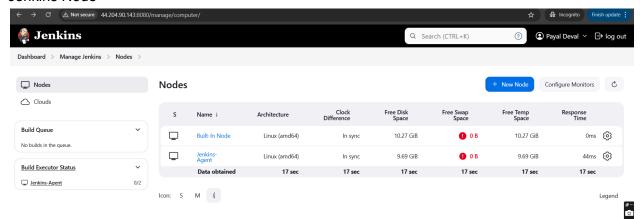
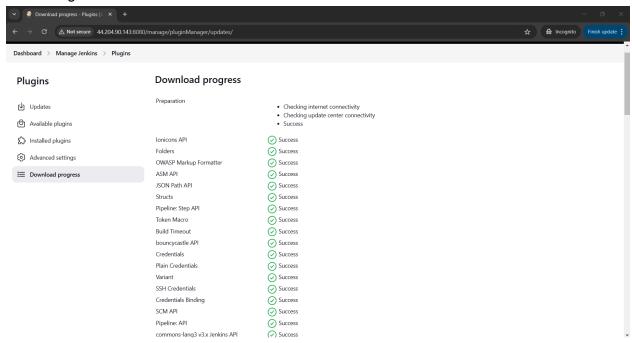


Jenkins Node



Install Plugins



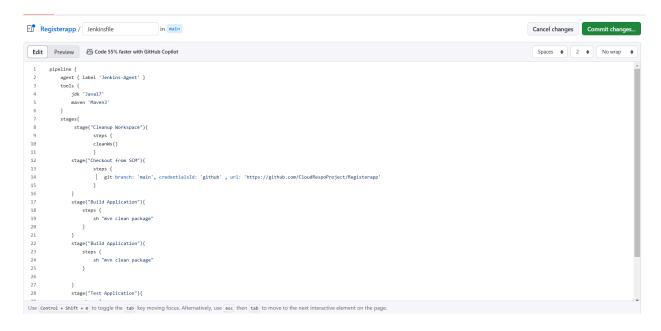
JDK Installation

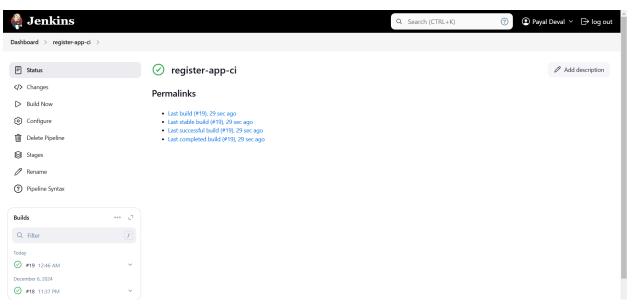


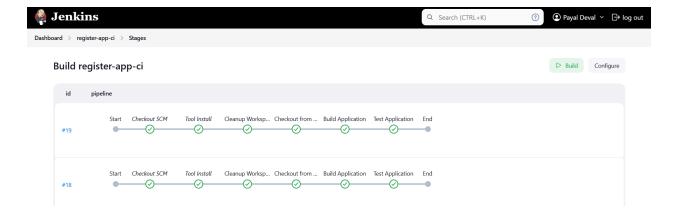
Store Git Credentials/Token on Jenkins



Create Pipeline script(Jenkinsfile) for Build & Test Artifacts and create CI job on Jenkins







