

# Graded Project on Orchestration and Scaling

**Objective:** To automate the pipeline using ECR, EKS and Jenkins and deploy the app

GitHub Links: <https://github.com/SamDonald-A/StreamingApp>

Read file: <https://github.com/SamDonald-A/StreamingApp/blob/main/README.md>

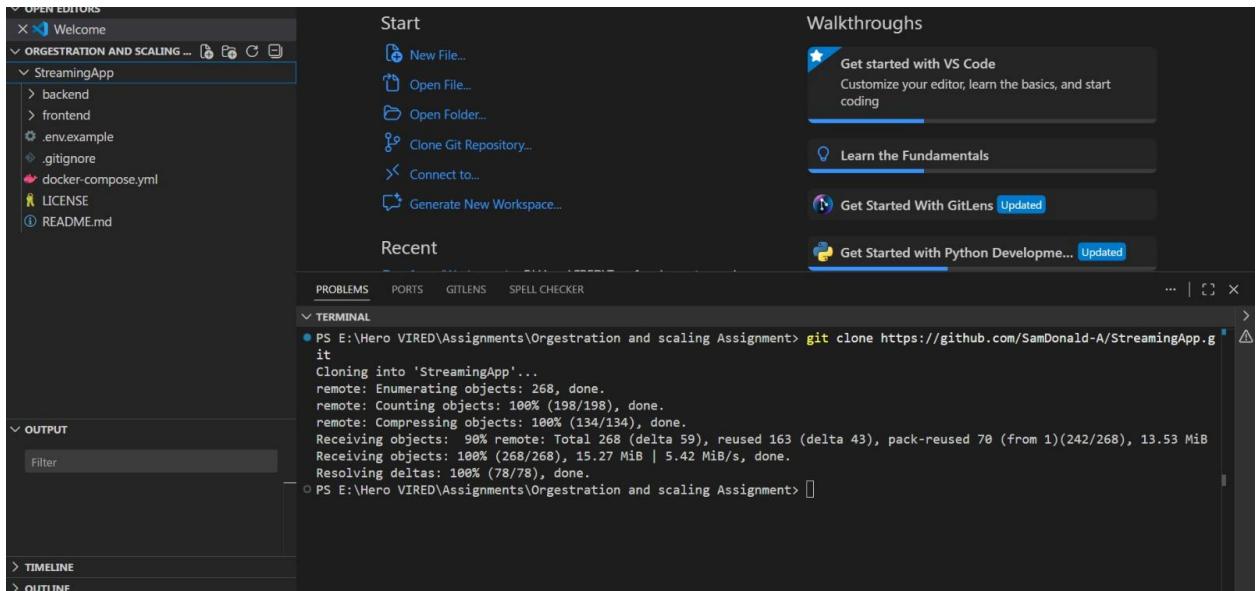
## Step 1: Git and local code setup

- Fork the repo

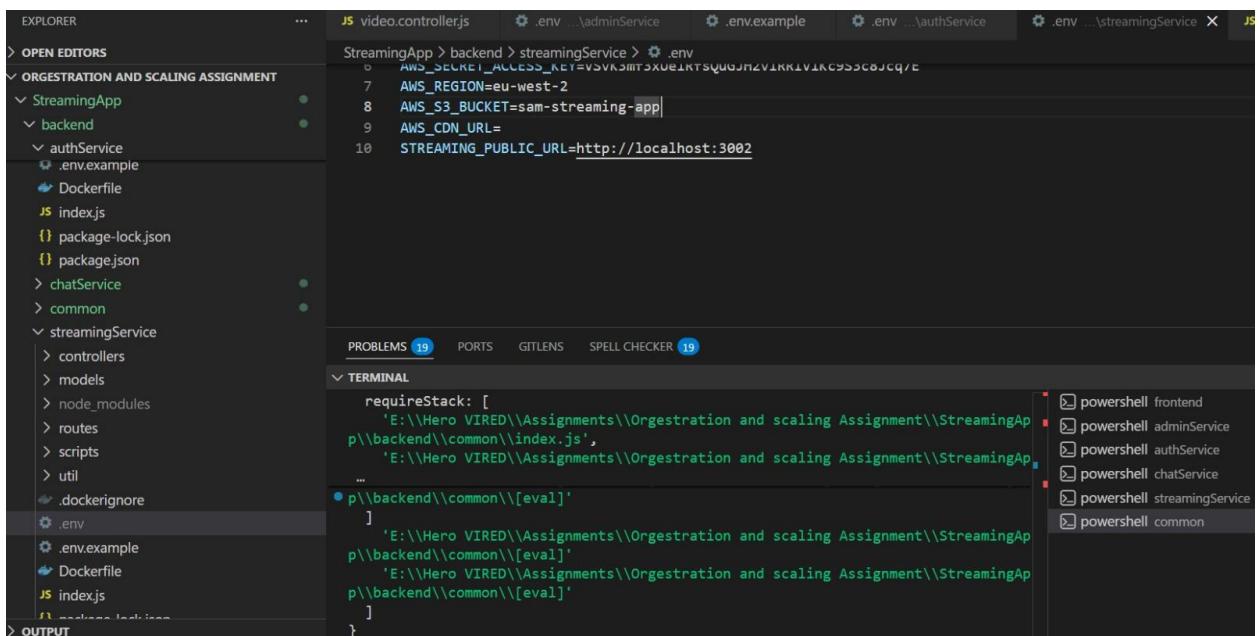
The screenshot shows a GitHub repository page for 'StreamingApp'. At the top, there's a search bar and navigation links for Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. Below that is the repository header with the name 'StreamingApp' (Public), a profile picture, and a note that it's forked from 'UnpredictablePrashant/StreamingApp'. There are buttons for Pin, Watch (0), and a dropdown menu. The main area shows a branch selector (main), a status message ('This branch is up to date with UnpredictablePrashant/StreamingApp:main .'), and a commit history. The commit history lists four commits by 'UnpredictablePrashant': 'WIP: adding the streaming codes' (f79b721 · 2 months ago), 'backend' (WIP: adding the streaming codes · 2 months ago), 'frontend' (WIP: adding the streaming codes · 2 months ago), '.env.example' (WIP: adding the streaming codes · 2 months ago), and '.gitignore' (Initial commit · 2 years ago). On the right side, there are sections for About, Collaborate, Read, Act, and Releases.

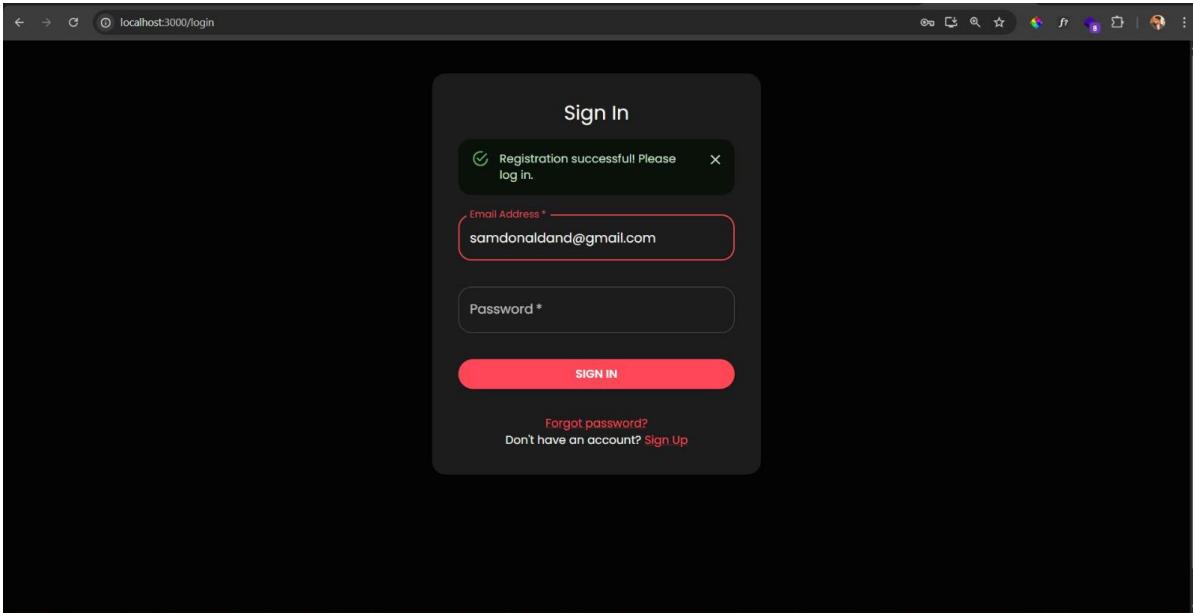
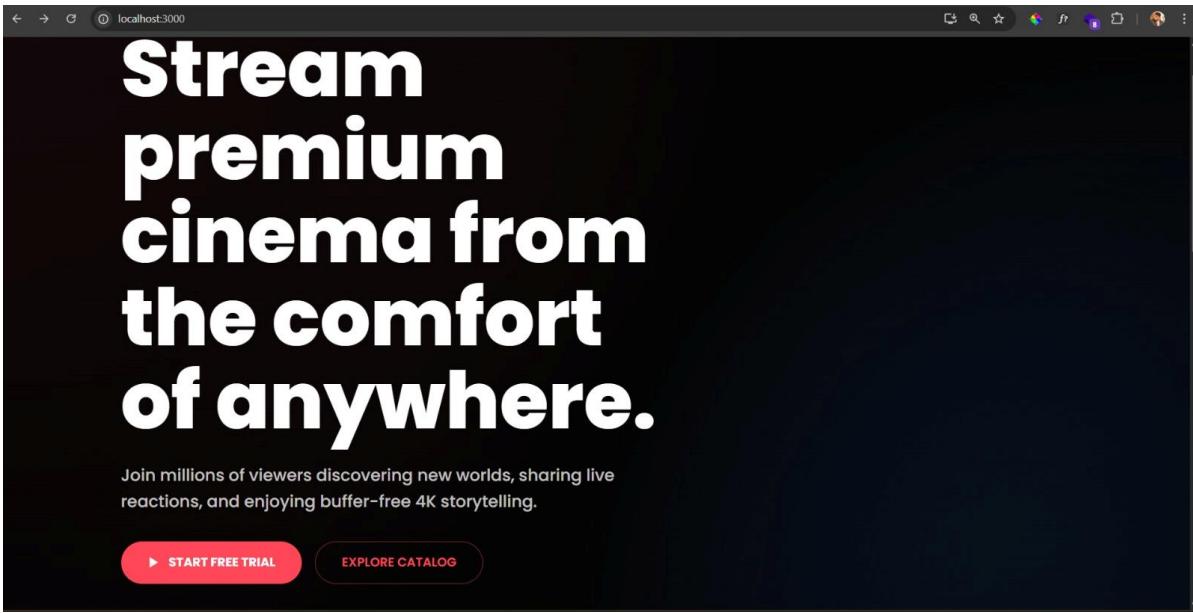
Commit	Message	Date
f79b721	WIP: adding the streaming codes	2 months ago
backend	WIP: adding the streaming codes	2 months ago
frontend	WIP: adding the streaming codes	2 months ago
.env.example	WIP: adding the streaming codes	2 months ago
.gitignore	Initial commit	2 years ago

- **Clone the repo in your local**



- **Create the .env in each service and in frontend and run the app for testing**





localhost:3000/register

## Sign Up

Full Name \*  
Sam Donald

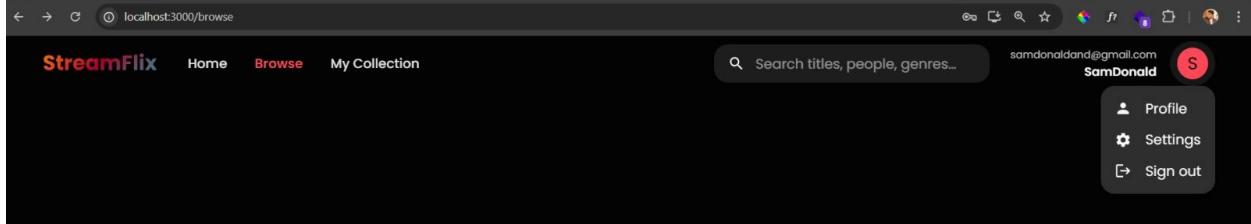
Email Address \*  
samdonaldand@gmail.com

