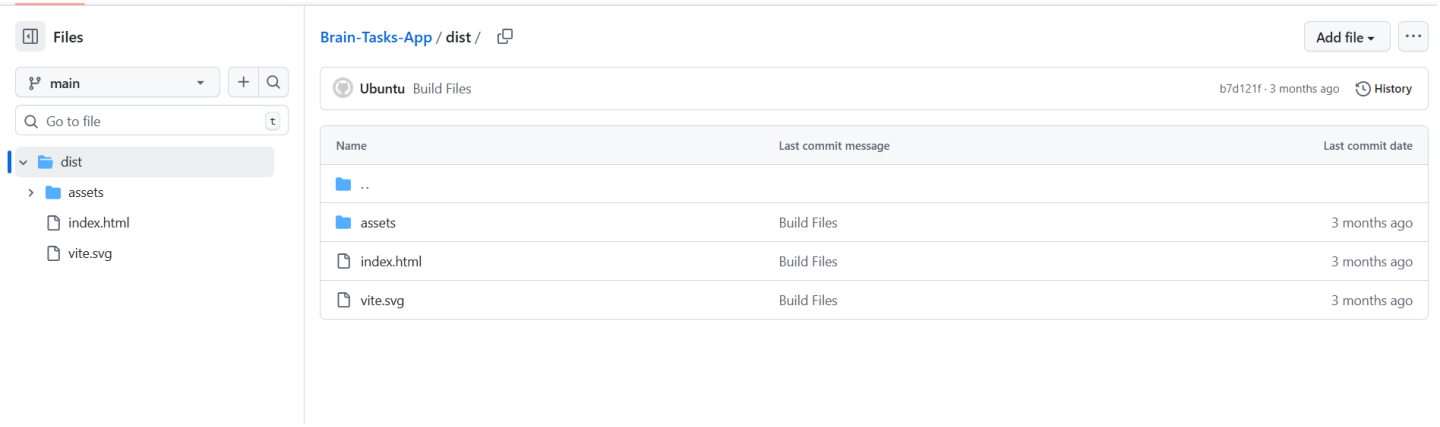
Project: Brain-Tasks-App

➔ **Step 1: Clone the repo and Dockerize the app**



➔ **Step 2: Create ECR repo and push the image**

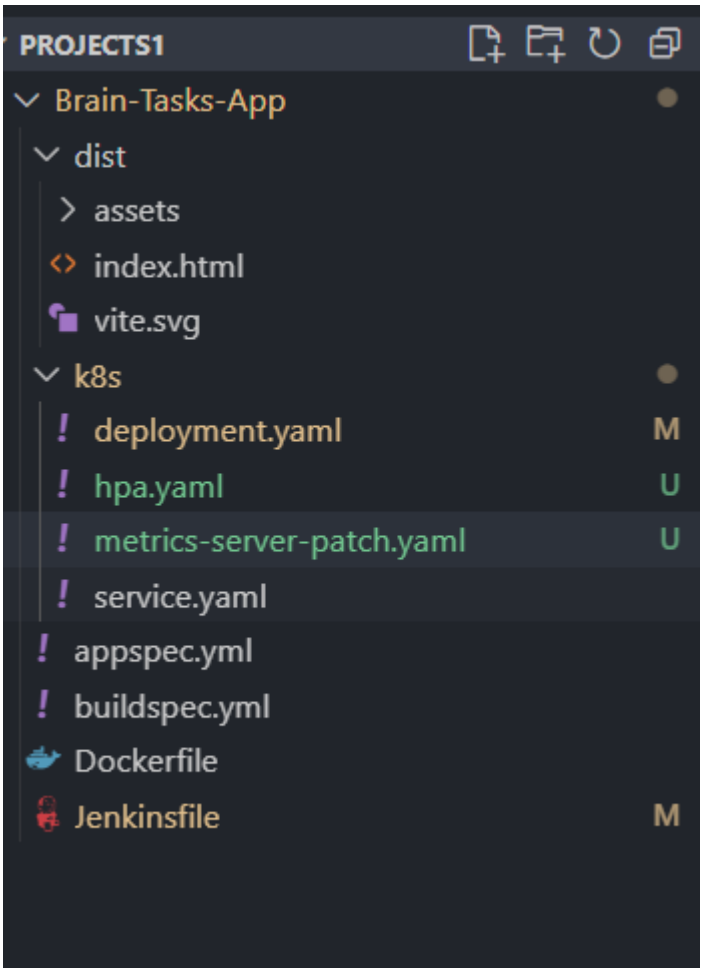
```
aws ecr get-login-password --region ap-south-1 \
  | docker login --username AWS --password-stdin 907969929387.dkr.ecr.ap-south-1.amazonaws.com

docker tag brain-tasks-app:latest \
  907969929387.dkr.ecr.ap-south-1.amazonaws.com/brain-tasks-app:latest

docker push 907969929387.dkr.ecr.ap-south-1.amazonaws.com/brain-tasks-app:latest
```