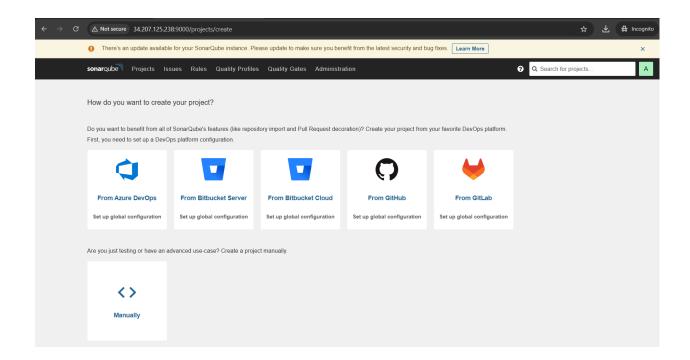
Install and Configure SonarQube

Install PostgreSQL

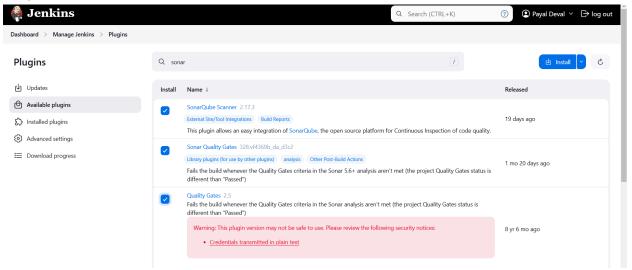
```
seading state information... Done
ne following additional packages will be installed:
libcommon-sense-perl libipo-typerl libipo-run-perl libjson-perl libjson-xs-perl liblym17t64 libpq5 libtypes-serialiser-perl postgresql-17 postgresql-client-17
postgresql-client-common postgresql-common ssl-cert
uggested packages:
postgresql-doc postgresql-doc-17
ne following NEW packages will be installed:
libcommon-sense-perl libio-pty-perl libipo-run-perl libjson-perl libjson-xs-perl liblym17t64 libpq5 libtypes-serialiser-perl postgresql postgresql-17
postgresql-client-17 postgresql-client-common postgresql-common postgresql-contrib ssl-cert
ugpraded, 15 newly installed, 0 to remove and 0 not upgraded.
sed to get 46.1 MB of archives.

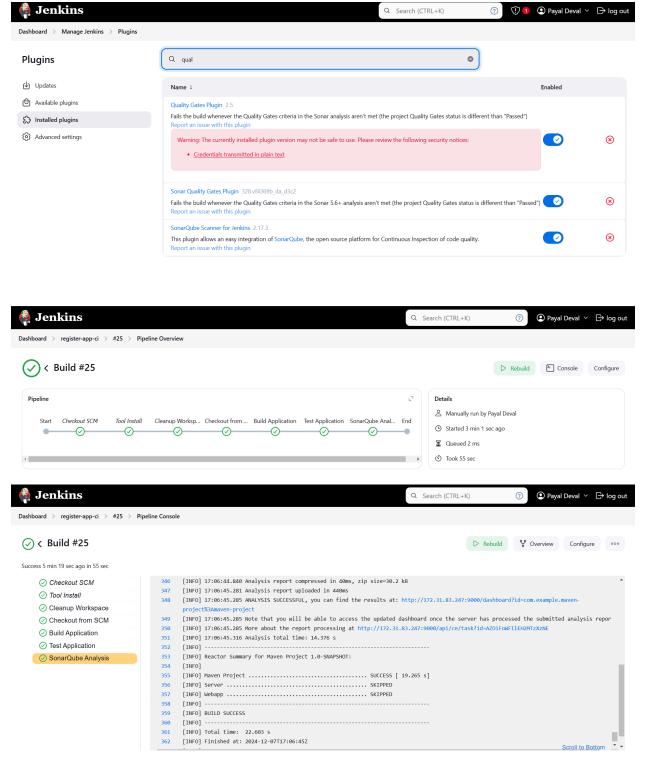
for this covertion 196 MB of additional disk space will be used
```

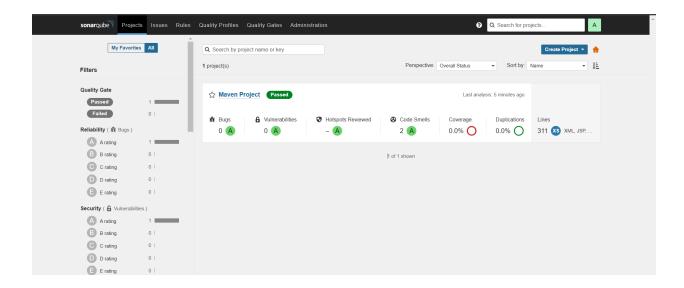
```
8ip-172-31-83-247:/home/ubuntu# sudo tail -f /opt/sonarqube/logs/sonar.log
.12.07 16:11:43 INPO app[[lo.s.a.SchedulerImpl] Waiting for Elasticsearch to be up and running
.12.07 16:11:59 INPO app[[lo.s.a.SchedulerImpl] Process[es] is up
.12.07 16:11:59 INPO app[[lo.s.a.SchedulerImpl] Process[wEB_SERVER] from [/opt/sonarqube]: /usr/lib/jym/temurin-17-jdk-amd64/bin/java -Djava.awt.hea
-true -Dfile.encoding=UTF-8 -Djava.lo.tmpdir=/opt/sonarqube/temp -XX:-omitistacktraceInFastThrow --add-opens=java.base/java.util-ALL-UNNAMED --add-opens=java.base/apava.base/java.base/java.base/java.base/java.base/sole.ac/apac.base/apava.base/sole.ac/apac.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/java.base/
  b/sonar-application-9.9.0.65466.jar:/opt/sonarqube/lib/jdbc/postgresq1/postgresq1-42.5.1.jar org.sonar.server.app.web/server /opt/sonarqube/temp/sq-process45762689870
384606properties
024.12.07 16:12:14 INFO app[][o.s.a.schedulerImpl] Process[exb] is up
024.12.07 16:12:14 INFO app[][o.s.a.ProcessLauncherImpl] Launch process[COMPUTE_ENCINE] from [/opt/sonarqube]: /usr/lib/jvm/temurin-17-jdk-am64/bin/java_bjava.awt
eadless-true = Dfile.encoding=UTF-8 - bjava.io.tmpdir=/opt/sonarqube/temp -XX:-OmitStackfraceInFastThrow --add-opens-java.base/java.util=ALI-UNNAMED --add-opens-java.base/java.util=ALI-UNNAMED --add-opens-java.base/java.lapse/java.undangement-Internal.yau.management/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/sun.enanagement/su
4]+ Stopped sudo tail -f /opt/sonarqube/logs/sonar.log
```



