FINAL PROJECT

DAY - 6

JAVA APPLICATION DEPLOYMENT IN MINIKUBE

Pipeline script

```
pipeline {
  agent any

  stages {
    stage('SCM') {
      steps {
        git branch: 'main', url: 'https://github.com/Ananths1501/app.git'
      }
    }

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

    stage('Build Docker Image') {
      steps {
        script {
          sh 'docker build -t ananth1501/simpleapplication .'
        }
      }
    }

    stage('Push to Docker Hub') {
      steps {
        script {
          withDockerRegistry(credentialsId: 'Docker_credentials', url:
'https://index.docker.io/v1/') {
            sh 'docker push ananth1501/simpleapplication'
          }
        }
```
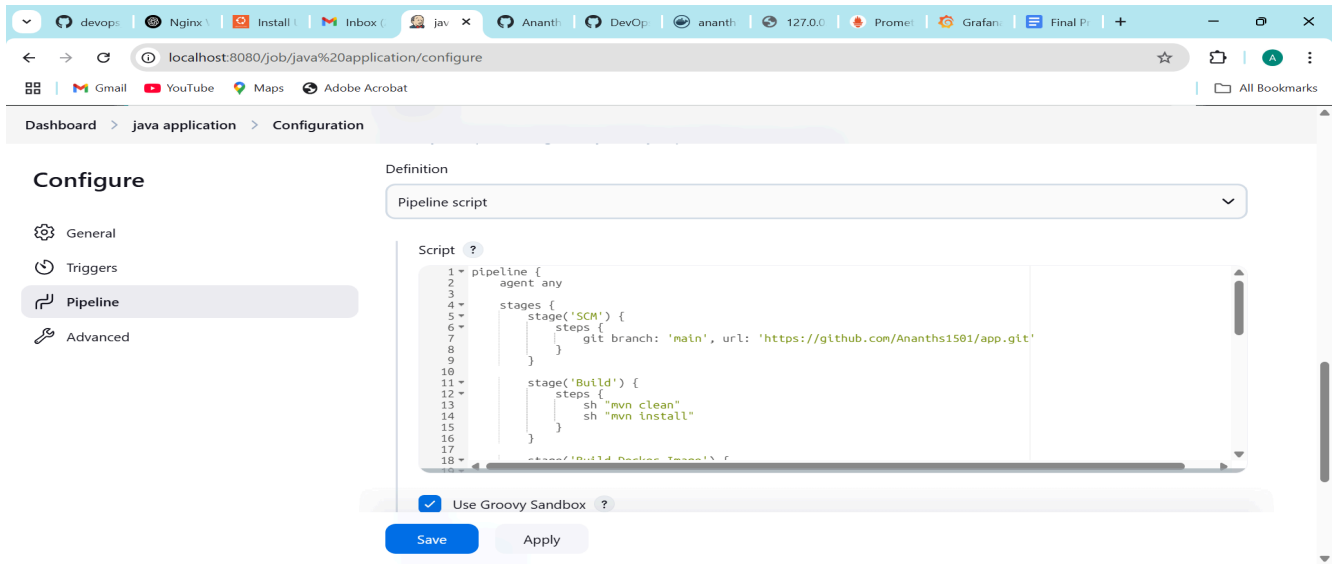
```
        }
    }

    stage('Deploy App') {
        steps {
            withKubeConfig(
                caCertificate: '',
                clusterName: 'minikube',
                contextName: 'minikube',
                credentialsId: 'myminikube',
                namespace: '',
                restrictKubeConfigAccess: false,
                serverUrl: 'https://192.168.39.226:8443'
            ) {
                sh 'sudo apply -f deploy.yaml --validate=false'
            }
        }
    }
}
}
```