Password \*  
\*\*\*\*\*

Confirm Password \*  
\*\*\*\*\*

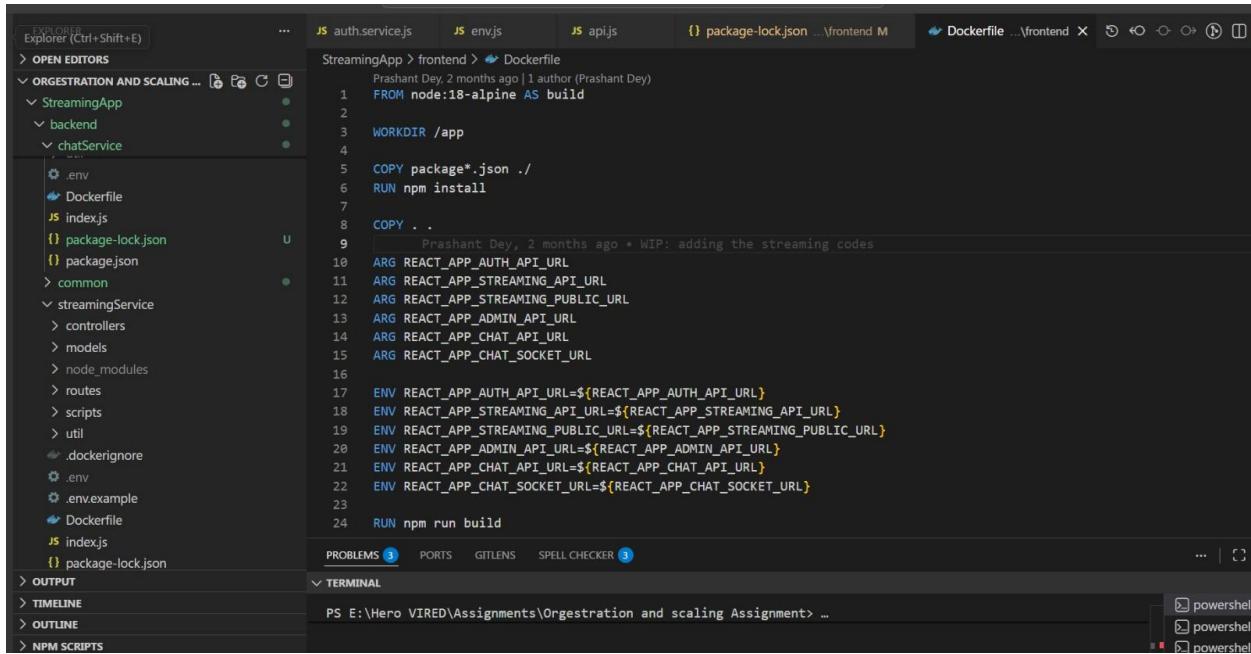
SIGN UP

Already have an account? [Sign In](#)



## Step 2: Containerization - Docker setup

- Create Docker file in each service and in frontend



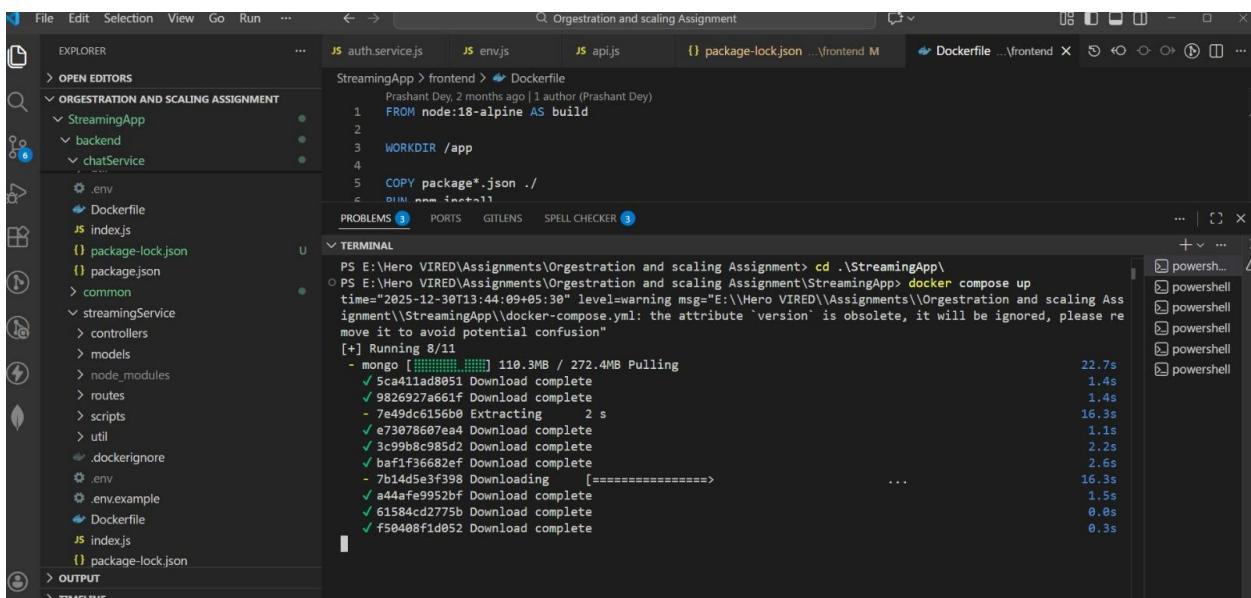
The screenshot shows the VS Code interface with the Dockerfile for the `StreamingApp` frontend service. The Dockerfile content is as follows:

```

FROM node:18-alpine AS build
WORKDIR /app
COPY package*.json .
RUN npm install
COPY . .
ARG REACT_APP_AUTH_API_URL
ARG REACT_APP_STREAMING_API_URL
ARG REACT_APP_STREAMING_PUBLIC_URL
ARG REACT_APP_ADMIN_API_URL
ARG REACT_APP_CHAT_API_URL
ARG REACT_APP_CHAT_SOCKET_URL
ENV REACT_APP_AUTH_API_URL=${REACT_APP_AUTH_API_URL}
ENV REACT_APP_STREAMING_API_URL=${REACT_APP_STREAMING_API_URL}
ENV REACT_APP_STREAMING_PUBLIC_URL=${REACT_APP_STREAMING_PUBLIC_URL}
ENV REACT_APP_ADMIN_API_URL=${REACT_APP_ADMIN_API_URL}
ENV REACT_APP_CHAT_API_URL=${REACT_APP_CHAT_API_URL}
ENV REACT_APP_CHAT_SOCKET_URL=${REACT_APP_CHAT_SOCKET_URL}
RUN npm run build

```

- Build image and run locally to check once again with containers using docker-compose.yaml



The screenshot shows the VS Code interface with the terminal output of running `docker compose up` for the `StreamingApp` service. The output shows the download and extraction of the MongoDB image.

```

PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment> cd .\StreamingApp
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker compose up
time="2025-12-30T13:44:09+05:30" level=warning msg="E:\\Hero VIRED\\Assignments\\Orchestration and scaling Assignment\\StreamingApp\\docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 8/11
- mongo [====] 118.3MB / 272.4MB Pulling
  ✓ 5ca411ad8851 Download complete
  ✓ 9826927a661f Download complete
  - 7e49dc6156b0 Extracting    2 s
  ✓ e73078607ea4 Download complete
  ✓ 3c99b8c985d2 Download complete
  ✓ baf1f36682ef Download complete
  - 7b14d5e3f398 Downloading    [=====]
  ✓ a44afe9952bf Download complete
  ✓ 61584cd2775b Download complete
  ✓ f50408f1d052 Download complete
22.7s
1.4s
1.4s
16.3s
1.1s
2.2s
2.6s
16.3s
1.5s
0.8s
0.3s

```

```

package.json
README.md
env.example
gitignore
docker-compose.yml
LICENSE
README.md

PUT
ELINE
LINE
SCRIPTS
    - SecretsUsedInArgOrEnv: Do not use ARG or ENV instructions for sensitive data (ENV "REACT_APP_AUTH_API_URL") (line 17)
)
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker images
  IMAGE                   ID          DISK USAGE   CONTENT SIZE  EXTRA
  admin-service:latest   2102be6e4d44  201MB        0B
  auth-service:latest    94cbcd5f42ce  157MB        0B
  chat-service:latest    1fd8241d2916  190MB        0B
  front-end:latest       0bdd9f91fa2f   51.8MB       0B
  gcr.io/k8s-minikube/storage-provisioner:v5  6e38f40d628d  31.5MB       0B
  registry.k8s.io/coredns/coredns:v1.12.1  52546a367cc9  75MB        0B
  registry.k8s.io/etcd:3.6.4-0    5f1f5298c888  195MB        0B
  registry.k8s.io/kube-apiserver:v1.34.0  90550c43ad2b  88MB        0B
  registry.k8s.io/kube-controller-manager:v1.34.0  a0a7f2f2ec6d  74.9MB       0B
  registry.k8s.io/kube-proxy:v1.34.0   df0860106674  71.9MB       0B
  registry.k8s.io/kube-scheduler:v1.34.0  46169d968e92  52.8MB       0B
  registry.k8s.io/pause:13.10.1     cd073f4c5f6a   736KB        0B
  streaming-service:latest      3ae4926a7075  217MB        0B
  PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp>

```

- Make sure your docker and minikube are running

	Name	Container ID	Image	Port(s)	CPU (%)	Memory usage...	Memory (%)	Disk read/write	Actions
<input type="checkbox"/>	minikube	8ca6c7cee415	k8s-minikube	55961:22	204.46%	614.6MB / 3GB	20.01%	701MB / 4.69G	
<input type="checkbox"/>	streamingapp	-	-	-	1.81%	373.3MB / 34.25G	6.39%	90.31MB / 9.7G	
<input type="checkbox"/>	mongo-1	87e2ccb8fe0	mongo:6	27017:27017	0.43%	143.6MB / 5.71Gi	2.46%	84.5MB / 9.7M	
<input type="checkbox"/>	streaming-1	f6f11ccc1f5a	streaminga	3002:3002	1.13%	60.11MB / 5.71Gi	1.03%	77.8KB / 4.1KE	
<input type="checkbox"/>	auth-1	2b610d20775b	streaminga	3001:3001	0%	50.46MB / 5.71Gi	0.86%	1.16MB / 4.1Ki	
<input type="checkbox"/>	admin-1	51b8abefb591	streaminga	3003:3003	0.1%	58.71MB / 5.71Gi	1%	229KB / 4.1KB	
<input type="checkbox"/>	chat-1	6a3e7e0637e7	streaminga	3004:3004	0.15%	50.18MB / 5.71Gi	0.86%	0B / 4.1KB	
<input type="checkbox"/>	frontend-1	2344049b0b61	streaminga	3000:80	0%	10.24MB / 5.71Gi	0.18%	4.35MB / 12.3i	

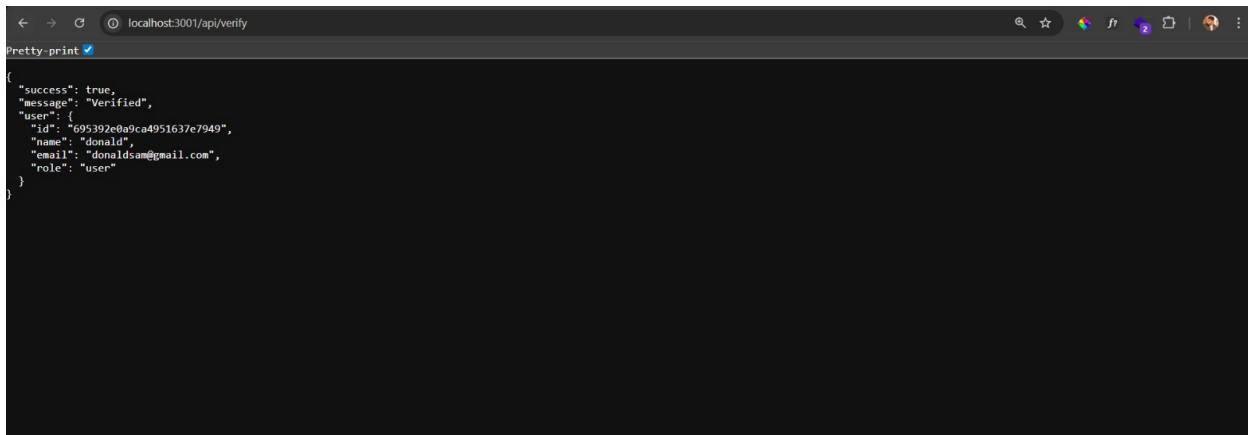
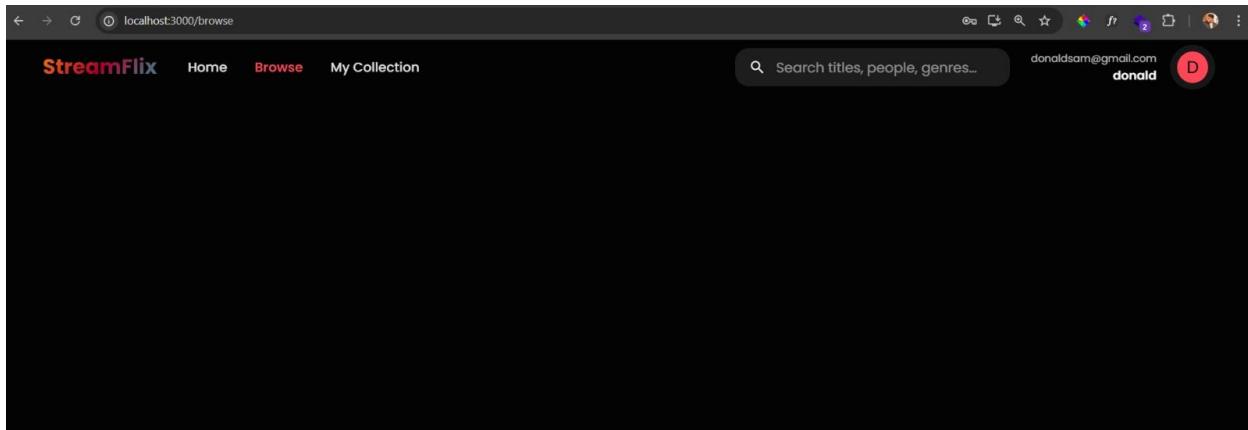
```

PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment> minikube start
  🎉 minikube v1.37.0 on Microsoft Windows 11 Home Single Language 10.0.26200.7462 Build 26200.7462
  🚀 Using the docker driver based on existing profile
  🔥 Starting "minikube" primary control-plane node in "minikube" cluster
  🚗 Pulling base image v0.0.48 ...
  🔄 Restarting existing docker container for "minikube" ...
  ⚠️ Failing to connect to https://registry.k8s.io/ from inside the minikube container
 💡 To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/configuring/proxy/
  🛡️ Preparing Kubernetes v1.34.0 on Docker 28.4.0 ...
  🛡️ Verifying Kubernetes components...
    * Using image gcr.io/k8s-minikube/storage-provisioner:v5
  🌈 Enabled addons: default-storageclass, storage-provisioner
  🎉 Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
  PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment>