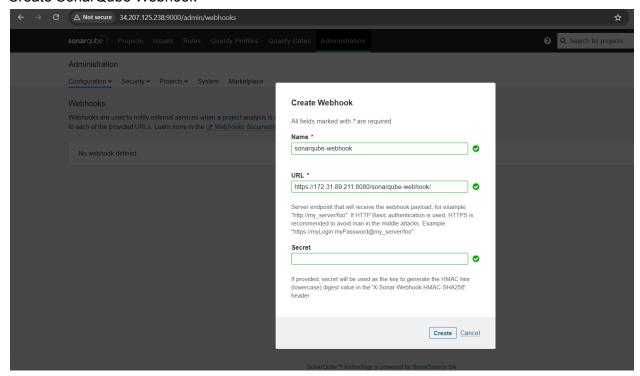
Integrate SonarQube with Jekins



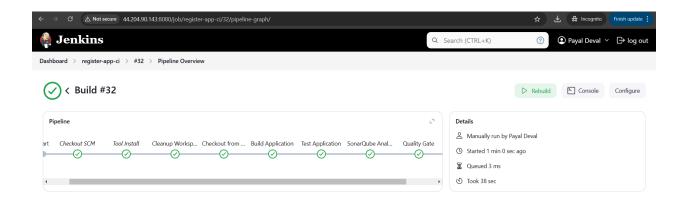


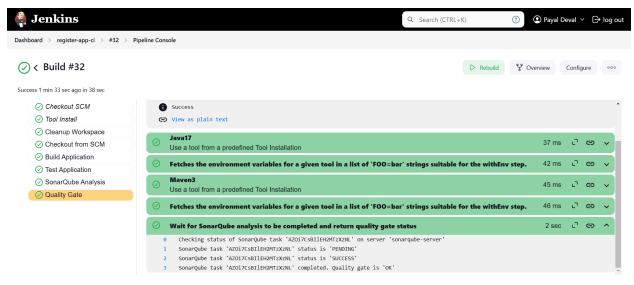


Create SonarQube Webhook



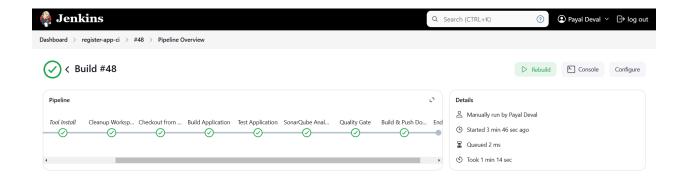
Build to test SonarQube

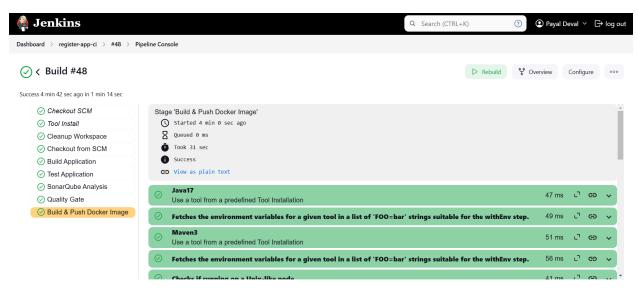




Jenkins 2.488

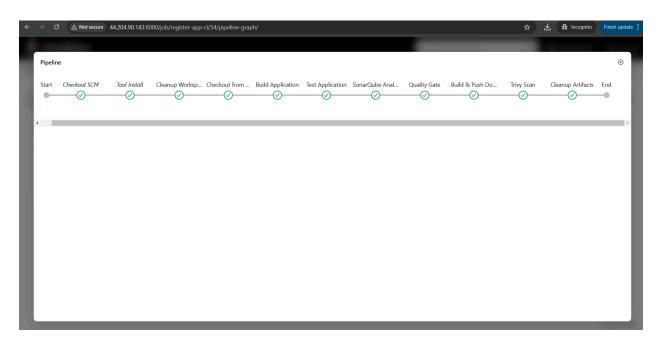
Build and Push Docker Image using Pipeline Script





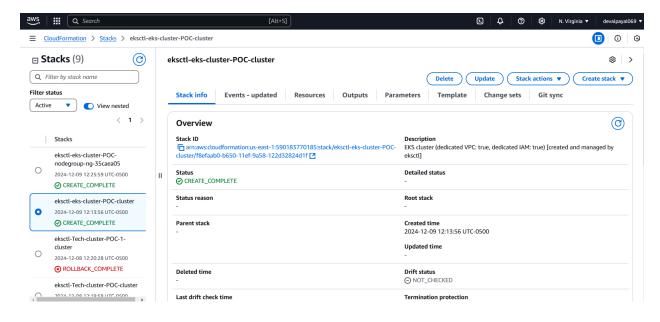
Jenkins 2.488

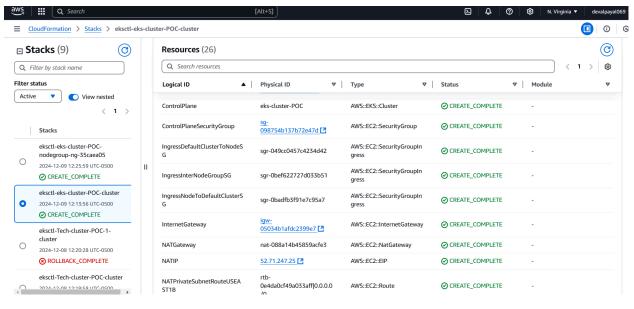
Trivy scan & Clean Artifact

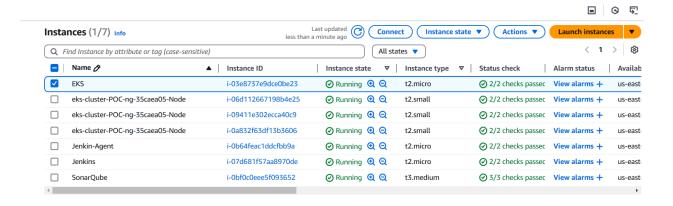


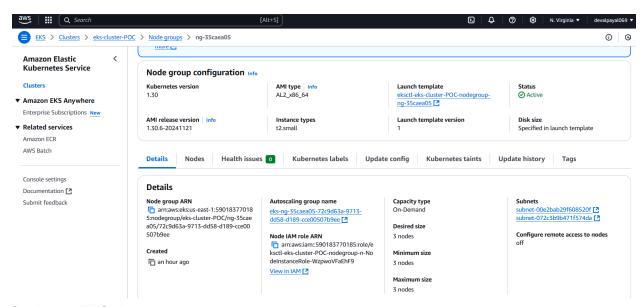
Setup Bootstrap Server for eksctl and Setup Kubernetes using eksctl











Setting up EKS cluster



Create Namespace

```
ubuntu@ip-172-31-23-187:~$ kubectl create namespace argocd
namespace/argocd created
ubuntu@ip-172-31-23-187:~$ kubectl get all namespace
error: you must specify only one resource
ubuntu@ip-172-31-23-187:~$ kubectl get namespace
NAME
                  STATUS
                           AGE
argocd
                  Active
                           65s
default
                  Active
                           85m
                           85m
kube-node-lease
                  Active
kube-public
                  Active
                           85m
                  Active
                           85m
kube-system
```

