~/hello1springboot/k8smanifest# nano deployment.yaml
```


7) Create service and pushed

```
root@master:~/hello1springboot/k8smanifest# k expose deploy examspring  --name=examspring  --port=8000  --target-port=8080 --dry-run=client -o yaml > s
ervice.yaml
root@master:~/hello1springboot/k8smanifest#
root@master:~/hello1springboot/k8smanifest#
root@master:~/hello1springboot/k8smanifest#
root@master:~/hello1springboot/k8smanifest# git add service.yaml
root@master:~/hello1springboot/k8smanifest# git commit -m  "service.yaml created"
[main ae6c953] service.yaml created
 1 file changed, 16 insertions(+)
 create mode 100644 k8smanifest/service.yaml
root@master:~/hello1springboot/k8smanifest# git push
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 2 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 504 bytes | 504.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:devanarayanantm/hello1springboot.git
```


8) Created Webhook

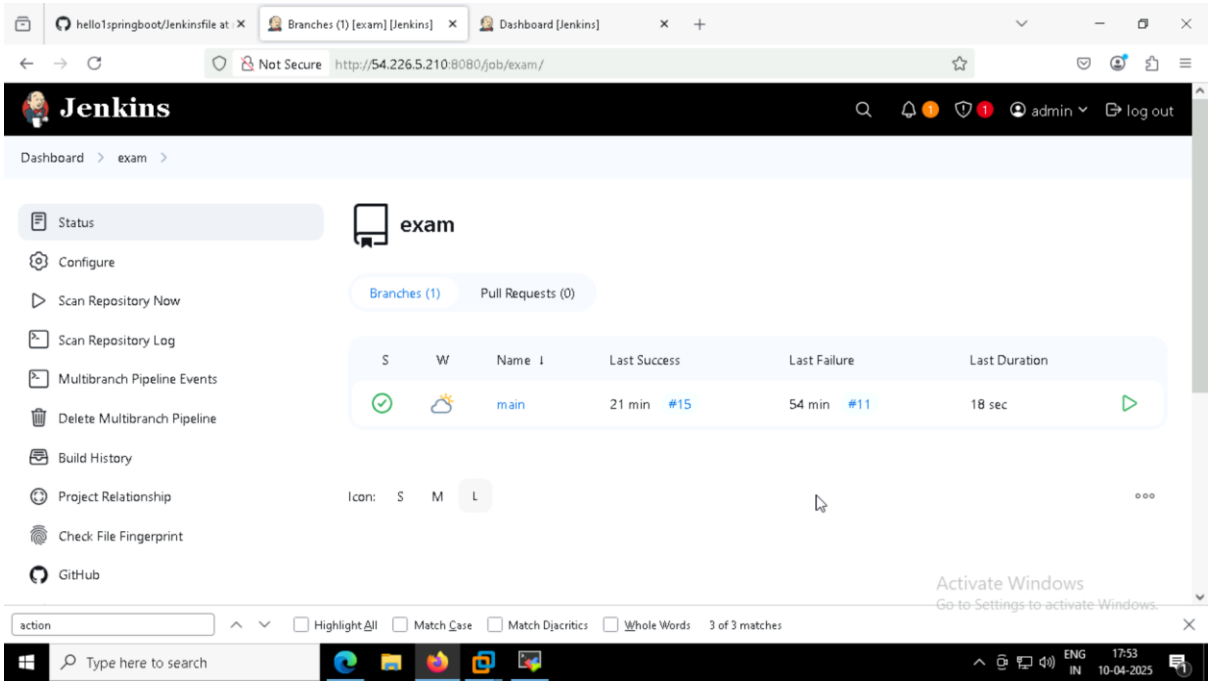


9) Created Jenkinsfile

```
root@master:~/hello1springboot# cat Jenkinsfile
pipeline {
    agent any

    stages {

        stage('Build') {
            steps {
                sh 'mvn clean install'
            }
        }

        stage('Docker Image Build and Push') {
            when {
                branch 'main'
            }
            steps {
                withCredentials([usernamePassword(credentialsId: 'dockerhub-cred-id', usernameVariable: 'DOCKER_USER', passwordVariable: 'DOCKER_PASS')
]) {
                    sh '''
                        docker login -u $DOCKER_USER -p $DOCKER_PASS
                        docker build -t $DOCKER_USER/examspring .
                        docker push $DOCKER_USER/examspring
                    '''
                }
            }
        }
```

```
        stage('Kubernetes Deploy') {
            when {
                branch 'main'
            }
            steps {
                sh '''
                        kubectl delete -f k8smanifest/deployment.yaml --ignore-not-found
                        kubectl apply -f k8smanifest/deployment.yaml

                        kubectl delete -f k8smanifest/service.yaml --ignore-not-found
                        kubectl apply -f k8smanifest/service.yaml
                '''
    }

    }
```

Jenkins



Working successfully and creating deployments and service

```
[Pipeline] { (Kubernetes Deploy)
[Pipeline] sh
+ kubectl delete -f k8smanifest/deployment.yaml --ignore-not-found
deployment.apps "examspring" deleted
+ kubectl apply -f k8smanifest/deployment.yaml
deployment.apps/examspring created
+ kubectl delete -f k8smanifest/service.yaml --ignore-not-found
service "examspring" deleted
+ kubectl apply -f k8smanifest/service.yaml
service/examspring created
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline

GitHub has been notified of this commit's build result

Finished: SUCCESS
```


Running every pods

```
root@master:~/hello1springboot# k get po
NAME                          READY   STATUS    RESTARTS   AGE
examspring-b974c65c8-k2p6v    1/1     Running   0          9m3s
examspring-b974c65c8-lrkcj    1/1     Running   0          9m3s
examspring-b974c65c8-mbjhj    1/1     Running   0          9m3s
root@master:~/hello1springboot#
```

Service also working

```
root@master:~/hello1springboot# k get svc examspring
NAME         TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)    AGE
examspring   ClusterIP   10.100.162.103   <none>        8000/TCP   14m
root@master:~/hello1springboot# curl 10.100.162.103:8000/hello
Hello Worldroot@master:~/hello1springboot#
```

“After curl it print Hello World”

All service pod deployment and replicaset

```
root@master:~/hello1springboot# k get all
NAME                              READY   STATUS    RESTARTS   AGE
pod/examspring-b974c65c8-k2p6v    1/1     Running   0          7m42s
pod/examspring-b974c65c8-lrkcj    1/1     Running   0          7m42s
pod/examspring-b974c65c8-mbjhj    1/1     Running   0          7m42s

NAME                      TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)          AGE
service/examspring        ClusterIP   10.100.162.103   <none>        8000/TCP         7m42s
service/examspringnode    NodePort    10.107.11.29     <none>        8000:30570/TCP   28m
service/kubernetes        ClusterIP   10.96.0.1        <none>        443/TCP          4h6m

NAME                         READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/examspring   3/3     3            3           7m43s

NAME                                    DESIRED   CURRENT   READY   AGE
replicaset.apps/examspring-b974c65c8    3         3         3       7m42s
root@master:~/hello1springboot#
```