Creating credentials

Stage view

```
5f/0bf18a086: Layer already exists
bc05267c613b: Layer already exists
4e5b554b7345: Layer already exists
3359bc3d7a6a: Layer already exists
4b7c01ed0534: Layer already exists
39cf0ac89a5a: Layer already exists
f844dcf94898: Layer already exists
72309828aa8d: Pushed
latest: digest: sha256:471dcbf35b981fcd704744d17ea1fe795a83ee87ae06902165c92b5001bcdce5 size: 2409
[Pipeline] }
[Pipeline] // withDockerRegistry
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

MINIKUBE COMMANDS:
Start & Stop Minikube
sh
CopyEdit
minikube start # Start Minikube cluster
minikube start --driver=docker # Start with Docker driver
minikube status # Check cluster status
minikube stop # Stop Minikube
minikube delete # Delete the cluster
Configure Minikube
sh

CopyEdit
minikube config set memory 4096 # Set memory to 4GB
minikube config set cpus 2

```
ananth@DESKTOP-LQBQG2D:~$ sudo systemctl enable prometheus
sudo systemctl start prometheus
sudo systemctl status prometheus
journalctl -u prometheus -f --no-pager
Created symlink /etc/systemd/system/multi-user.target.wants/prometheus.service → /etc/systemd/system/pro
metheus.service.
● prometheus.service - Prometheus
     Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: enabled)
     Active: active (running) since Sat 2025-03-22 06:41:17 UTC; 25ms ago
   Main PID: 17582 (prometheus)
      Tasks: 5 (limit: 9428)
     Memory: 3.3M ()
     CGroup: /system.slice/prometheus.service
             └─17582 /usr/local/bin/prometheus --config.file=/etc/prometheus/prometheus.yml --storage.t>

Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.236Z caller=head.go:681 level>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.236Z caller=head.go:689 level>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.236Z caller=head.go:760 level>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.236Z caller=head.go:797 level>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.238Z caller=main.go:1045 leve>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.238Z caller=main.go:1048 leve>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.238Z caller=main.go:1229 leve>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.239Z caller=main.go:1266 leve>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.239Z caller=main.go:1009 leve>
Mar 22 06:41:17 DESKTOP-LQBQG2D prometheus[17582]: ts=2025-03-22T06:41:17.239Z caller=manager.go:1009 l>
lines 1-19/19 (END)
```