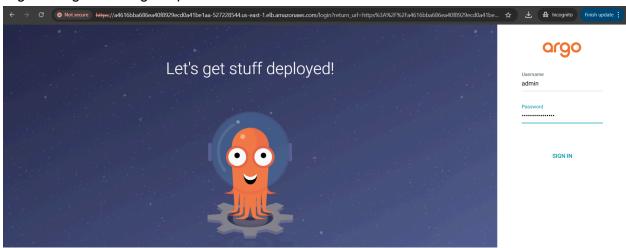
ArgoCD Installation on EKS Cluster and add EKS Cluster to ArgoCD

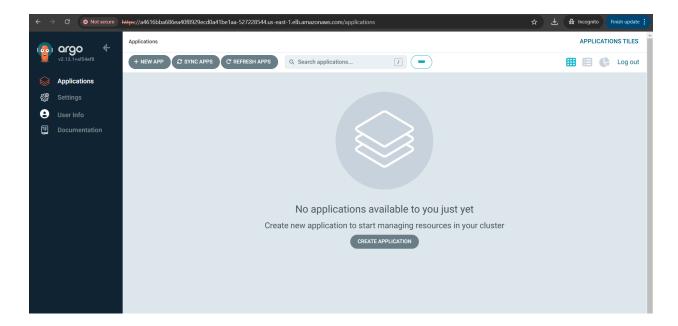


LoadBalancer in ArgoCD Namespace

root@ip-172-31-23-187:/home/ubuntu# kubectl get svc -n argood				
NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)
AGE				
argocd-applicationset-controller	ClusterIP	10.100.218.245	<none></none>	7000/TCP,8080/TCP
5m				
argocd-dex-server	ClusterIP	10.100.130.50	<none></none>	5556/TCP,5557/TCP,
58/TCP 5m				
argocd-metrics	ClusterIP	10.100.183.73	<none></none>	8082/TCP
5m argocd-notifications-controller-metrics	ClusterIP	10.100.172.165	<none></none>	9001/TCP
5m	Clustelle	10.100.172.103	Cholies	3001/1CF
argocd-redis	ClusterIP	10.100.129.135	<none></none>	6379/TCP
5m				,
argocd-repo-server	ClusterIP	10.100.173.251	<none></none>	8081/TCP,8084/TCP
5m				
argocd-server	LoadBalancer	10.100.62.105	a4616bba686ea40f8929ecd0a41be1aa-527228544.us-east-1.elb.amazonaws.com	80:31007/TCP,443:3
87/TCP 5m				
argocd-server-metrics	ClusterIP	10.100.34.134	<none></none>	8083/TCP
5m				
root@ip-172-31-23-187:/home/ubuntu#				

Login to ArgoCD using the provided URL in the SVC





Add EKS Cluster to the ArgoCD Cluster

Login to ArgoCD using CLI

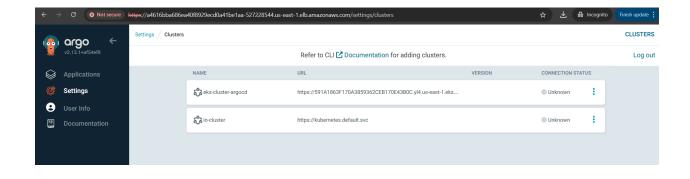
manyouts; poetror: code - Unanthenic acted desc - Invarious descinant of password
roct@ip=172-31-23-187/home/ubuntu# argood login a46i6ba666ea40f829ecd0a41belaa-527228544.us-east-1.elb.amazonaws.com --username admin
WARNING: server certificate had error: x509: certificate is valid for localhost, argood-server, argood-server.argood, argood-server.argood.svc, argood-server.argood.svc
c.cluster.local, not a46i6bba686ea40f8929ecd0a41belaa-527228544.us-east-1.elb.amazonaws.com. Proceed insecurely (y/n)? y
Eassword:
'admin:login' logged in successfully
Context 'a46i6bba686ea40f8929ecd0a41belaa-527228544.us-east-1.elb.amazonaws.com' updated
root@ip-172-31-23-187:/home/ubuntu# |