```

Ln 96, Col 1 Spaces: 2 UTF-8 CRLF {} JavaScript Finish Setup Go Live

- Now app is running via docker container



### Step 3: Container orchestration – Kubernetes and Helm Setup

- Create k8s manifest files to run pods then trying with helm

```

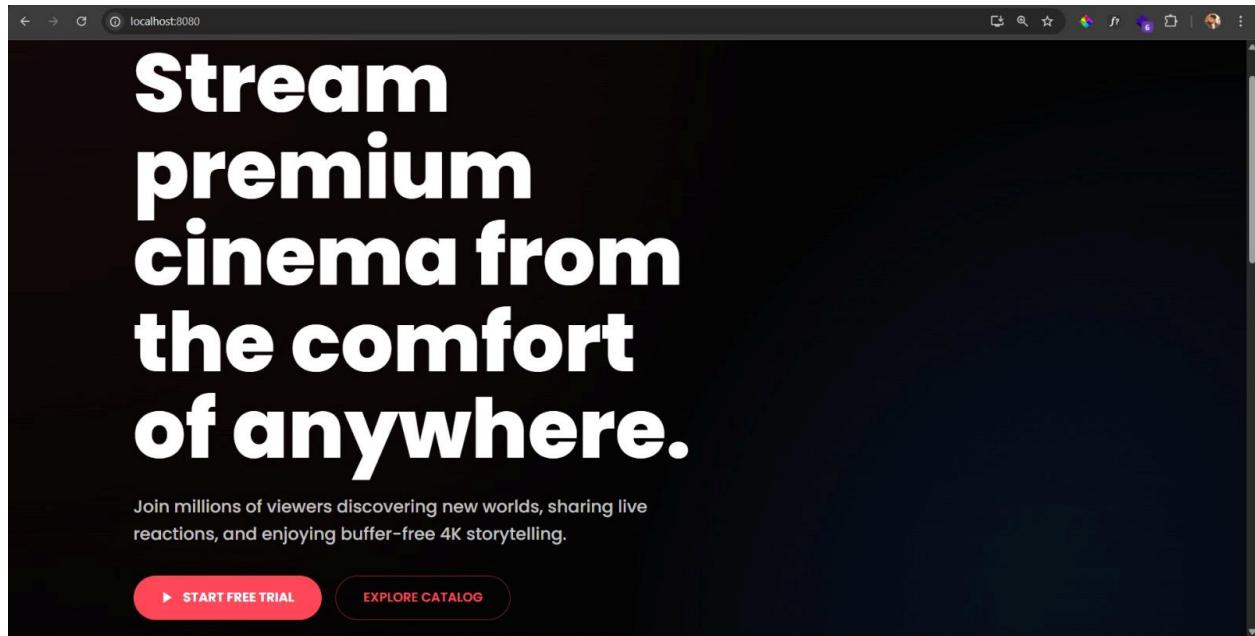
apiVersion: apps/v1
kind: Deployment
metadata:
  name: streaming
  namespace: streamingapp
spec:
  replicas: 1
  selector:
    matchLabels:
      app: streaming
  template:
    metadata:
      labels:
        app: streaming
    spec:
      containers:
        - name: streaming
          image: streaming-service:latest
          ports:
            - containerPort: 3002
          env:
            - name: PORT
              value: "3002"
            - name: MONGO_URI
              value: mongodb://mongo:27017/streamingapp
            - name: JWT_SECRET
              valueFrom:
                secretKeyRef:
                  name: streaming-secret

```

```
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> kubectl get pods -n streamingapp
streaming-fd457b667-z2ck7  0/1  ContainerCreating   0          93s
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> kubectl get svc -n streamingapp
● NAME         TYPE      CLUSTER-IP      EXTERNAL-IP      PORT(S)        AGE
admin       ClusterIP   10.196.125.40   <none>           3003/TCP     113s
auth        ClusterIP   10.104.137.126  <none>           3001/TCP     113s
chat        ClusterIP   10.184.182.33   <none>           3004/TCP     113s
frontend    ClusterIP   10.96.7.247    <none>           80/TCP        113s
mongo       ClusterIP   10.98.172.94   <none>           27017/TCP    113s
streaming   ClusterIP   10.111.249.156  <none>           3002/TCP     113s
● PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> kubectl get ingress -n streamingapp
NAME            CLASS      HOSTS          ADDRESS        PORTS        AGE
streamingapp-ingress  nginx    streamingapp.local  192.168.49.2  80          2m10s
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> kubectl get pods -n ingress-nginx
● NAME                  READY   STATUS    RESTARTS   AGE
ingress-nginx-admission-create-ltlcc  0/1    Completed  0          14m
ingress-nginx-admission-patch-crc8h  0/1    Completed  0          14m
ingress-nginx-controller-9c49f96f-9wfsg 1/1    Running   0          14m
○ PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp>
```

- Port forwarding for the local K8s deployment

```
U ingress-nginx-admission-patch-crc8h      0/1    Completed   0      23m
U ingress-nginx-controller-9cc49f96f-9wfsg  1/1    Running     0      23m
PS E:\Hero\VIRED\Assignments\Registration and scaling Assignment\StreamingApp> kubectl port-forward svc/frontend 8080:80 -n streamingapp
Forwarding from 127.0.0.1:8080 -> 80
Forwarding from [::1]:8080 -> 80
```



- Create EKS cluster and set context

```

PROBLEMS 3 PORTS GITLENS SPELL CHECKER 3
TERMINAL
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment> eksctl create cluster --name sam-cluster-streaming --region eu-west-2 --version 1.33 --nodegroup-name ng-1 --node-type t3.medium --nodes 2 --nodes-min 2 --nodes-max 4 --with-oidc --managed
2025-12-29 14:03:29 [i] eksctl version 0.217.0
2025-12-29 14:03:29 [i] using region eu-west-2
2025-12-29 14:03:30 [i] setting availability zones to [eu-west-2a eu-west-2b eu-west-2c]
2025-12-29 14:03:30 [i] subnets for eu-west-2a - public:192.168.0.0/19 private:192.168.96.0/19
2025-12-29 14:03:30 [i] subnets for eu-west-2b - public:192.168.32.0/19 private:192.168.128.0/19
2025-12-29 14:03:30 [i] subnets for eu-west-2c - public:192.168.64.0/19 private:192.168.160.0/19
2025-12-29 14:03:30 [i] nodegroup "ng-1" will use "" [AmazonLinux2023/1.33]
2025-12-29 14:03:30 [!] Auto Mode will be enabled by default in an upcoming release of eksctl. This means managed node groups and managed networking add-ons will no longer be created by default. To maintain current behavior, explicitly set 'autoModeConfig.enabled: false' in your cluster configuration. Learn more: https://eksctl.io/usage/auto-mode/
2025-12-29 14:03:30 [i] using Kubernetes version 1.33
2025-12-29 14:03:30 [i] creating EKS cluster "sam-cluster-streaming" in "eu-west-2" region with managed nodes
2025-12-29 14:03:30 [i] will create 2 separate CloudFormation stacks for cluster itself and the initial man

```

```

2025-12-29 14:18:35 [i] nodegroup "ng-1" has 2 node(s)
2025-12-29 14:18:35 [i] node "ip-192-168-29-96.eu-west-2.compute.internal" is ready
2025-12-29 14:18:35 [i] node "ip-192-168-42-249.eu-west-2.compute.internal" is ready
2025-12-29 14:18:35 [✓] created 1 managed nodegroup(s) in cluster "sam-cluster-streaming"
2025-12-29 14:18:37 [i] creating addon: metrics-server
2025-12-29 14:18:38 [i] successfully created addon: metrics-server
2025-12-29 14:18:41 [i] kubectl command should work with "C:\\\\Users\\\\Sam Donald\\\\.kube\\\\config", try 'kubectl get nodes'
2025-12-29 14:18:41 [✓] EKS cluster "sam-cluster-streaming" in "eu-west-2" region is ready

```

- Setting-up the context to EKS

```

PROBLEMS 7 PORTS GITLENS SPELL CHECKER 7
TERMINAL
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> eksctl version
0.217.0
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> aws sts get-caller-identity
{
  "UserId": "AIDA6GBMCU7ZDOVXH2QLP",
  "Account": "975050024946",
  "Arn": "arn:aws:iam::975050024946:user/samdonaldand@gmail.com"
}

PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> aws eks update-kubeconfig --region eu-west-2 --name sam-cluster-streaming
Added new context arn:aws:eks:eu-west-2:975050024946:cluster/sam-cluster-streaming to C:/Users/Sam Donald/.kube/config
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> kubectl config get-contexts
CURRENT NAME AUTHINFO NAMESPACE
* arn:aws:eks:eu-west-2:975050024946:cluster/sam-cluster-streaming arn:aws:eks:eu-west-2:975050024946:cluuster/sam-cluster-streaming docker-desktop docker-desktop
minikube minikube default
minikube minikube
samdonaldand@gmail.com@sam-cluster-streaming.eu-west-2.eksctl.io sam-cluster-streaming.eu-west-2.eksctl.io
samdonaldand@gmail.com@sam-cluster-streaming.eu-west-2.eksctl.io samdonaldand@gmail.com@sam-cluster-streaming.eu-west-2.eksctl.io

```

## Step 4: Setup ECR

- Login to ECR

```
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> aws ecr get-login-password --region eu-west-2 | docker login --username AWS --password-stdin 975050024946.dkr.ecr.eu-west-2.amazonaws.com
Login Succeeded
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp>
```

- Create repository and tag local images to the respected repo

The screenshot shows a code editor interface with two terminal panes. The left pane displays the file structure of a Helm chart for a 'StreamingApp' service, specifically the 'templates' directory which contains various YAML files like 'ingress.yaml', 'backend.yaml', and 'values.yaml'. The right pane shows the execution of AWS commands to create ECR repositories and tag Docker images.

```
StreamingApp > streaming-app-helm > templates > ingress.yaml
1  {{- if .Values.ingress.enabled }}}
2    apiVersion: networking.k8s.io/v1
3    kind: Ingress
4    metadata:
5      name: streamingapp-ingress
PROBLEMS 7 PORTS GITLENS SPELL CHECKER 7
TERMINAL
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> aws ecr create-repository --repository-name streaming --region eu-west-2
{
  "repository": {
    "repositoryArn": "arn:aws:ecr:eu-west-2:975050024946:repository/streaming",
    "registryId": "975050024946",
    "repositoryName": "streaming",
    "repositoryUri": "975050024946.dkr.ecr.eu-west-2.amazonaws.com/streaming",
    "createdAt": "2025-12-31T00:35:19.152000+05:30",
    "imageTagMutability": "MUTABLE",
    "imageScanningConfiguration": {
      "scanOnPush": false
    },
    "encryptionConfiguration": {
      "encryptionType": "AES256"
    }
  }
}

PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> aws ecr create-repository --repository-name frontend --region eu-west-2
{
  "repository": {
    "repositoryArn": "arn:aws:ecr:eu-west-2:975050024946:repository/frontend",
    "registryId": "975050024946",
    "repositoryName": "frontend",
    "repositoryUri": "975050024946.dkr.ecr.eu-west-2.amazonaws.com/frontend",
    "createdAt": "2025-12-31T00:35:48.059000+05:30",
    "imageTagMutability": "MUTABLE",
}
In 22 Col 1 Spaces: 2 UTF-8 CRLF { } YAML Finish Setup Go Live
```