➔ **Step 3: Create EKS Cluster**

```
eksctl create cluster \
  --name brain-tasks-cluster \
  --region ap-south-1 \
  --nodegroup-name standard-workers \
  --node-type t3.medium \
  --nodes 2 \
  --nodes-min 1 \
  --nodes-max 3 \
  --managed
```

➔ **Step 4: Kubernetes manifest – Deploy the app**

Create k8s folder with deployment.yaml and service.yaml.



➔ **Step 5: Metrics and HPA and Monitoring**

```
ip-192-168-80-77.ap-south-1.compute.internal    37m          1%       483Mi           14%
PS C:\Users\91866\projects1\Brain-Tasks-App\k8s> kubectl top pods
NAME                                       CPU(cores)   MEMORY(bytes)
brain-tasks-deployment-8474b78b5d-g52ch    0m           3Mi
brain-tasks-deployment-8474b78b5d-pbdqh    0m           3Mi
PS C:\Users\91866\projects1\Brain-Tasks-App\k8s> kubectl get hpa
NAME              REFERENCE                           TARGETS       MINPODS   MAXPODS   REPLICAS   AGE
brain-tasks-hpa   Deployment/brain-tasks-deployment   cpu: 0%/30%   2         6         2          36m
```

➔ **Step 6: Build Jenkins and deploy to EKS.**

Console Output

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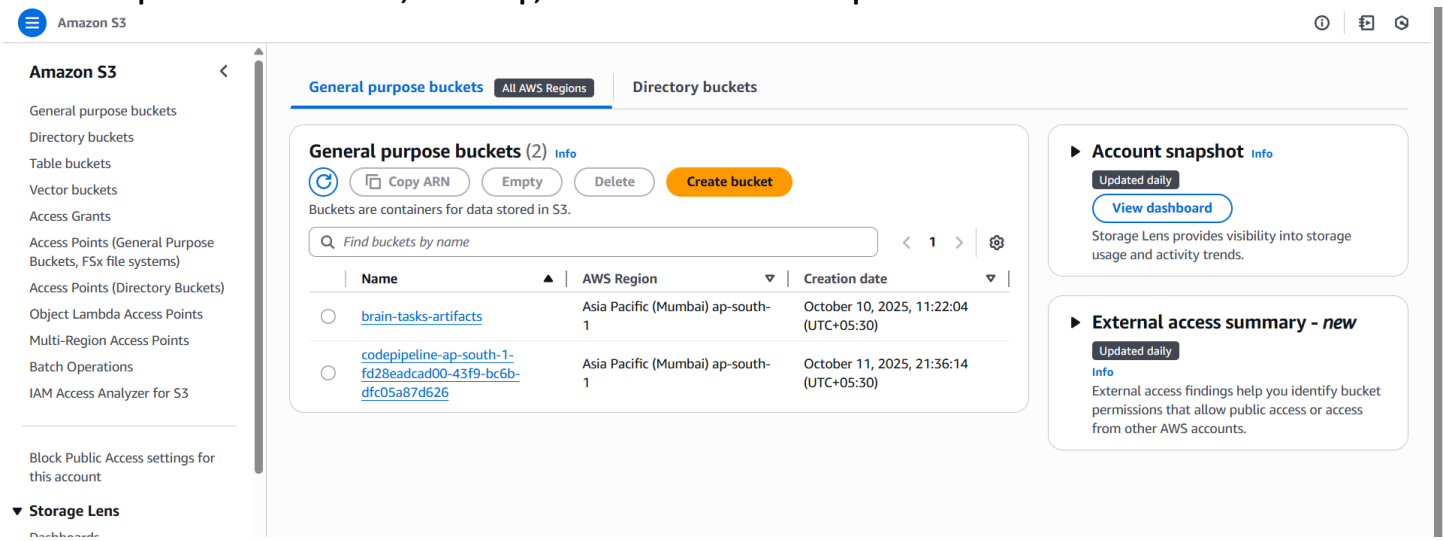
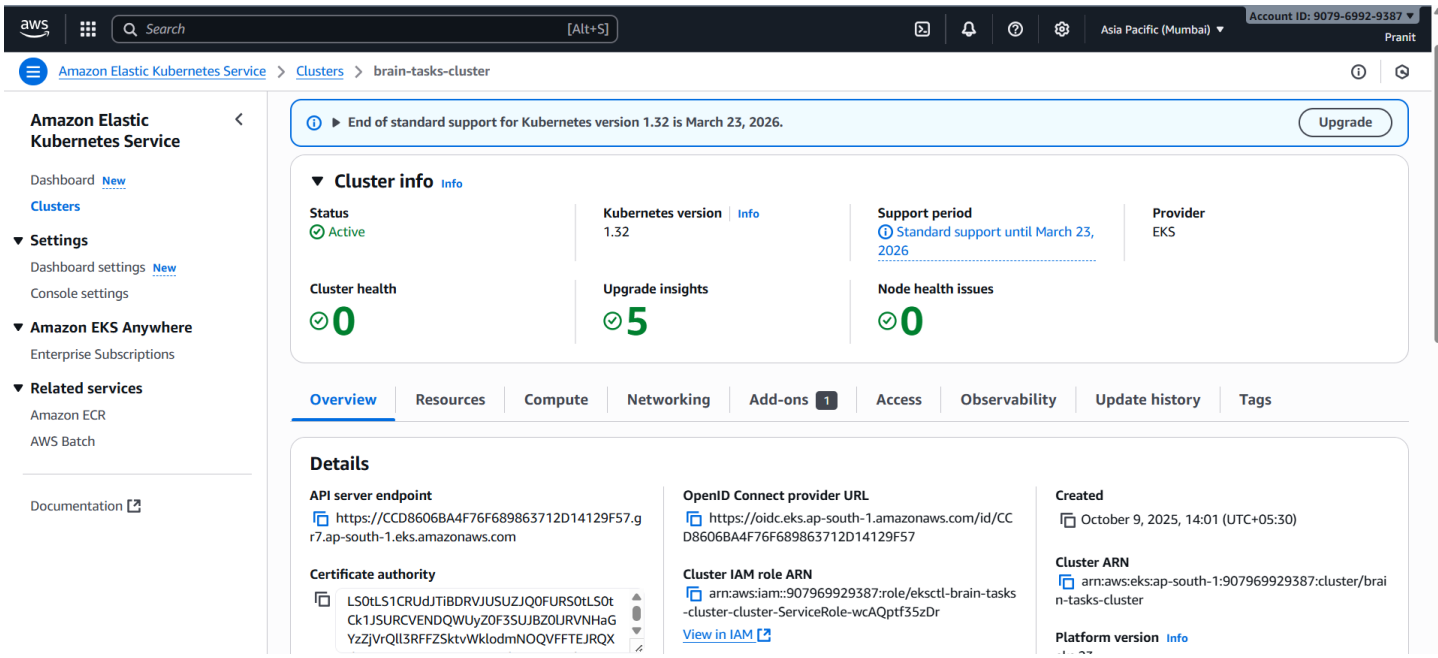
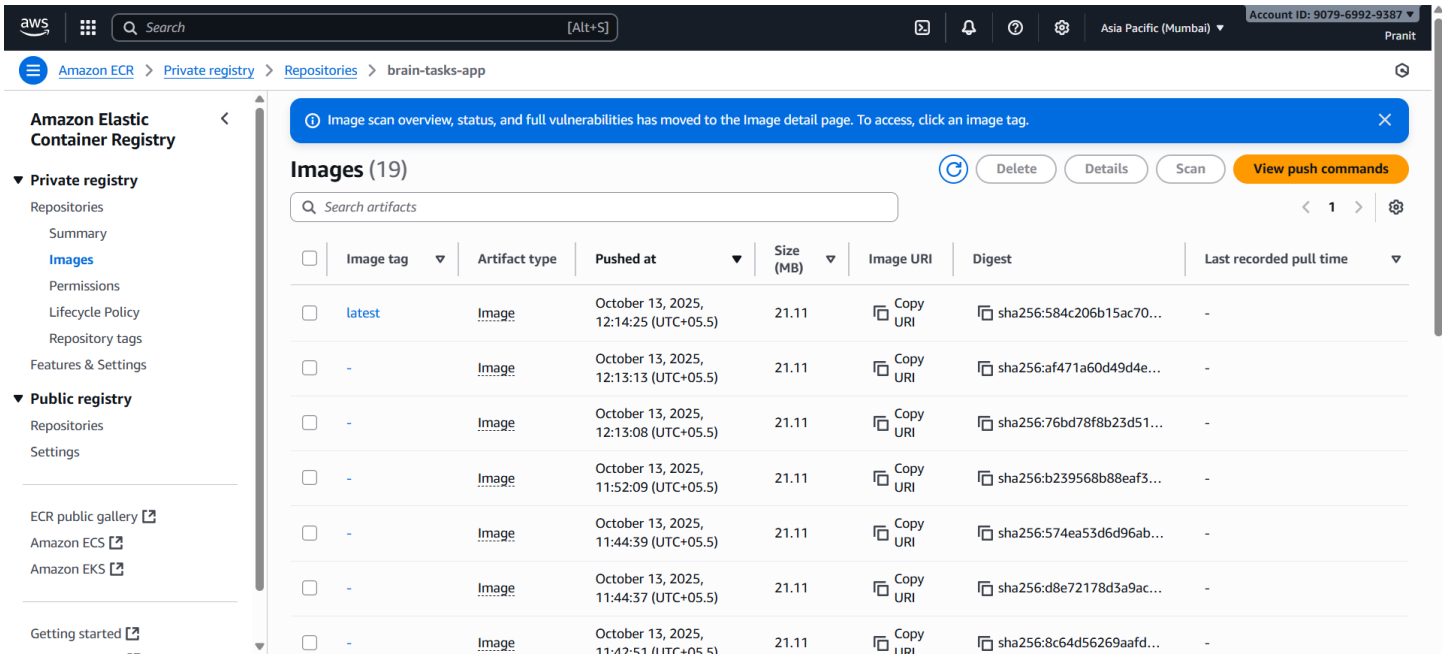
```
Started by user pranit pisal
Obtained Jenkinsfile from git https://github.com/Wanted162/brain-task-app.git
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/brain-tasks-pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
 > git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/brain-tasks-pipeline/.git # timeout=10
Fetching changes from the remote Git repository
 > git config remote.origin.url https://github.com/Wanted162/brain-task-app.git # timeout=10
Fetching upstream changes from https://github.com/Wanted162/brain-task-app.git
 > git --version # timeout=10
 > git --version # 'git version 2.43.0'
 > git fetch --tags --force --progress -- https://github.com/Wanted162/brain-task-app.git +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision f6549d367634d087525c737953c2934664535bce (refs/remotes/origin/main)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f f6549d367634d087525c737953c2934664535bce # timeout=10
Commit message: "Initial commit with chnages in Jenkinsfile"
 > git rev-list --no-walk f6549d367634d087525c737953c2934664535bce # timeout=10
```