```
prometheus-2.47.1.linux-amd64/NOTICE
prometheus-2.47.1.linux-amd64/prometheus.yml
prometheus-2.47.1.linux-amd64/consoles/
prometheus-2.47.1.linux-amd64/consoles/prometheus.html
prometheus-2.47.1.linux-amd64/consoles/prometheus-overview.html
prometheus-2.47.1.linux-amd64/consoles/node-cpu.html
prometheus-2.47.1.linux-amd64/consoles/index.html.example
prometheus-2.47.1.linux-amd64/consoles/node.html
prometheus-2.47.1.linux-amd64/consoles/node-disk.html
prometheus-2.47.1.linux-amd64/consoles/node-overview.html
prometheus-2.47.1.linux-amd64/promtool
prometheus-2.47.1.linux-amd64/console_libraries/
prometheus-2.47.1.linux-amd64/console_libraries/prom.lib
prometheus-2.47.1.linux-amd64/console_libraries/menu.lib
prometheus-2.47.1.linux-amd64/prometheus
ananth@DESKTOP-LQBQG2D:~/prometheus-2.47.1.linux-amd64$ cd
rm -rf prometheus-2.47.1.linux-amd64.tar.gz
prometheus --version
D, revision: c4d1a8beff37cc004f1dc4ab9d2e73193f51aaeb)
  build user:       root@4829330363be
  build date:       20231004-10:31:16
  go version:       go1.21.1
  platform:         linux/amd64
  tags:             netgo,builtinassets,stringlabels
ananth@DESKTOP-LQBQG2D:~$ sudo vim /etc/systemd/system/prometheus.service
ananth@DESKTOP-LQBQG2D:~$ sudo systemctl enable prometheus
```

Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/6838921/2f9b7b37-
63a0-428b-adb5-0294482fd743?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F2
0250322%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250322T063406Z&X-Amz-Expires=300&X-Amz-Signature=90
c0d5d222406c94d5d5fccee0fd075509a2288c4b7aee36a25c4b61eb1ee260&X-Amz-SignedHeaders=host&response-content
-disposition=attachment%3B%20filename%3Dprometheus-2.47.1.linux-amd64.tar.gz&response-content-type=appli
cation%2Foctet-stream [following]
--2025-03-22 06:34:07-- https://objects.githubusercontent.com/github-production-release
38921/2f9b7b37-63a0-428b-adb5-0294482fd743?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Creder
tproduction%2F20250322%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250322T063406Z&X-Amz-Expires=300&X-A
mz-Signature=90c0d5d222406c94d5d5fccee0fd075509a2288c4b7aee36a25c4b61eb1ee260&X-Amz-SignedHeaders=host&r
esponse-content-disposition=attachment%3B%20filename%3Dprometheus-2.47.1.linux-amd64.tar.gz&response-con
tent-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.108.133, 185.199.109.
133, 185.199.110.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.108.133|:443... conn
ected.
HTTP request sent, awaiting response... 200 OK
Length: 95713066 (91M) [application/octet-stream]
Saving to: 'prometheus-2.47.1.linux-amd64.tar.gz'

prometheus-2.47.1.linux-amd64.tar 100%[===>] 91.
28M 2.41MB/s   in 33s

2025-03-22 06:34:39 (2.73 MB/s) - 'prometheus-2.47.1.linux-amd64.tar.gz' saved [95713066/95713066]

prometheus-2.47.1.linux-amd64/

 -r, --system   create a system account
 -R, --root CHROOT_DIR   directory to chroot into
 -P, --prefix PREFIX_DIR   prefix directory where are located the /etc/* files
 -s, --shell SHELL   login shell of the new account
 -u, --uid UID   user ID of the new account
 -U, --user-group   create a group with the same name as the user
 -Z, --selinux-user SEUSER   use a specific SEUSER for the SELinux user mapping
    --extrausers   Use the extra users database

ananth@DESKTOP-LQBQG2D:~$ sudo useradd \
    --system \
    --no-create-home \
    --shell /bin/false prometheus
ananth@DESKTOP-LQBQG2D:~$ sudo useradd --system --no-create-home --shell /bin/false prometheus
useradd: user 'prometheus' already exists
ananth@DESKTOP-LQBQG2D:~$ wget https://github.com/prometheus/prometheus/releases/download/v2.47.1/promet
heus-2.47.1.linux-amd64.tar.gz
tar -xvf prometheus-2.47.1.linux-amd64.tar.gz
sudo mkdir -p /data /etc/prometheus
cd prometheus-2.47.1.linux-amd64/
sudo mv prometheus promtool /usr/local/bin/
sudo mv consoles/ console_libraries/ /etc/prometheus/
sudo mv prometheus.yml /etc/prometheus/prometheus.yml
sudo chown -R prometheus:prometheus /etc/prometheus/ /data/
--2025-03-22 06:34:06-- https://github.com/prometheus/prometheus/releases/download/v2.47.1/prometheus-2
.47.1.linux-amd64.tar.gz

```
deployment.apps "my-deploy" deleted
ananth@DESKTOP-LQBQG2D:~$ sudo useradd     --system      --no-create-home      --shell /bin/false promethe
us
useradd: Warning: missing or non-executable shell '/bin/false prometheus'
Usage: useradd [options] LOGIN
       useradd -D
       useradd -D [options]

Options:
      --badname                 do not check for bad names
  -b, --base-dir BASE_DIR       base directory for the home directory of the
                                new account
      --btrfs-subvolume-home    use BTRFS subvolume for home directory
  -c, --comment COMMENT         GECOS field of the new account
  -d, --home-dir HOME_DIR       home directory of the new account
  -D, --defaults                print or change default useradd configuration
  -e, --expiredate EXPIRE_DATE  expiration date of the new account
  -f, --inactive INACTIVE       password inactivity period of the new account
  -F, --add-subids-for-system   add entries to sub[ud]id even when adding a system user
  -g, --gid GROUP               name or ID of the primary group of the new
                                account
  -G, --groups GROUPS           list of supplementary groups of the new
                                account
  -h, --help                    display this help message and exit
  -k, --skel SKEL_DIR           use this alternative skeleton directory
  -K, --key KEY=VALUE           override /etc/login.defs defaults
```