Below the terminals, a table lists the Docker images and their details:

Image	Tag	Size	Last Updated	Status
2bf47c1b01f5	101MB	22.8MB	U	
913cc83ca0b5	102MB	26MB	U	
6e9fbcd4e25a5	73.5MB	17.4MB	U	
ee6521f290b2	1.06MB	318KB	U	
278fb9dbcc9	1.06MB	318KB	U	
edb0cfaf545	299MB	50.8MB	U	
0c4534d86683	299MB	50.8MB	U	
8d597d8a5c08	299MB	50.8MB	U	
6fd3ce52ca84	199MB	47.8MB	U	
45ecc69a0285e	343MB	64.5MB	U	
ffa3d699e090	238MB	55.9MB	U	
aeb0ba14b0cf	299MB	62.1MB	U	
e4be2c00c908	78.1MB	21.9MB	U	
0129af2a3eca	377MB	80.1MB	U	

```
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker tag streamingapp-admin:latest 975050024946.dkr.ecr.eu-west-2.amazonaws.com/admin:latest
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker tag streamingapp-auth:latest 975050024946.dkr.ecr.eu-west-2.amazonaws.com/auth:latest
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker tag streamingapp-chat:latest 975050024946.dkr.ecr.eu-west-2.amazonaws.com/chat:latest
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker tag streamingapp-streaming:latest 975050024946.dkr.ecr.eu-west-2.amazonaws.com/streaming:latest
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker tag streamingapp-frontend:latest 975050024946.dkr.ecr.eu-west-2.amazonaws.com/frontend:latest
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp>
```

- Then push the images to ECR

```

namespace.yaml
streaming-app-helm
templates
backend-secret.yaml
backend.yaml
frontend.yaml
ingress.yaml
mongo-pvc.yaml
mongo.yaml
.helmignore
Chart.yaml
values.yaml
.env.example
.gitignore
.docker-compose.yml
LICENSE
README.md

> OUTPUT
> TIMELINE
> OUTLINE

main* 🌐 🌐 🌐 Launchpad ⚡ 0 ⚡ 0 ⚡ 7

TERMINAL
st 975050024946.dkr.ecr.eu-west-2.amazonaws.com/admin:latest
PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker tag streamingapp-auth:latest
PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker tag streamingapp-chat:latest
t 975050024946.dkr.ecr.eu-west-2.amazonaws.com/chat:latest ...
atest 975050024946.dkr.ecr.eu-west-2.amazonaws.com/frontend:latest
ates 975050024946.dkr.ecr.eu-west-2.amazonaws.com/frontend:latest
PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker push 975050024946.dkr.ecr.e
u-west-2.amazonaws.com/admin:latest
The push refers to repository [975050024946.dkr.ecr.eu-west-2.amazonaws.com/admin]
25ff2da83641: Pushed
668b0e31415c: Pushing [=====] 3.146MB/5.113MB
d3c88edb0654: Pushing [=====] 3.146MB/10.34MB
f18232174bc9: Pushing [=====] 3.642MB/3.642MB
dfec02fd755: Pushed
25aa8fcccbe7a: Pushed
dd71dde834b5: Pushing [=====] 4.194MB/40.81MB
1e5a4c89ce5: Pushing [=====] 1.261MB/1.261MB
40922a90ac1b: Pushed
bee8f154fc8d: Pushing [=====] 3.146MB/4.058MB

```

Ln 25, Col 10 Spaces: 2 UTF-8 LF {} YAML Finish Setup Go Live

- Replace image names with reference ID from AWS ECR image Repository

```

EXPLORER
OPEN EDITORS
STREAMINGAPP > streaming-app-helm > values.yaml
values.yaml
mongo.yaml
backend.yaml
backend-secret.yaml
... \ templates
mongo-pvc.yaml
mongo.yaml
.helmignore
Chart.yaml
values.yaml
.env.example
.gitignore
.docker-compose.yml
LICENSE
README.md

PROBLEMS 7 PORTS GITLENS SPELL CHECKER 7
TERMINAL
PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> docker push 975050024946.dkr.ecr.e
u-west-2.amazonaws.com/frontend:latest
34a64644ab756: Pushed
39c2ddfd6910: Pushing [=====] 15.52MB/15.52MB
d7e507024086: Pushed

```

- Deploy code via helm template – Create helm files and helm upgrade your project

```

PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> helm upgrade --install ingress-nginx-ingress-nginx --namespace ingress-nginx --create-namespace --set controller.service.type=LoadBalancer
Release "ingress-nginx" does not exist. Installing it now.
level=warn msg="unable to find exact version; falling back to closest available version" chart=ingress-nginx requested="" selected="4.14.1"
NAME: ingress-nginx
LAST DEPLOYED: Wed Dec 31 01:11:39 2025
NAMESPACE: ingress-nginx
STATUS: deployed
REVISION: 1
DESCRIPTION: Install complete
TEST SUITE: None
NOTES:
The ingress-nginx controller has been installed.
It may take a few minutes for the load balancer IP to be available.
You can watch the status by running 'kubectl get service --namespace ingress-nginx ingress-nginx-controller --output wide --watch'.
```

An example Ingress that makes use of the controller:

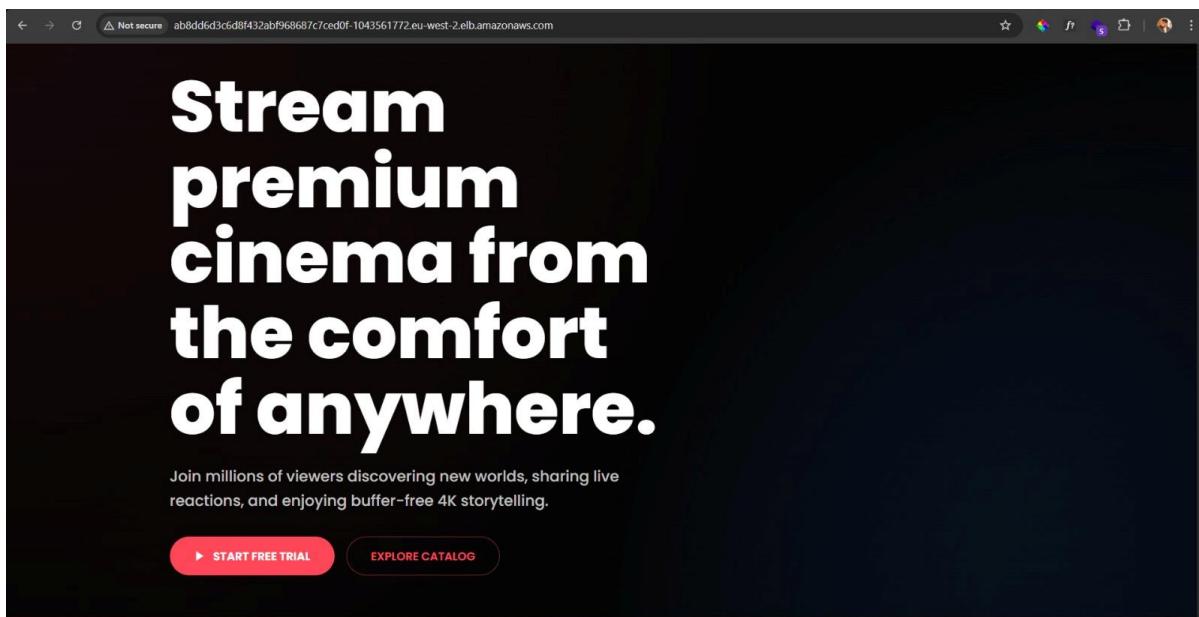
```

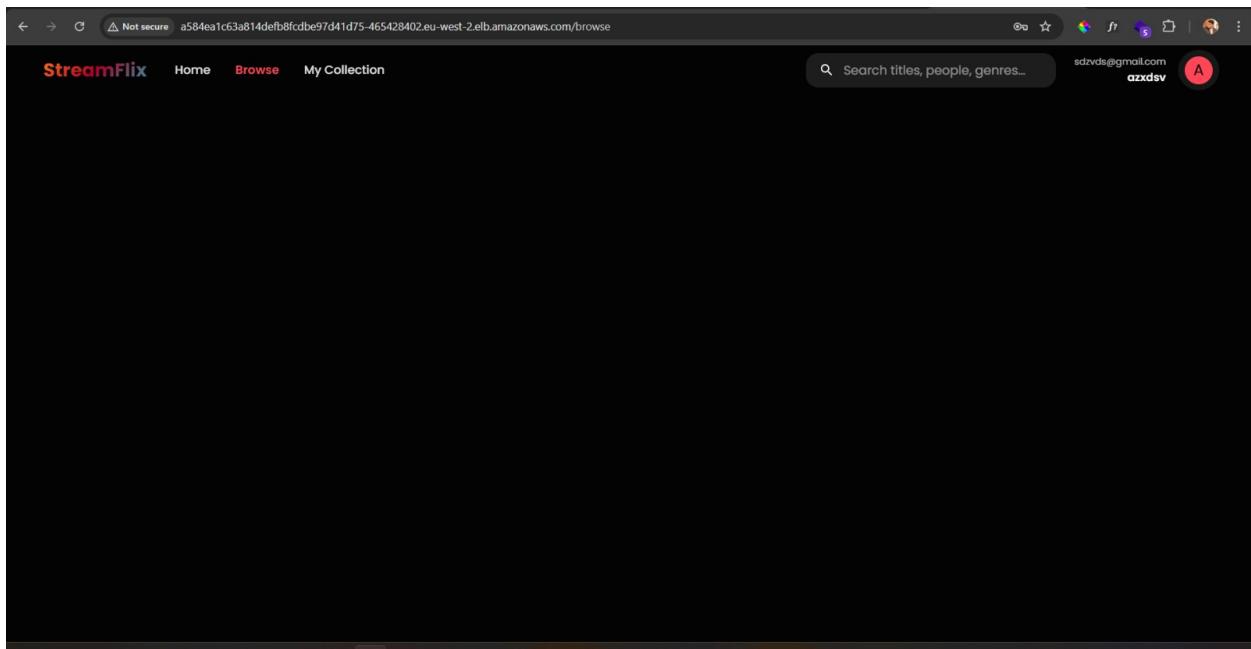
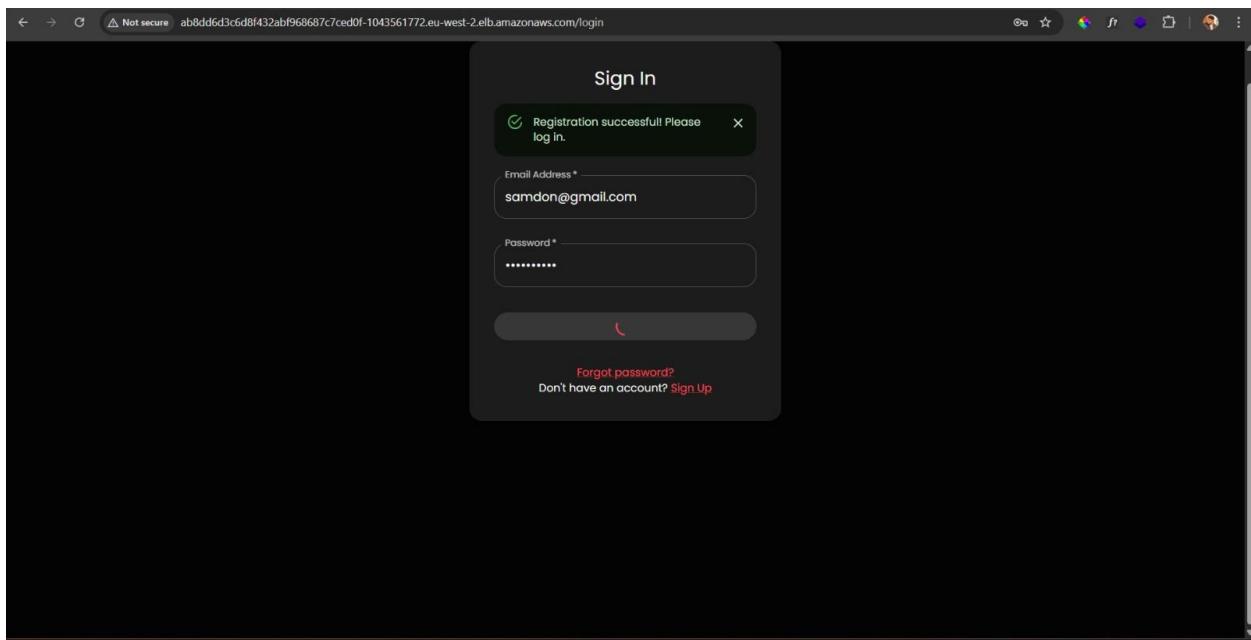
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: example
  namespace: foo
spec:
  ingressClassName: nginx
  rules:
    - host: www.example.com
      http:
        paths:
          - pathType: Prefix
```

