

## DevOps DAY -5

deployment.yml

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: my-deploy
  namespace: my-bank
  labels:
    name: my-deploy
spec:
  replicas: 1
  selector:
    matchLabels:
      apptype: web-backend
  strategy:
    type: RollingUpdate
  template:
    metadata:
      labels:
        apptype: web-backend
    spec:
      containers:
        - name: my-web
          image: 22csl258/mysimplewebapplication:tagname
          ports:
            - containerPort: 9001
---
apiVersion: v1
kind: Service
metadata:
  name: my-service
  namespace: my-bank
  labels:
    app: my-service
spec:
  type: NodePort
  ports:
    - port: 9001
      targetPort: 8080
```

```
nodePort: 30007
selector:
apptype: web-backend
```

## Minikube

```
Select navin@ITP-CC16-42:~$
[INFO] plugin/kubernetes: Trace[855174029]: "Reflector ListAndWatch" name:pkg/mod/k8s.io/client-go@v0.29.3/tools/cache/reflector.go:229 (21-Mar-2025 05:26:15.517) (total time: 30000ms):
Trace[855174029]: ---"Objects listed" error:Get "https://10.96.0.1:443/apis/discovery.k8s.io/v1/endpointslices?limit=500&resourceVersion=0": dial tcp 10.96.0.1:443: i/o timeout 30000ms (05:26:45.517)
Trace[855174029]: [30.00045988s] [30.00045988s] END
[ERROR] plugin/kubernetes: pkg/mod/k8s.io/client-go@v0.29.3/tools/cache/reflector.go:229: Failed to watch "v1.Endpointslice: failed to list "v1.Endpointslice: Get "https://10.96.0.1:443/apis/discovery.k8s.io/v1/endpointslices?limit=500&resourceVersion=0": dial tcp 10.96.0.1:443: i/o timeout
[INFO] plugin/kubernetes: pkg/mod/k8s.io/client-go@v0.29.3/tools/cache/reflector.go:229: failed to list "v1.Namespace: Get "https://10.96.0.1:443/api/v1/namespaces?limit=500&resourceVersion=0": dial tcp 10.96.0.1:443: i/o timeout
[INFO] plugin/kubernetes: Trace[258437978]: "Reflector ListAndWatch" name:pkg/mod/k8s.io/client-go@v0.29.3/tools/cache/reflector.go:229 (21-Mar-2025 05:26:15.516) (total time: 30000ms):
Trace[258437978]: ---"Objects listed" error:Get "https://10.96.0.1:443/api/v1/namespaces?limit=500&resourceVersion=0": dial tcp 10.96.0.1:443: i/o timeout 30000ms (05:26:45.517)
[ERROR] plugin/kubernetes: pkg/mod/k8s.io/client-go@v0.29.3/tools/cache/reflector.go:229: Failed to watch "v1.Namespace: failed to list "v1.Namespace: Get "https://10.96.0.1:443/api/v1/namespaces?limit=500&resourceVersion=0": dial tcp 10.96.0.1:443: i/o timeout
[INFO] plugin/kubernetes: Trace[2090896627]: "Reflector ListAndWatch" name:pkg/mod/k8s.io/client-go@v0.29.3/tools/cache/reflector.go:229 (21-Mar-2025 05:26:15.516) (total time: 30000ms):
Trace[2090896627]: ---"Objects listed" error:Get "https://10.96.0.1:443/api/v1/services?limit=500&resourceVersion=0": dial tcp 10.96.0.1:443: i/o timeout 30000ms (05:26:45.517)
Trace[2090896627]: [30.001063121s] [30.001063121s] END
[ERROR] plugin/kubernetes: pkg/mod/k8s.io/client-go@v0.29.3/tools/cache/reflector.go:229: Failed to watch "v1.Service: failed to list "v1.Service: Get "https://10.96.0.1:443/api/v1/services?limit=500&resourceVersion=0": dial tcp 10.96.0.1:443: i/o timeout
navin@ITP-CC16-42:~$ kubectl describe pod coredns-668dbf9bc-dcw4v -n kube-system
Name:               coredns-668dbf9bc-dcw4v
Namespace:          kube-system
Priority:             2000000000
Priority Class Name:  system-cluster-critical
