Note : ubuntu ec2 instance is succeefully deploy the application :

Just need to use jenkin job to deploy it and can see information from putty command line

Deployment is failed: date 6/23/2022 - > need to see in kubectl config view - > file in Jenkins as secret file in credentials part - > video starts from 37:49

Important : first go through this video for full deployment : https://www.youtube.com/watch?v=adG0vq5boL8

Devops written note by valaxy : <https://github.com/ravdy>

Youtube : https://www.youtube.com/hashtag/valaxy

Jenkin can be found at : <http://3.16.69.99:8080/>

http://18.188.136.164:8080/

For this first need to run ec2 instance in aws which I have stopped

**Ec2- > SERVER-CUBIC**

NOTE : I HAVE FOLLOWED ALL THE PROCEDURE TO CREATE THE TEST-SERVER BUT NO public ipv4 found

1st create ec2 instance and install Jenkins and java : Source in google - >

We should configure java path :

For this :

ls -la

vi .bash\_profile

path: JAVA\_HOME=/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.312.b07-1.amzn2.0.2.x86\_64

Google resource :

https://www.jenkins.io/doc/tutorials/tutorial-for-installing-jenkins-on-AWS/

Just need to follow :

Done: in date : 6/19/2022 --- > install jenkin in ec2 instance

1st stage:

* Need to do : I need to use this jenkin to deploy my cubic\_advance project with docker image , one artifactory and other security stage in jenkin …..

2nd stage : need to initialize kubernetess cluster and deploy container in k8s

3rd stage : use Prometheus and Grafana to watch metrics

4th: use autoscaling to metrics

Medium source for dev to jenkin to Kubernetes :

<https://katharharshal1.medium.com/deploy-spring-boot-application-into-aws-eks-using-jenkins-cicd-2ced0e0d894c>

Jenkins -Kubernetes-iam role configuration (Done successfully)(video to 15:49 minute)

You-tube : <https://www.youtube.com/watch?v=C1BlN66s9yo&t=485s> ( Jenkins-eks-ecr-deployment etc)

Github : https://github.com/akannan1087/springboot-app

Creating EKS : https://www.coachdevops.com/2022/02/create-amazon-eks-cluster-by-eksctl-how.html

Best resource : https://www.coachdevops.com/2022/01/deploy-springboot-microservices-app\_11.html

1st : create ec2 instance :

2nd : install maven and java in ec2 instance

Sudo yum install maven -y ( this command will install both java and maven)

3rd: install Jenkins : <https://www.jenkins.io/doc/tutorials/tutorial-for-installing-jenkins-on-AWS/>

> need to install git in ec2 instance ( sudo yum update -y , sudo yum install git -y , git version )

> aftere git installation : command : which git -- > it will give the path of git in ec2 instance -- > this path need to mention in -- > Jenkins -- > manage Jenkins -- > global tool configuration -- > Git -- > Jenkins executable path - > put git path here ( if not given , it throws Hudson pluging error not able to init)

- > we need to put kubeconfig secret file in Jenkins : for this -> Jenkins -> mangae Jenkins -> credential - > add credential - > kind: secret file (create in text sublime -> it comes from Kubernetes putty command: cat ~/.kube/config - > copy it from putty and paste it into text sublime) - > Id : K8S (any thing) - > description:K8S(anything) - > create

- > now need to create pipeline syntaxt for kubectl or Kubernetes : configuration -> pipeline script - > sample steps : withkubeconfig: configure Kubernetes cli(kubectl) - > add credential (pop up same secret file just we added in credential (manage Jenkins) - > generate pipeline scriopt - > copy generated script and paste in to the pipeline

- > use github credential to check out in pipeline : Jenkins -- > manage Jenkins - > credential - > username and password – give then amd save . 2nd : now go to pipeline project - > configure - > advance project options - > pipeline syntax - > sample step (GIT) - > give GIT repository url - > branch (give) - > credential ( it wll popup which we just configure in manage Jenkins - > generate pipeline secret - > use this generated code into pipe line - > done

3rd: we will create Jenkins pipeline from pipeline script generator and we try it from jenkin pipeline script -- > when script works fine then we do copy and push it to the git with name (Jenkinfile) - > now we use pipeline script from git to jenkin - > we just need to use “pipeline scripot from SCM “ not from (pipeline script) - > then need to go accordingly

Delete or remove Jenkins : sudo service jenkins stop , sudo yum remove jenkins

4th : install : aws cli : <https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html>

5th install eksctl : <https://docs.aws.amazon.com/eks/latest/userguide/eksctl.html>

Note:

jenkin is the responsible to deploy the service into eks cluster . so we need to create the ekscluster with jenkin user . switch to Jenkins user : ls

6th: install kubectl : <https://docs.aws.amazon.com/eks/latest/userguide/install-kubectl.html>

7th: create ECR repo in aws to store docker image

We should create iam role attached in ec2 : AwsEC2ContainerRegistryFullAccess (policy ) , AwsAdminstratorAccess (policy) and attached it in ec2

8th: need to install docker in instance(cubic\_server\_public)

(Source: https://www.cyberciti.biz/faq/how-to-install-docker-on-amazon-linux-2/)

Command: sudo yum update , sudo yum search docker , sudo yum info docker ,

sudo yum install docker ,

command for ubuntu : sudo apt install docker.io -y

(note we need to add plugin in Jenkins for plugin and kubernets: Docker , Docker Pipeline ,Kubernetes CLI plugin)

Note: Add group membership for the default ec2-user so you can run all docker commands without using the sudo command:

$ sudo usermod -a -G docker ec2-user  
$ [id](https://www.cyberciti.biz/faq/unix-linux-id-command-examples-usage-syntax/?utm_source=Linux_Unix_Command&utm_medium=faq&utm_campaign=nixcmd) ec2-user

Q> how to get access from the browser client ?

Ans: After running everything well , we can do : kubectl get svc - > and copy LoadBalancer external ip - > curl external Ip - > it will give the result in putty

For browser client : just paste the loadBalancer external ip and it works

EKS :

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

eksctl create cluster --name cubic-eks --region us-east-2 --nodegroup-name cubic-nodes --node-type t3.small --managed --nodes 2 (To create cluster)

eksctl get cluster --name cubic-eks --region us-east-2 (it will give cluster up and running)

eksctl delete cluster --name cubic-eks --region us-east-2  ( it will delete the cluster)

Kubeconfig file will be in : /var/lib/jenkins/.kube/config

When get error : unauthorization to log in server …

Use this resources : https://aws.amazon.com/premiumsupport/knowledge-center/eks-api-server-unauthorized-error/

IAM

If we don’t attach IAM policy related to eks cluster in ec2 instacne then it will give error saying : unauthorization , must be loged in server :

Policy : AwsEC2ContainerRegistryFullAccess and AwsAdminstratorAccess

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Security group\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

If we don’t mention http rule then we can not connect from putty :

Username for linux In putty is : ec2-user

Username for ubuntu in putty is : ubuntu