- Check ingress created with load balancer

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP
ingress-nginx-controller	LoadBalancer	10.100.223.208	ab8dd6d3c6d8f432abf968687c7ced0f-1043561772.eu-west-2.elb.amazonaws.com:80, 101s
ingress-nginx-controller-admission	ClusterIP	10.100.183.195	<none>
	443/TCP		101s

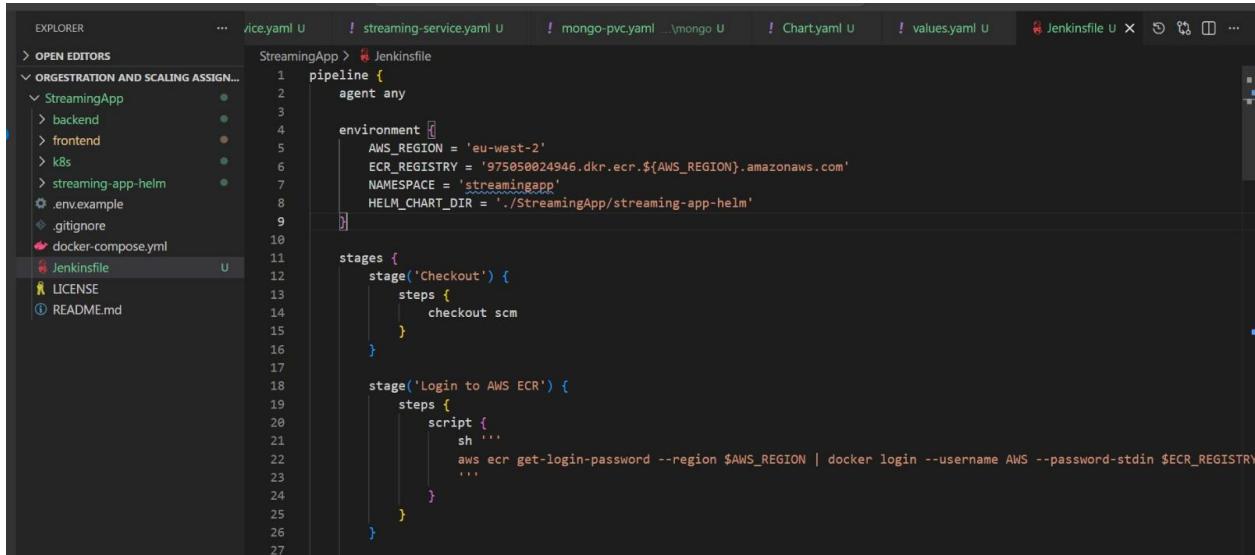
- Use the Loadbalancer and open the app in the browser





## Step 5: Jenkinsfile and Jenkin setup

- Create Jenkins file



The screenshot shows a code editor with a Jenkinsfile open. The Jenkinsfile defines a pipeline with stages for checkout, login to AWS ECR, and deployment. The code includes environment variables like AWS\_REGION, ECR\_REGISTRY, and NAMESPACE, and uses Helm charts for deployment.

```
pipeline {
    agent any

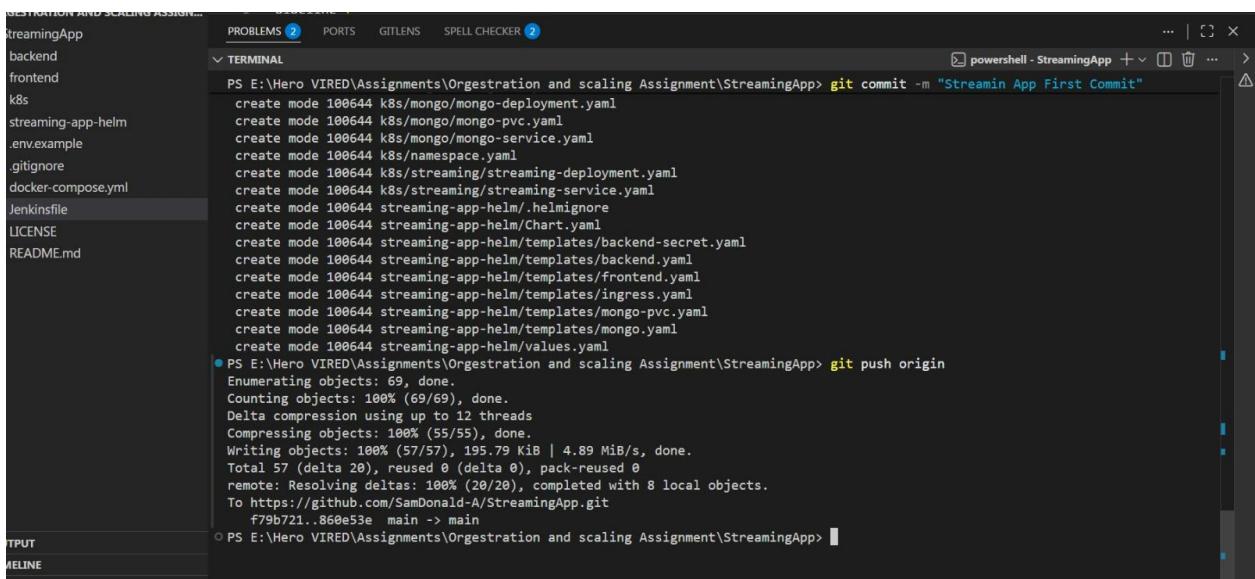
    environment {
        AWS_REGION = 'eu-west-2'
        ECR_REGISTRY = '975050024946.dkr.ecr.${AWS_REGION}.amazonaws.com'
        NAMESPACE = 'streamingapp'
        HELM_CHART_DIR = './StreamingApp/streaming-app-helm'
    }

    stages {
        stage('Checkout') {
            steps {
                checkout scm
            }
        }

        stage('Login to AWS ECR') {
            steps {
                script {
                    sh '''
                        aws ecr get-login-password --region $AWS_REGION | docker login --username AWS --password-stdin $ECR_REGISTRY
                    '''
                }
            }
        }

        stage('Deploy') {
            steps {
                script {
                    sh 'helm upgrade --install streaming-app ./StreamingApp/streaming-app-helm --namespace $NAMESPACE'
                }
            }
        }
    }
}
```

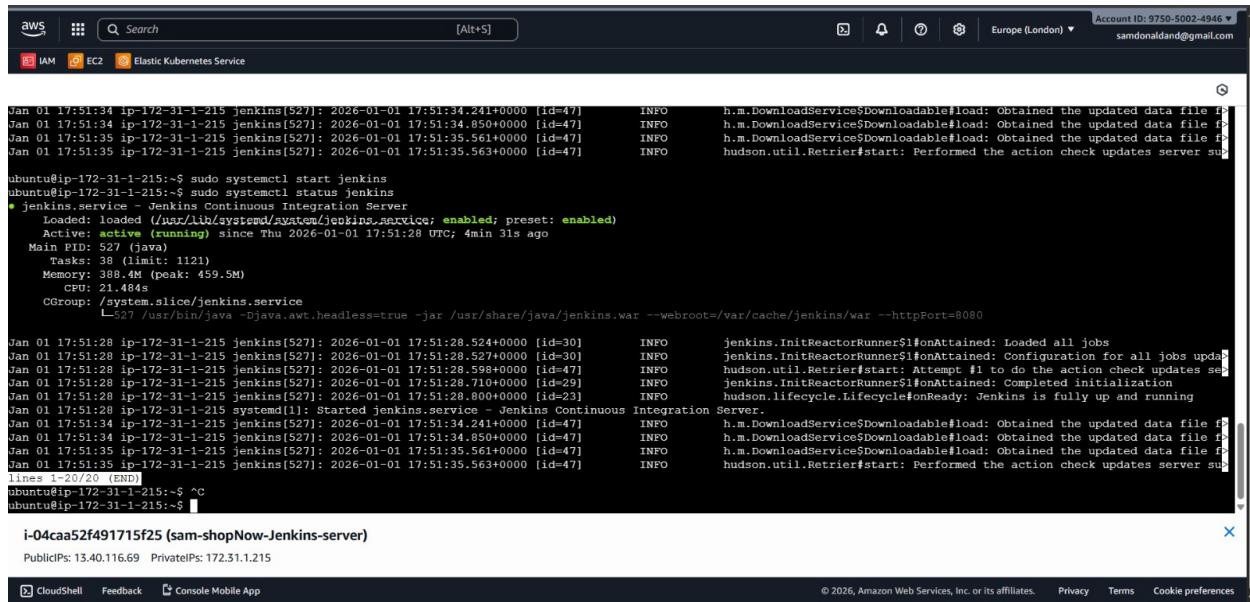
- And Push the complete code to the Git



The screenshot shows a terminal window in a code editor. It displays the command `git commit -m "Stream App First Commit"` followed by the output of the commit, which includes creating various files in the `StreamingApp` directory. Below that, the command `git push origin` is run, and the terminal shows the progress of pushing the changes to a GitHub repository.

```
PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> git commit -m "Stream App First Commit"
create mode 100644 k8s/mongo/mongo-deployment.yaml
create mode 100644 k8s/mongo/mongo-pvc.yaml
create mode 100644 k8s/mongo/mongo-service.yaml
create mode 100644 k8s/namespace.yaml
create mode 100644 k8s/streaming/streaming-deployment.yaml
create mode 100644 k8s/streaming/streaming-service.yaml
create mode 100644 streaming-app-helm/.helmignore
create mode 100644 streaming-app-helm/Chart.yaml
create mode 100644 streaming-app-helm/templates/backend-secret.yaml
create mode 100644 streaming-app-helm/templates/backend.yaml
create mode 100644 streaming-app-helm/templates/frontend.yaml
create mode 100644 streaming-app-helm/templates/ingress.yaml
create mode 100644 streaming-app-helm/templates/mongo-pvc.yaml
create mode 100644 streaming-app-helm/templates/mongo.yaml
create mode 100644 streaming-app-helm/values.yaml
PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> git push origin
Enumerating objects: 69, done.
Counting objects: 100% (69/69), done.
Delta compression using up to 12 threads
Compressing objects: 100% (55/55), done.
Writing objects: 100% (57/57), 195.79 KiB | 4.89 MiB/s, done.
Total 57 (delta 20), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (20/20), completed with 8 local objects.
To https://github.com/SamDonald-A/StreamingApp.git
    f79b721..860e53e main -> main
PS E:\Hero\VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp>
```

- Create Jenkins server in the EC2 and open it in the browser via IP address



```

aws | ⚡ AM | EC2 | Elastic Kubernetes Service | Search | [Alt+S] | Europe (London) | Account ID: 9750-5002-4946 | samdonaldand@gmail.com

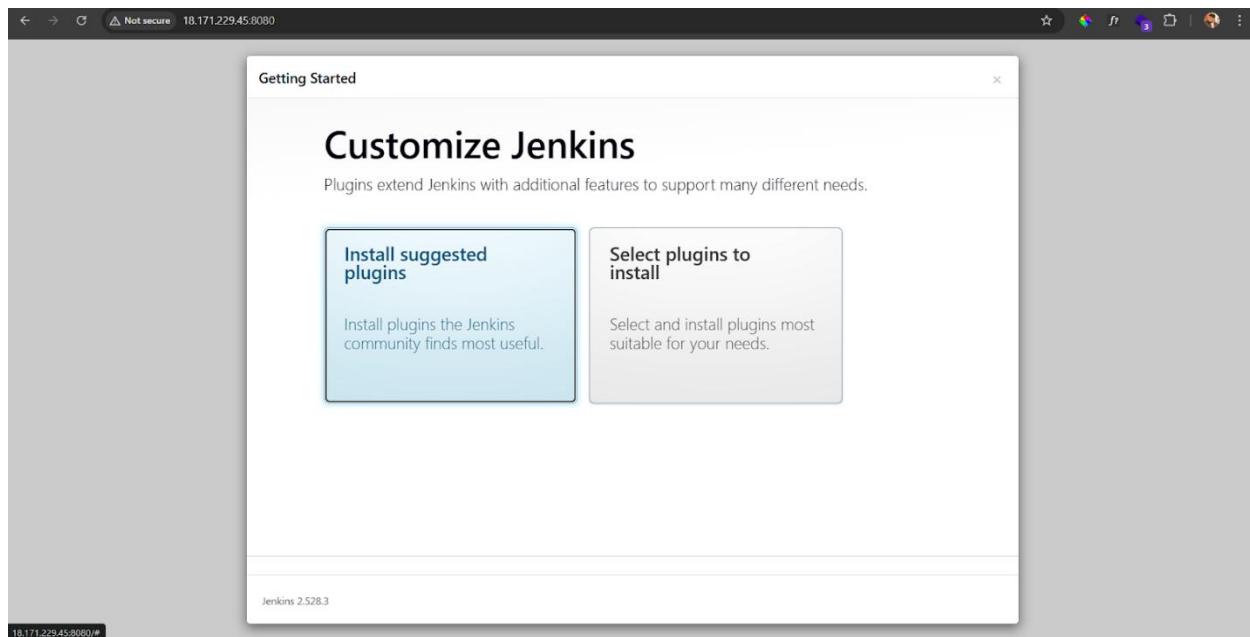
Jan 01 17:51:34 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:34.241+0000 [id=47] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file fo...
Jan 01 17:51:34 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:34.850+0000 [id=47] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file fo...
Jan 01 17:51:35 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:35.561+0000 [id=47] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file fo...
Jan 01 17:51:35 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:35.563+0000 [id=47] INFO hudson.util.Retrier$start: Performed the action check updates server su...

ubuntu@ip-172-31-1-215:~$ sudo systemctl start jenkins
ubuntu@ip-172-31-1-215:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; preset: enabled)
     Active: active (running) since Thu 2026-01-01 17:51:28 UTC; 4min 31s ago
       Main PID: 527 (java)
          Tasks: 38 (limit: 1121)
        Memory: 388.4M (peak: 459.5M)
           CPU: 21.484s
          CGroup: /system.slice/jenkins.service
                  └─527 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Jan 01 17:51:28 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:28.524+0000 [id=30] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
Jan 01 17:51:28 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:28.527+0000 [id=30] INFO jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs upda...
Jan 01 17:51:28 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:28.598+0000 [id=47] INFO hudson.util.Retrier$start: Attempt #1 to do the action check updates se...
Jan 01 17:51:28 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:28.710+0000 [id=29] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
Jan 01 17:51:28 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:28.800+0000 [id=23] INFO hudson.lifecycle.Lifecycle$onReady: Jenkins is fully up and running
Jan 01 17:51:28 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:28.803+0000 [id=23] INFO hudson.lifecycle.Lifecycle$onReady: Jenkins is fully up and running
Jan 01 17:51:34 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:34.241+0000 [id=47] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file fo...
Jan 01 17:51:34 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:34.850+0000 [id=47] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file fo...
Jan 01 17:51:35 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:35.561+0000 [id=47] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file fo...
Jan 01 17:51:35 ip-172-31-1-215 jenkins[527]: 2026-01-01 17:51:35.563+0000 [id=47] INFO hudson.util.Retrier$start: Performed the action check updates server su...
lines 1-20/20 (END)
ubuntu@ip-172-31-1-215:~$ ^C
ubuntu@ip-172-31-1-215:~$ [  ]
```