Add a cluster to Argocd

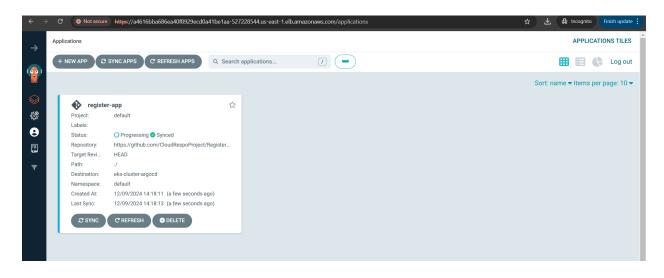
```
root@ip-172-31-23-187:/home/ubuntu# argood cluster add i-03e8737e9dce0be23@eks-cluster-POC.us-east-1.eksctl.io -name eks-cluster-argood
MARNING: This will create a service account 'argood-manager' on the cluster referenced by context 'i-03e8737e9dce0be23@eks-cluster-POC.us-east-1.eksctl.io with full c
luster level privileges. Do you want to continue [y/N]? y
INNO[0002] ServiceAccount "argood-manager" created in namespace "kube-system"
INNO[0002] ClusterRole "argood-manager-role" created
INNO[0002] ClusterRoleBinding "argood-manager-role-binding" created
INNO[0007] Created bearer token secret for ServiceAccount "argood-manager"
Cluster 'https://591A18638170A3859362CBB170E43B0C.yl4.us-east-1.eks.amazonaws.com' added
root@ip-172-31-23-187:/home/ubuntu#
```

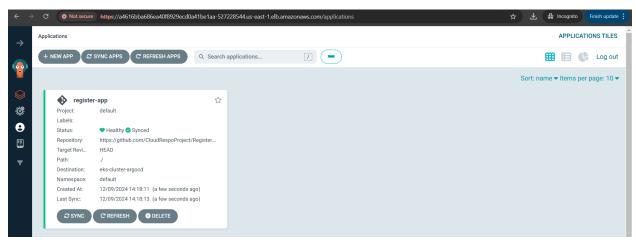
ArgoCD cluster list:

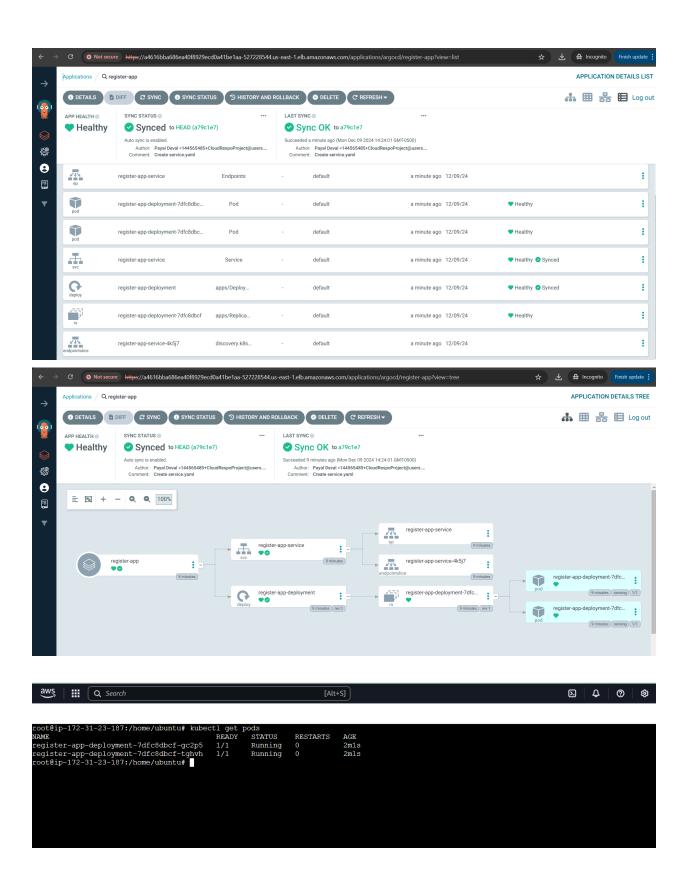




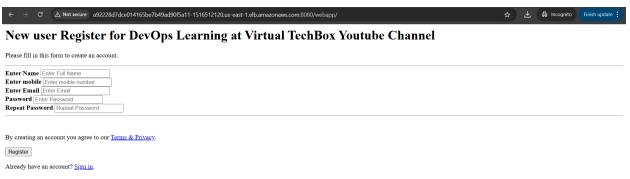
Configure ArgoCD to deploy PODS on EKS and automate ArgoCD Deployment job using GitOps GitHub Repository







Final Output of Application on Browser



Thank You

Happy Learning. See You Again.

Automate the Deployment process using Jenkins