Service Account:     coredns
Node:               minikube/192.168.49.2
Start Time:         Fri, 21 Mar 2025 05:26:14 +0000
Labels:             k8s-app=kube-dns
                   pod-template-hash=668dbf9bc
Annotations:        <none>
Status:             Running
IP:                 10.244.0.2
IPs:
IP:                 10.244.0.2
Controlled By:       ReplicaSet/coredns-668dbf9bc
Containers:
  coredns:
    Container ID:   docker://9b2d86ad235fcdab875f9cf0a7821f002f6c3d3de41f7c4327c6b7f89cf411e0
    Image:          registry.k8s.io/coredns/coredns:v1.11.2
    Image ID:       docker-pullable://registry.k8s.io/coredns/coredns@sha256:9caabfb6238b189a65d8d6e6ac138de60d6a1c19e5a341fbb7c78382559c6e
    Ports:          53/UDP, 53/TCP, 9153/TCP
    Host Ports:     0/UDP, 0/TCP, 0/TCP
    Args:
      -conf
      /etc/coredns/Corefile
    State:          Running
      Started:      Fri, 21 Mar 2025 05:26:15 +0000
    Ready:          True
    Restart Count:  0
    Limits:
      Memory: 170Mi
    Requests:
navin@ITP-CC16-42:~$ sudo apt update
[sudo] password for navin:
Ign:1 https://pkg.jenkins.io/debian binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian binary/ Release
Hit:4 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:5 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:6 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:7 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
1 package can be upgraded. Run 'apt list --upgradable' to see it.
navin@ITP-CC16-42:~$ LS0tLS1CRUdJTiBDRVJUSUZJQ0FURSB0tLS0tck1JSURCaKNQMUZ2OF3SU3BZ01CQVRBTKJnaFoa21HOXcKQkFRc0ZBREFTVjNId0VRWURWUJFVFRXdwdfXNNAKYTNWVpVTKJNQjRYRFRJMU1ETXhPRE
eE56QTVNakFS8tKwD0ZURVRNkVhQVFRQ0BeE1LYldsdWFXdFZbZVZUVRDQ0FTSXdEUVlKS29aSWh2Y05BUUVCQ1FBRGdnRVBIBRENDQVvQ2dnRjU3BTmpuCKdweGhwMUJ2Sks0Rk1JWEMWVlZiQXRTUDZxV1PfDmZ0L1VDVVFV1ZVZc
01TTnBNcS8KwJzqME1nWE1hY1NLU0JTZTZzW01sdsGFBND1QnkU4cGhX1jNkamfOKytvUTRob3dCK1dVSXJVa2JNT3RtZnM2SgpyZUhYUUNoSGRDV1Z4VG5JVCtQ5XRzQ2tJUFJ25KFtU0ZFQRx1n1SSmk4b1Z60EznN2ZpeUxC5zk5Y
U3L2Z5vz1JSTEzM2J1jEhMMK500MLw0Uxag1nc202azRkRzZ1b1IyRmFSS0F1M1FqY21HZ4KVNbXh3hGVC53cjYrREdEcmh6HdpTEH5N31HSHNIZUMvV2lnb3dUN316UDc1c3ZueSt2cmYxeE1rQXpx1ytEMQpnMmNFHhB2Vvyek
GtUYAdRnMURWJbQQVF1L0B0UR8Z0tFTUIR0EXVWRKUVFXCK1CUUd0Q3NHQVFRK3JTNUCZ2yQcmFRK3JYVRBVEFQcm0VkhSTU0BZJhF01RBREFRSC9Nq0JBHQTfVZERNUVCKQJTN282511SaWxU05NbjdxBEtES010aC5Qy9
UXUCQUPQ0FRUFRFnekplZzJH0Ap1HUtH1Y1NLU0UGp1zF0ZfV531uG0VR0VQ0h0MU0UE3V0FVGB3VJYVNEduU09dmdnTAL0URKRVZSCM0OUPvdTQ5dE11aZRMUR0a3N10zFJd5Juc1FLUS0R929vz290TfJhWkF1Utdv
nEKU2d0Wm4yThw2ThtHwYJTDmY4ZnpK0BVb11V0EK2e1FWmExckp1STYVMG3yJ1Iqbm1Q1ZRT21kYTFHSmfJpW0e20CtXMT1wbJ3TdBfBMFZ0TNRcTAXaw1tCv11NHFKUIRJTX1kXhZU0Zj0EdESuA2Na3U0QY4202a3N1TW1hG
dtQ1VvMm0vRhwMzFczR0N3dVcG21T3J5i9G0uX0Nz2aXJEN1J0KysyVjZ4d1UkefndVhBpMwJrSng0Bw9PQotLS0tLUVORC0DRVJUSUZJQ0FURSB0tLS0tCg==
navin@ITP-CC16-42:~$ /home/navin/.minikube/profiles/minikube/client.crt
-bash: /home/navin/.minikube/profiles/minikube/client.crt: Permission denied
navin@ITP-CC16-42:~$ /home/navin/.minikube/profiles/minikube
-bash: /home/navin/.minikube/profiles/minikube: Is a directory
navin@ITP-CC16-42:~$
```

NZ - PAK Live Search

[illegible]

34°C Mostly sunny Search [Taskbar icons: File Explorer, Edge, Word, PowerPoint, Outlook, OneDrive, Teams, etc.] ENG IN 15:36 21-03-2025