i-04caa52f491715f25 (sam-shopNow-Jenkins-server)  
PublicIPs: 13.40.116.69 PrivateIPs: 172.31.1.215

CloudShell Feedback Console Mobile App © 2026, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences



Not secure 18.171.229.45:8080

## Getting Started

Getting Started

✓ Folders	✓ OWASP Markup Formatter	Build Timeout	Credentials Binding
Timestamper	Workspace Cleanup	Ant	Gradle
Pipeline	GitHub Branch Source	Pipeline: GitHub Groovy Libraries	Pipeline Graph View
Git	SSH Build Agents	Matrix Authorization Strategy	LDAP
Email Extension	Mailer	Dark Theme	

commons-lang3 v3.x Jenkins API  
\*\* Jenkins API  
Folders  
OWASP Markup Formatter  
\*\* ASR API  
\*\* JSON Path API  
\*\* Structs

\*\* - required dependency

Jenkins 2.528.3

This screenshot shows the Jenkins 'Getting Started' page. It displays a grid of available plugins: Folders, OWASP Markup Formatter, Build Timeout, Credentials Binding, Timestamper, Workspace Cleanup, Ant, Gradle, Pipeline, GitHub Branch Source, Pipeline: GitHub Groovy Libraries, Pipeline Graph View, Git, SSH Build Agents, Matrix Authorization Strategy, LDAP, Email Extension, Mailer, and Dark Theme. A tooltip for 'OWASP Markup Formatter' indicates it has dependencies on commons-lang3 v3.x Jenkins API, Jenkins API, and Folders. The Jenkins version is listed as 2.528.3.

Not secure 18.171.229.45:8080

## Getting Started

### Create First Admin User

Username

Password

Confirm password

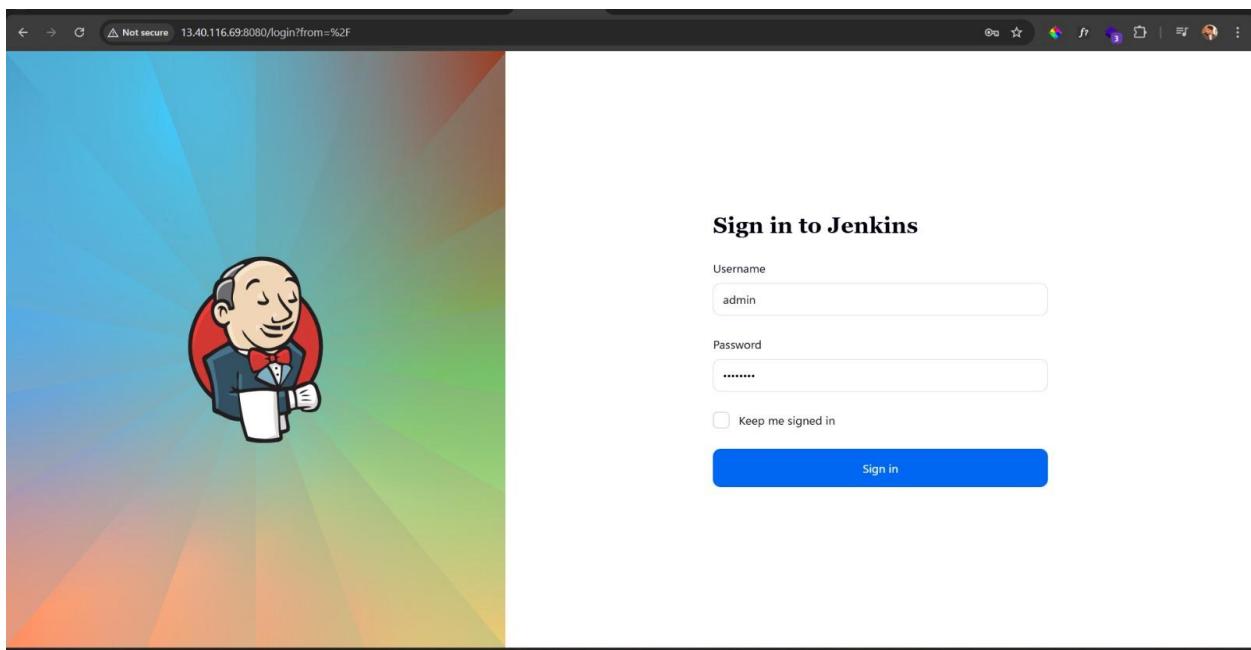
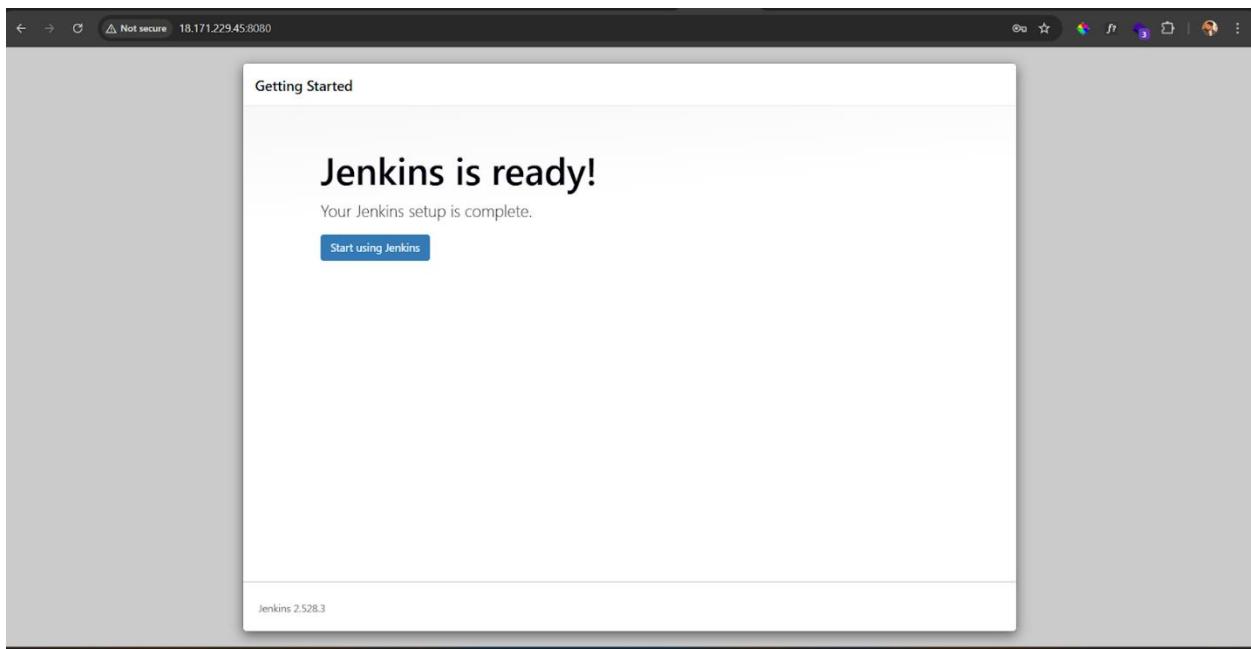
Full name

E-mail address

Skip and continue as admin

Jenkins 2.528.3

This screenshot shows the 'Create First Admin User' step of the Jenkins setup wizard. It contains five input fields: 'Username', 'Password', 'Confirm password', 'Full name', and 'E-mail address'. Below the fields are two buttons: 'Skip and continue as admin' and 'Save and Continue'. The Jenkins version is listed as 2.528.3.



- Click create New Item on the top left

The screenshot shows the Jenkins dashboard at the URL [13.40.116.69:8080](http://13.40.116.69:8080). The main header says "Not secure". On the left, there's a sidebar with "Jenkins" and a "+ New Item" button. The main area has tabs for "Build History" (selected), "All" (button), and "+". Below is a table for the "Build Queue" with one entry: "Jenkinspipe" (Status: S, Last Success: N/A, Last Failure: N/A, Last Duration: N/A). At the bottom, there are icons for S, M, and L.

- Give name & Select Pipeline

The screenshot shows the "New Item" creation dialog at the URL [13.40.116.69:8080/view/all/newJob](http://13.40.116.69:8080/view/all/newJob). The title is "New Item". It asks for an item name ("sam-streaming-app") and item type. The "Pipeline" option is selected, described as "Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type." Other options shown are "Freestyle project", "Multi-configuration project", "Folder", and "Multibranch Pipeline". A blue "OK" button is at the bottom.

- Select GitHub Hook trigger for GITScm polling (We need to setup webhook in the git repo)

The screenshot shows the Jenkins job configuration page for a job named "sam-streaming-app". The "General" tab is selected. In the "Triggers" section, the "GitHub hook trigger for GITScm polling" checkbox is checked, while others like "Build after other projects are built", "Build periodically", "Poll SCM", and "Trigger builds remotely" are unchecked. The "Pipeline" section is visible below, with a "Definition" field containing a Groovy script.

The screenshot shows the Jenkins job configuration page for the same job. The "Pipeline" tab is selected. The "Definition" dropdown is set to "Pipeline script from SCM". Under "SCM", "Git" is selected. The "Repositories" section shows a single repository entry with a red error message: "Please enter Git repository.". The "Credentials" dropdown is set to "- none -". At the bottom, there are "Save" and "Apply" buttons.

- Provide that Git repo link here and select your branch

The screenshot shows a pipeline configuration interface. At the top, there's a dropdown menu labeled "Pipeline script from SCM". Below it, under "SCM", a dropdown is set to "Git". The main area is titled "Repositories" and contains a single repository entry. The "Repository URL" is set to "https://github.com/SamDonald-A/StreamingApp.git". Under "Credentials", it says "- none -". There's an "Advanced" button and a "+ Add Repository" button. Below this, the "Branches to build" section shows a "Branch Specifier" set to "\*/\*main". There's a "+ Add Branch" button and a "Repository browser" dropdown set to "(Auto)".

- Setup Webhook in Github Repository – Goto settings of your repo and click webhook

The screenshot shows the GitHub repository settings page. On the left, a sidebar lists "Actions", "Models", "Webhooks" (which is currently selected and highlighted in blue), "Copilot", "Environments", "Codespaces", and "Pages". The main content area is titled "Default branch". It explains that the default branch is the "base" branch. A "main" branch is selected in a dropdown, and there's an edit icon. At the bottom, there's a "Releases" section.

- Click add New then add Payload and select Json

The screenshot shows the GitHub settings interface for a repository named 'StreamingApp'. The 'Webhooks' tab is selected. On the left, there's a sidebar with 'Moderation options' expanded, showing 'Code and automation' and 'Webhooks' (which is currently selected). At the top right, there's a 'Add webhook' button.