```
                                account
  -G, --groups GROUPS           list of supplementary groups of the new
                                account
  -h, --help                    display this help message and exit
  -k, --skel SKEL_DIR           use this alternative skeleton directory
  -K, --key KEY=VALUE           override /etc/login.defs defaults
  -l, --no-log-init             do not add the user to the lastlog and
                                faillog databases
  -m, --create-home             create the user's home directory
  -M, --no-create-home          do not create the user's home directory
  -N, --no-user-group           do not create a group with the same name as
                                the user
  -o, --non-unique              allow to create users with duplicate
                                (non-unique) UID
  -p, --password PASSWORD       encrypted password of the new account
  -r, --system                  create a system account
  -R, --root CHROOT_DIR         directory to chroot into
  -P, --prefix PREFIX_DIR       prefix directory where are located the /etc/* files
  -s, --shell SHELL             login shell of the new account
  -u, --uid UID                 user ID of the new account
  -U, --user-group              create a group with the same name as the user
  -Z, --selinux-user SEUSER     use a specific SEUSER for the SELinux user mapping
      --extrausers              Use the extra users database

ananth@DESKTOP-LQBQG2D:~$ kubectl delete -all --all
error: unknown shorthand flag: 'a' in -all
```
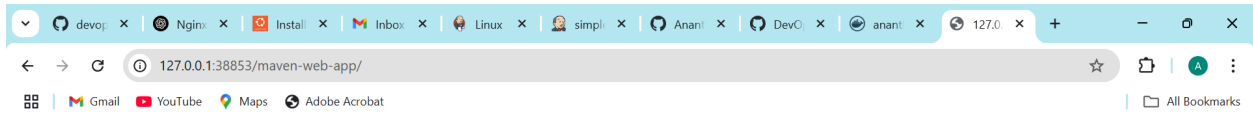
```
🎉  Opening service default/my-service in default browser...
👉  http://127.0.0.1:38853
❗  Because you are using a Docker driver on linux, the terminal needs to be open to run it.
^C✋  Stopping tunnel for service my-service.
ananth@DESKTOP-LQBQG2D:~$ sudo useradd \
    --system \
    --no-create-home \
    --shell /bin/false prometheus
[sudo] password for ananth:
useradd: Warning: missing or non-executable shell '/bin/false prometheus'
Usage: useradd [options] LOGIN
       useradd -D
       useradd -D [options]

Options:
      --badname                 do not check for bad names
  -b, --base-dir BASE_DIR       base directory for the home directory of the
                                new account
      --btrfs-subvolume-home    use BTRFS subvolume for home directory
  -c, --comment COMMENT         GECOS field of the new account
  -d, --home-dir HOME_DIR       home directory of the new account
  -D, --defaults                print or change default useradd configuration
  -e, --expiredate EXPIRE_DATE  expiration date of the new account
  -f, --inactive INACTIVE       password inactivity period of the new account
  -F, --add-subids-for-system   add entries to sub[ud]id even when adding a system user
  -g, --gid GROUP               name or ID of the primary group of the new
```

Hello World!

Prometheus   Alerts   Graph   Status   Help

Use local time   Enable query history   ☑ Enable autocomplete   ☑ Enable highlighting   ☑ Enable linter

Expression (press Shift+Enter for newlines)   Execute

Table   Graph

1h   End time   Res. (s)   Show Exemplars

No data queried yet

Remove Panel

Add Panel

localhost:9090/graph?g0.expr=&g0.tab=0&g0.stacked=0&g0.show_exemplars=0&g0.range_input=1h