```
navin@ITP-CC16-42:~/kub$ kubectl get node
NAME          STATUS    ROLES    AGE
minikube      Ready     control-plane  3h49m
navin@ITP-CC16-42:~/kub$
```

## Pipeline script - jenkins

### JAVA Application

```
pipeline {
    agent any

    stages {
        stage('scm') {
            steps {
                git branch: "
            }
        }

        stage('builb-clean') {
            steps {
                sh "mvn clean"
            }
        }

        stage('build-validate') {
            steps {
                sh "mvn validate"
            }
        }

        stage('build-com') {
            steps {
                sh "mvn compile"
            }
        }
    }
}
```

```
stage('build-test'){
    steps {
        sh "mvn test"
    }
}

stage('build-install'){
    steps {
        sh "mvn package"
    }
}

stage('build to images'){
    steps {
        script{
            sh 'docker build -t .'
        }
    }
}

stage('push to hub'){
    steps {
        script{
            withDockerRegistry(credentialsId: 'Docker_cred', url: 'https://index.docker.io/v1/') {
                sh 'docker push '
            }
        }
    }
}
```

```

}

stage('Deploy App'){
    steps {
        withKubeConfig(caCertificate: '', clusterName: 'minikube', contextName: 'minikube',
credentialsId: 'mukubeconfig_011', namespace: '', restrictKubeConfigAccess: false, serverUrl:
'https://192.168.49.2:8443') {
            sh 'kubectl apply -f deployment.yml --validate=false'
        }
    }
}

stage('Test'){
    steps {
        withKubeConfig(caCertificate: '', clusterName: 'minikube', contextName: 'minikube',
credentialsId: 'mukubeconfig_011', namespace: '', restrictKubeConfigAccess: false, serverUrl:
'https://192.168.49.2:8443') {