This screenshot shows the 'Webhooks' configuration form. The 'Payload URL \*' field contains 'http://13.40.116.69:8080/github-webhook/'. The 'Content type \*' dropdown is open, showing 'application/x-www-form-urlencoded' (selected), 'application/json' (highlighted in blue), and 'application/x-www-form-urlencoded' again. The 'SSL verification' section below is collapsed.

This screenshot shows the 'Webhooks' list. It displays one webhook entry: 'http://13.40.116.69:8080/github-webhook...' (push). To the right of the URL are 'Edit' and 'Delete' buttons. Below the list, it says 'This hook has never been triggered.'

- Now push the code to check the webhook trigger

```

0 <Grid container spacing={0} alignItems="center" >
1   <Grid item xs={12} md={7}>
2     <Typography
3       variant={isMobile ? 'h3' : 'h1'}
4       sx={{ fontWeight: 800, lineHeight: 1.05, mb: 3 }}>
5     >
6     Stream premium cinema from anywhere. You, now + Uncommitted changes
7   </Typography>
8   <Typography variant="h6" color="#rgba(255,255,255,0.75)" sx={{ mb: 4 }}>
9     Join millions of viewers discovering new worlds, sharing live reactions, and enjoying buffer-free 4K
10    </Typography>
11    <Stack direction={{ xs: 'column', sm: 'row' }} spacing={2}>
12      <Button
13        variant="contained"
14        size="large"

```

```

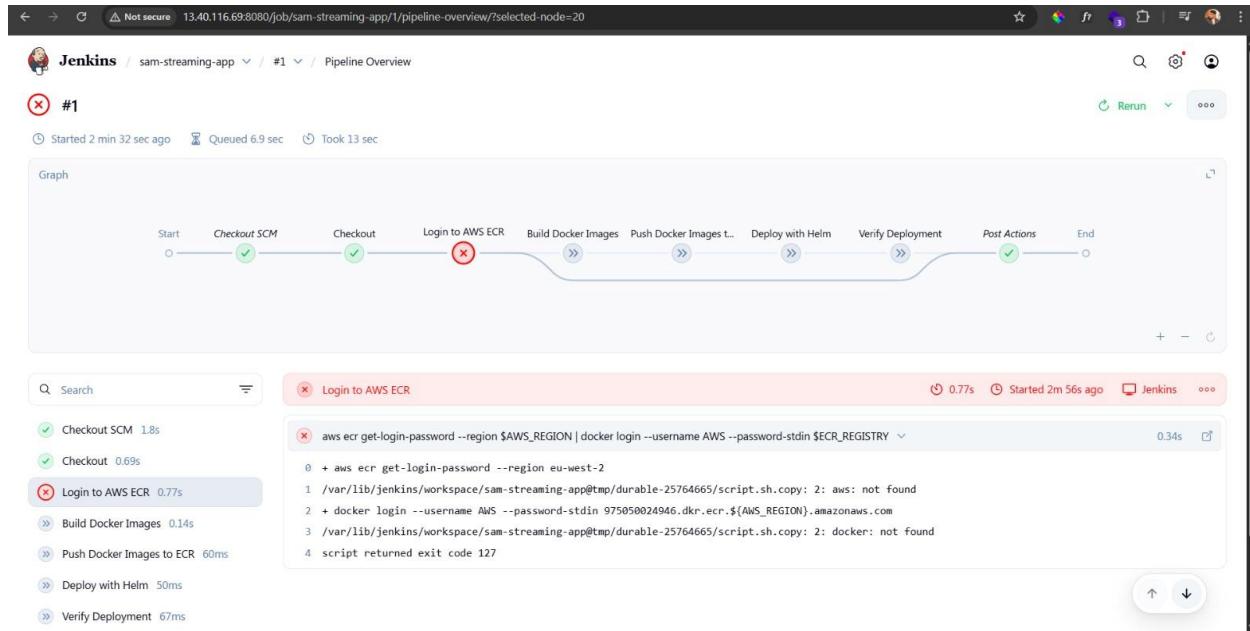
> public
> src
> components
> config
> contexts
> hooks
> pages
JS AdminDashboard.js
JS Browse.js
JS ForgotPassword.js
JS LandingPage.js
JS Login.js
JS Profile.js
JS Register.js
JS Settings.js
JS StreamingPage.js
> services
> styles
# App.css
> OUTPUT
> TERMINAL
create mode 100644 streaming-app-helm/templates/frontend.yaml
create mode 100644 streaming-app-helm/templates/ingress.yaml
create mode 100644 k8s/namespace.yaml
create mode 100644 k8s/streaming/streaming-deployment.yaml
create mode 100644 k8s/streaming/streaming-service.yaml ...
To https://github.com/SamDonald-A/StreamingApp.git
    f79b721..860e53e main -> main
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> git add .
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> git commit -m "Streaming App second commit - Jenkins check"
[main 05db669] Streaming App second commit - Jenkins check
  1 file changed, 1 insertion(+), 1 deletion(-)
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp> git push origin
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 12 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 528 bytes | 528.00 KiB/s, done.
Total 6 (delta 5), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (5/5), completed with 5 local objects.
To https://github.com/SamDonald-A/StreamingApp.git
    860e53e..05db669 main -> main
PS E:\Hero VIRED\Assignments\Orchestration and scaling Assignment\StreamingApp>

```

- And we see the Webhook triggered the pipeline

The screenshot shows the Jenkins job configuration page for 'sam-streaming-app'. The top navigation bar includes links for 'Status', 'Changes', 'Build Now', 'Configure', 'Delete Pipeline', 'Stages', 'Rename', 'Pipeline Syntax', and 'GitHub Hook Log'. The main content area displays the 'Permalinks' section, which lists the 'Last build (#1), 0.92 sec ago'. Below this is a 'Builds' section with a dropdown menu.

- Study the log error



## Step 6: Check Jenkins Host server requirements for EKS to run the app

**Make sure all the services are installed**

- Docker
- Helm
- Aws CLI
- Kubectl
- At least t3.medium in EC2 for running the pipeline
- At least 20gb storage for the npm and other installation process on the machine
- EKS IAM Role permissions
- Jenkins
- Jenkins credentials
- Jenkins plugins
- Email Notification setup

```

inflating: aws/dist/wheel-0.45.1.dist-info/INSTALLER
inflating: aws/dist/wheel-0.45.1.dist-info/RECORD
inflating: aws/dist/wheel-0.45.1.dist-info/entry_points.txt
inflating: aws/dist/wheel-0.45.1.dist-info/WHEEL
inflating: aws/dist/wheel-0.45.1.dist-info/METADATA
inflating: aws/dist/wheel-0.45.1.dist-info/REQUESTED
inflating: aws/dist/wheel-0.45.1.dist-info/direct_url.json
ubuntu@ip-172-31-1-215:~$ sudo ./aws install
You can now run /usr/local/bin/aws --version
ubuntu@ip-172-31-1-215:~$ aws --version
aws-cli/2.32.26 Python/3.13.11 Linux/6.14.0-1018-aws exe/x86_64/ubuntu.24
ubuntu@ip-172-31-1-215:~$ sudo apt install -y docker.io
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
bridge-utils containerlnd dns-root-data dnsmasq-base pigz runc ubuntu-fan
Suggested packages:
ifupdown aufs-tools cgroups-mount cgroup-lite debbootstrap docker-buildx docker-compose-v2 docker-doc rinse zfs-fuse | zfsutils
The following NEW packages will be installed:
bridge-util containerlnd dns-root-data dnsmasq-base docker.io pigz runc ubuntu-fan
0 upgraded, 8 newly installed, 0 to remove and 44 not upgraded.
Need to get 76.0 MB of archives.
After this operation, 288 MB of additional disk space will be used.
Get:1 http://eu-west-2.ec2.archive.ubuntu.com/ubuntu/noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:2 http://eu-west-2.ec2.archive.ubuntu.com/ubuntu/noble/main amd64 bridge-utils amd64 1.7.1-lubuntu2 [33.9 kB]
Get:3 http://eu-west-2.ec2.archive.ubuntu.com/ubuntu/noble-updates/main amd64 runc amd64 1.3.3-0ubuntu1~24.04.3 [8815 kB]

```

- Add all required plugins in Jenkins

The screenshot shows the Jenkins plugin manager interface. The search bar at the top contains the text "AWS Cred". Below the search bar, there are tabs for "Updates", "Available plugins", "Installed plugins" (which is selected), and "Advanced settings". A sidebar on the left lists "Updates" (10), "Available plugins", "Installed plugins" (96), and "Advanced settings". The main content area displays the "AWS Credentials Plugin" details: Name: AWS Credentials Plugin, Version: 254.v978a\_5e206a\_d7, Description: Allows storing Amazon IAM credentials within the Jenkins Credentials API. Store Amazon IAM access keys (AWSAccessKeyId and AWSSecretKey) within the Jenkins Credentials API. Also support IAM Roles and IAM MFA Token. It also shows a green status icon with "96" and an enable/disable switch.

- Add credentials

The screenshot shows the Jenkins global configuration page. At the top, there is a search bar and a message about functionality. Below the search bar, there are several management sections: "Nodes" (Add, remove, control and monitor nodes), "Clouds" (Add, remove, and configure cloud instances), "Appearance" (Configure look and feel), "Security" (Secure Jenkins), "Users" (Create/delete/modify users), "Credentials" (Configure credentials), and "Credential Providers" (Configure credential providers). In the "Status Information" section, there are links for "System Information", "System Log", and "Load Statistics". The "About Jenkins" section provides version and license information. At the bottom, there is a "Troubleshooting" link.

Not secure 13.40.116.69:8080/manage/credentials/store/system/domain/\_/newCredentials

Jenkins / Manage Jenkins / Credentials / System / Global credentials (unrestricted...)

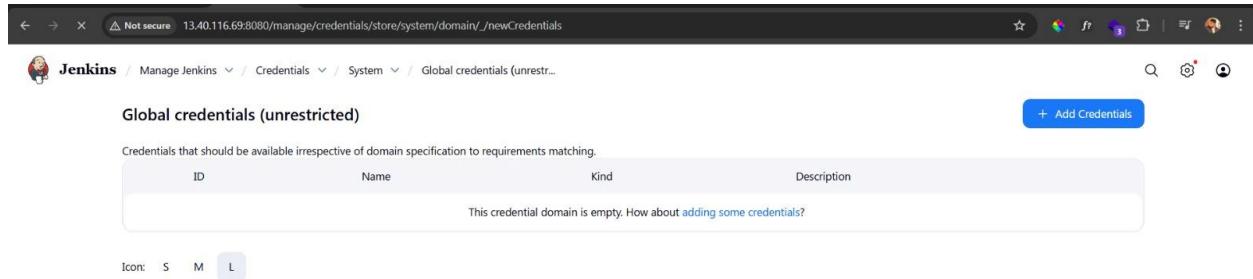
Global credentials (unrestricted)

Credentials that should be available irrespective of domain specification to requirements matching.

ID	Name	Kind	Description
This credential domain is empty. How about <a href="#">adding some credentials?</a>			

Icon: S M L

+ Add Credentials



Not secure 13.40.116.69:8080/manage/credentials/store/system/domain/\_/newCredentials

Jenkins / Manage Jenkins / Credentials / System / Global credentials (unrestricted...)

New credentials

Kind

- Username with password
- Username with password
- AWS Credentials
- GitHub App
- SSH Username with private key
- Secret file
- Secret text
- X.509 Client Certificate
- Certificate

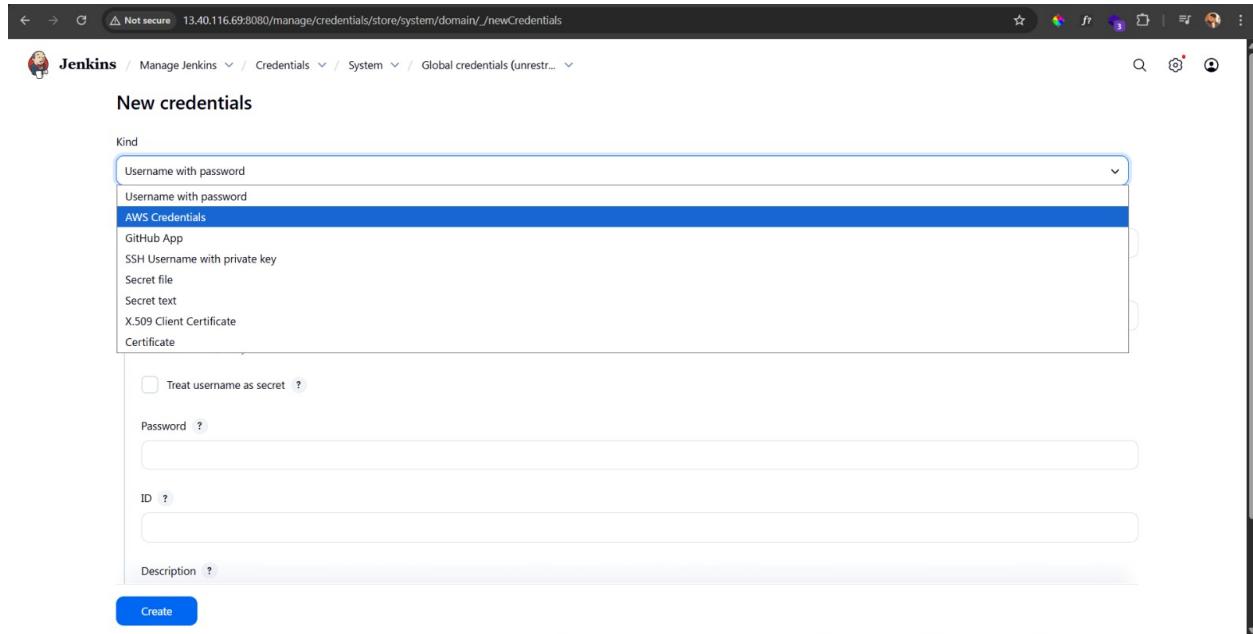
Treat username as secret ?

Password ?

ID ?

Description ?

Create



- Add your AWS Secret and ID

The screenshot shows the Jenkins 'New credentials' creation interface. The 'Kind' dropdown is set to 'AWS Credentials'. The 'Scope' dropdown is set to 'Global (Jenkins, nodes, items, all child items, etc.)'. The 'ID' field contains 'aws-creds'. The 'Description' field contains 'Sam AWS ECR access'. The 'Access Key ID' field contains 'AKIA6GBCMU7ZOEMPTF4J'. The 'Secret Access Key' field is filled with a redacted password and has a validation error message: 'Please specify the Secret Access Key'. A blue 'Create' button is at the bottom.

- Set up Email notification – Got to system and find email notification and setup then test the email sent as a notification

The screenshot shows the Jenkins 'Manage Jenkins' configuration page. At the top, there is a warning about Java 17 end-of-life: 'Java 17 end of life in Jenkins' and 'You are running Jenkins on Java 17, support for which will end on or after Mar 31, 2026. Refer to the documentation for more details.' Buttons for 'More Info' and 'Ignore' are available. Below this, the 'System Configuration' section includes links for 'System' (Configure global settings and paths), 'Tools' (Configure tools, their locations and automatic installers), 'Nodes' (Add, remove, control and monitor the various nodes that Jenkins runs jobs on), 'Clouds' (Add, remove, and configure cloud instances to provision agents on-demand), 'Plugins' (Add, remove, disable or enable plugins that can extend the functionality of Jenkins), 'Appearance' (Configure the look and feel of Jenkins), 'Security' (Secure Jenkins; define who is allowed to access/use the system), and 'Credentials' (Configure credentials). A 'Credential Providers' link is also present. The URL at the bottom is '13.40.116.69:8080/manage/configure'.

Not secure 13.40.116.69:8080/manage/configure

Jenkins / Manage Jenkins / System

E-mail Notification

SMTP server: smtp.gmail.com

Default user e-mail suffix:

Advanced ▾ Edited

Use SMTP Authentication ?  
User Name: samdonaldand@gmail.com  
⚠ For security when using authentication it is recommended to enable either TLS or SSL.

Password:    
 Use SSL ?  Use TLS

Save Apply

Not secure 13.40.116.69:8080

Jenkins / Manage Jenkins / System

Charset: UTF-8

Test configuration by sending test e-mail  
Test e-mail recipient: samdonaldand@gmail.com

Email was successfully sent Test configuration

GitHub Pull Requests

Published Jenkins URL:

Actualise local repo on factory creation

Save Apply

Saved

REST API Jenkins 2.528.3

Compose

Test email #1 Inbox x

to me address not configured yet <samdonaldand@gmail.com>

This is test email #1 sent from Jenkins

Reply Forward ...

1 of 10,508 1:36 AM (0 minutes ago) ...

ox 5,108  
red  
oized  
it  
fts  
chases 11  
dates 5,709

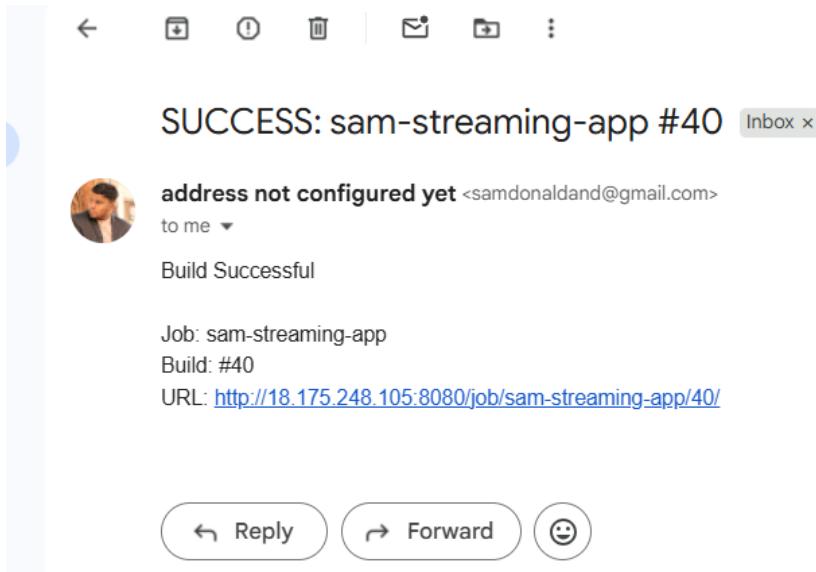
- Then Change the Jenkins pipeline flow according to your requierments and push the code to the repository

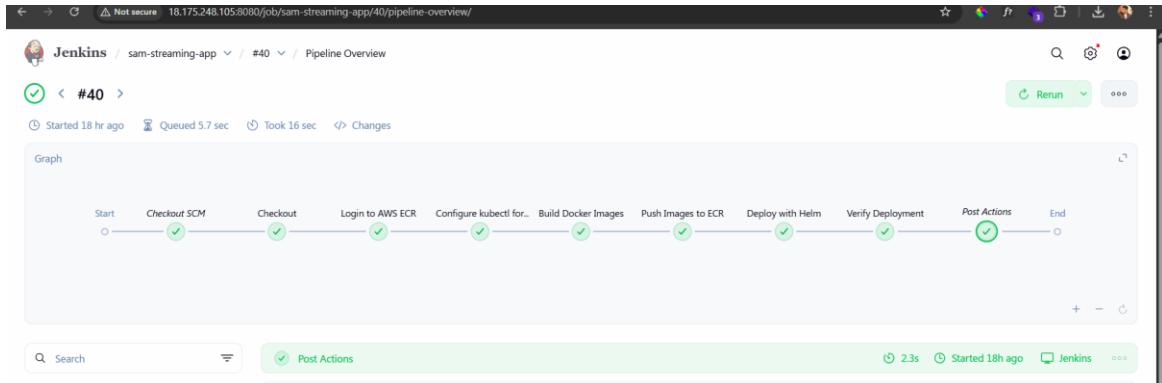
```

PROBLEMS 16 PORTS GITLENS SPELL CHECKER 16
TERMINAL
Counting objects: 100% (11/11), done.
Delta compression using up to 12 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 528 bytes | 528.00 KiB/s, done.
Total 6 (delta 5), reused 0 (delta 0), pack-reused 0 ...
PS E:\Hero VIRED\Assignments\Orgestration and scaling Assignment\StreamingApp> git commit -m "Streaming App third commit - Jenkins check"
[main e32688b] Streamng App third commit - Jenkins check
 1 file changed, 29 insertions(+), 7 deletions(-)
PS E:\Hero VIRED\Assignments\Orgestration and scaling Assignment\StreamingApp> git push origin
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 646 bytes | 646.00 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 https://github.com/SamDonald-A/StreamingApp.git
 05db669..e32688b main -> main
PS E:\Hero VIRED\Assignments\Orgestration and scaling Assignment\StreamingApp>

```

- Deployment Success and Notification also sent to the mail on success and check the loadbalance on the browser





- All Pods and services are running

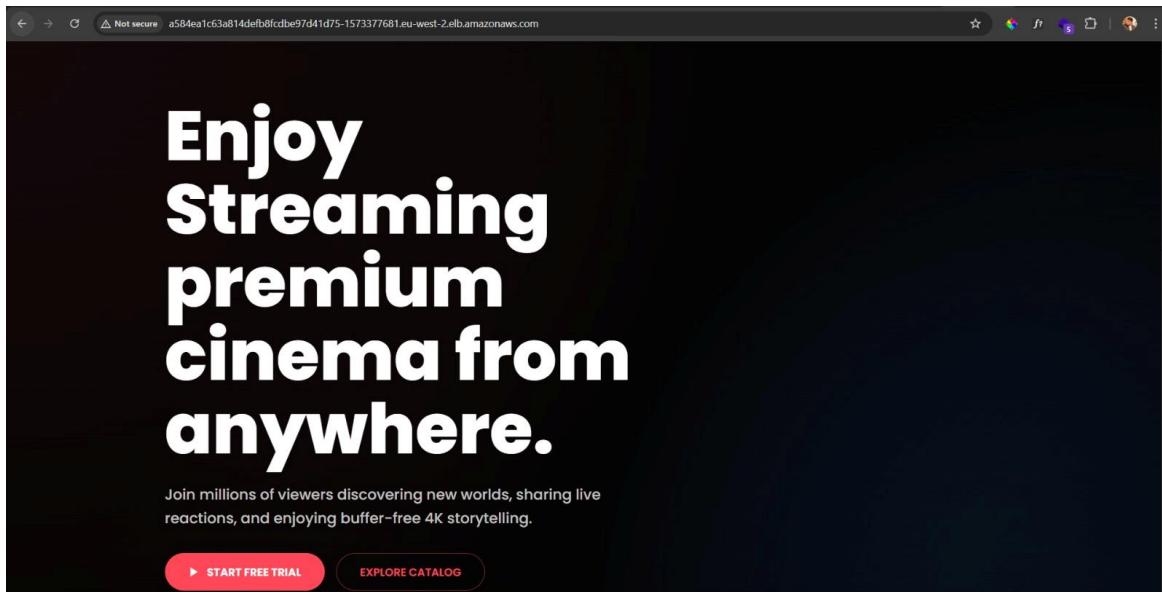
```

Timestamps View as plain text
① System clock time
② Use browser timezone
③ Elapsed time
④ None

00:32:28 + kubectl get pods -n streamingapp
00:32:29 NAME          READY   STATUS    RESTARTS   AGE
00:32:29 admin-59b7497844-2zm2g   1/1     Running   158 (68m ago) 14h
00:32:29 admin-74c9b6cd6d-mtx5n   0/1     ContainerCreating   0      1s
00:32:29 auth-6bf5cff9cf-v8q5x   1/1     Running   0      14h
00:32:29 auth-bfdcb956-dct4j   0/1     ContainerCreating   0      1s
00:32:29 chat-587586d455-rhbsv  1/1     Running   166 (69m ago) 37h
00:32:29 chat-965c7cb6f-z6xbw   0/1     ContainerCreating   0      1s
00:32:29 frontend-7dc7b49b65-tk5p5 1/1     Running   0      37h
00:32:29 mongo-77dbff9bc55-w4pk5  1/1     Running   0      37h
00:32:29 streaming-65d68f4455-hp7cq 1/1     Running   166 (69m ago) 37h
00:32:29 streaming-fccf7465-zt4kd  0/1     ContainerCreating   0      1s
00:32:29 + kubectl get svc -n streamingapp
00:32:30 NAME        TYPE        CLUSTER-IP      EXTERNAL-IP    PORT(S)      AGE
00:32:30 admin       ClusterIP   10.100.115.57 <none>        3003/TCP    3d6h
00:32:30 auth        ClusterIP   10.100.171.142 <none>        3001/TCP    3d6h
00:32:30 chat        ClusterIP   10.100.238.116 <none>        3004/TCP    3d6h
00:32:30 frontend    ClusterIP   10.100.109.197 <none>        80/TCP      3d6h
00:32:30 mongo       ClusterIP   10.100.205.76 <none>        27017/TCP   3d6h
00:32:30 streaming   ClusterIP   10.100.51.201 <none>        3002/TCP   3d6h
00:32:30 + kubectl get ingress -n streamingapp
00:32:31 NAME        CLASS      HOSTS   ADDRESS          PORTS      AGE
00:32:31 streamingapp-ingress  nginx    *      a584ea1c63a814defb8fcfbe97d41d75-465428402.eu-west-2.elb.amazonaws.com  80      3d6h
[Pipeline]
[Pipeline] // stage

```

- Check the Load balancer on the browser



Documentation by: Sam Donald A  
Email: [samdonaldand@gmail.com](mailto:samdonaldand@gmail.com)  
GitHub: <https://github.com/SamDonald-A>  
Website: [www.samdonald.in](http://www.samdonald.in)