            sh 'minikube service my-service --url | xargs curl'
        }
    }
}
}

```



Dashboard > java application >

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Stages

Rename

Pipeline Syntax

Builds

Filter

Today

#15 10:32 AM

#14 10:30 AM

#13 10:29 AM

#11 10:02 AM

java application

Add description

Stage View

Average stage times:  
(full run time: ~20s)

	SCM	Build	Build Docker Image	Push Docker Image	test
#15	711ms	1s	310ms	14s	
#14	746ms	1s	313ms	16s	392ms failed
#13	1s	1s	563ms	17s	1s failed
#11	724ms	1s	299ms	14s	
#10	1s	1s	305ms	22s	

java application #11 Console - x

Docker Hub

Personal access tokens | Docker

localhost:8080/job/java%20application/11/console

Dashboard > java application > #11

WARNING: Your password will be stored unencrypted in /var/lib/jenkins/workspace/java\_application@9ff278c-1258-4b77-8b43-d85d82b1188/config.xml.  
Configure a credential helper to remove this warning. See  
<https://docs.docker.com/engine/reference/commandline/login/#credentials-store>

Login Succeeded

[Pipeline] {

[Pipeline] sh

+ docker push 22cs1258/mysimplewebapplication

Using default tag: latest

The push refers to repository [docker.io/22cs1258/mysimplewebapplication]

baad0928b04: Preparing

5f70bf18a086: Preparing

43c9fa18061: Preparing

5f70bf18a086: Preparing

bc85267c13b: Preparing

4a055ab7345: Preparing

39c4bae89a5a: Preparing

f844dcf94808: Preparing

3359bc3d7ada: Preparing

4b7c0ae0934: Preparing

f844dcf94808: Waiting

39c4bae89a5a: Waiting

4b7c0ae0934: Waiting

3359bc3d7ada: Waiting

bc85267c13b: Layer already exists

5f70bf18a086: Layer already exists

43c9fa18061: Layer already exists

4a055ab7345: Layer already exists

39c4bae89a5a: Layer already exists

3359bc3d7ada: Layer already exists

f844dcf94808: Layer already exists

4b7c0ae0934: Layer already exists

baad0928b04: Pushed

latest: digest: sha256:95be5478167852192541da8177d1f62a782a2ab1c8bdc188967188564387ef5 size: 2489

[Pipeline] }

[Pipeline] // withDockerRegistry

[Pipeline] }

[Pipeline] // script

[Pipeline] }

[Pipeline] // stage

[Pipeline] }

[Pipeline] // node

[Pipeline] End of Pipeline

Finished: SUCCESS

35°C Mostly sunny

Search

ENG IN

16:04 21-03-2025

34°C Mostly sunny

Search

ENG IN

15:35 21-03-2025

java application #11 Console

Docker Hub

Personal access tokens | Docker

+

localhost:8080/job/java%20application/11/console

Jenkins

Navin Kumar D

log out

Dashboard > java application > #11

Status

Changes

Console Output

Edit Build Information

Timings

Git Build Data

Pipeline Overview

Pipeline Console

Thread Dump

Pause/resume

Replay

Pipeline Steps

Workspaces

Previous Build

Console Output

Download

Copy

View as plain text

Started by user Navin Kumar D

[Pipeline] Start of Pipeline

[Pipeline] node

Running on Jenkins in /var/lib/jenkins/workspace/java application

[Pipeline] {

[Pipeline] stage

[Pipeline] { (SCH)

[Pipeline] git

The recommended git tool is: NONE

No credentials specified

> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/java application/.git # timeout=10

Fetching changes from the remote Git repository

> git config remote.origin.url https://github.com/NavinkumarD/guvitasks.git # timeout=10

Fetching upstream changes from https://github.com/NavinkumarD/guvitasks.git

> git --version # timeout=10

> git --version # 'git version 2.43.0'

> git fetch --tags --force --progress -- https://github.com/NavinkumarD/guvitasks.git +refs/heads/\*:refs/remotes/origin/\* # timeout=10

> git rev-parse refs/remotes/origin/main^{commit} # timeout=10

Checking out Revision 5804759c8acd532c7246d816470a7e863e716df (refs/remotes/origin/main)

> git config core.sparsecheckout # timeout=10

> git checkout -f 5804759c8acd532c7246d816470a7e863e716df # timeout=10

> git branch -a -v --no-abbrev # timeout=10

> git branch -D main # timeout=10

> git checkout -b main 5804759c8acd532c7246d816470a7e863e716df # timeout=10

Commit message: "jenkinsfile"

> git rev-list --no-walk 5804759c8acd532c7246d816470a7e863e716df # timeout=10

[Pipeline] }

[Pipeline] // stage

34°C

Mostly sunny

Search

ENG

IN

15:33

21-03-2025