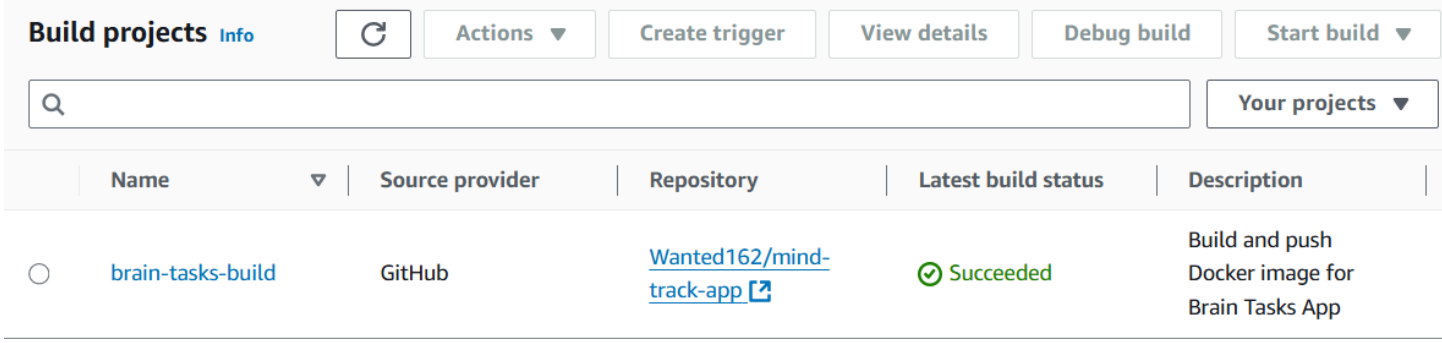
```
latest: digest: sha256:8a8a9c20af554a6ffbdb45a4f47e94dbe823b8981ab2337430823464744a3b4b size: 2406
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy to EKS)
[Pipeline] sh
+ aws eks update-kubeconfig --region ap-south-1 --name brain-tasks-cluster
Updated context arn:aws:eks:ap-south-1:907969929387:cluster/brain-tasks-cluster in /var/lib/jenkins/.kube/config
[Pipeline] sh
+ kubectl apply -f k8s/deployment.yaml --validate=false
deployment.apps/brain-tasks-deployment unchanged
[Pipeline] sh
+ kubectl apply -f k8s/service.yaml --validate=false
service/brain-tasks-service unchanged
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

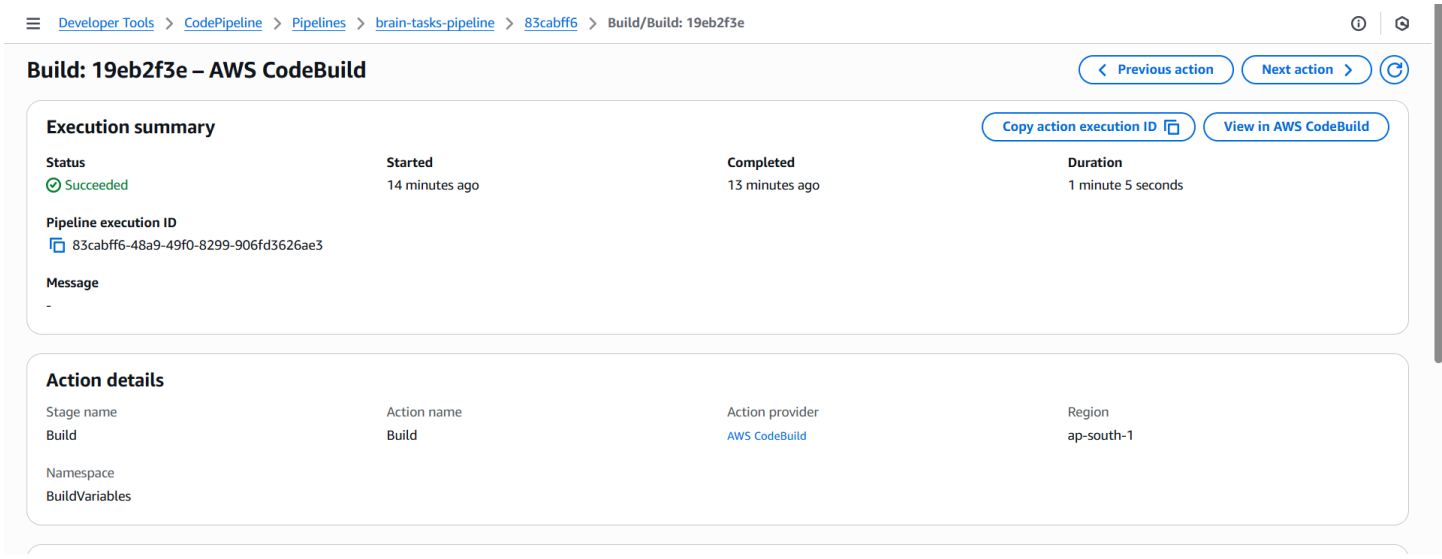
➔ Step 7: Formation of ECR, EKS setup, S3 Bucket and CI-CD setup with Cloudwatch

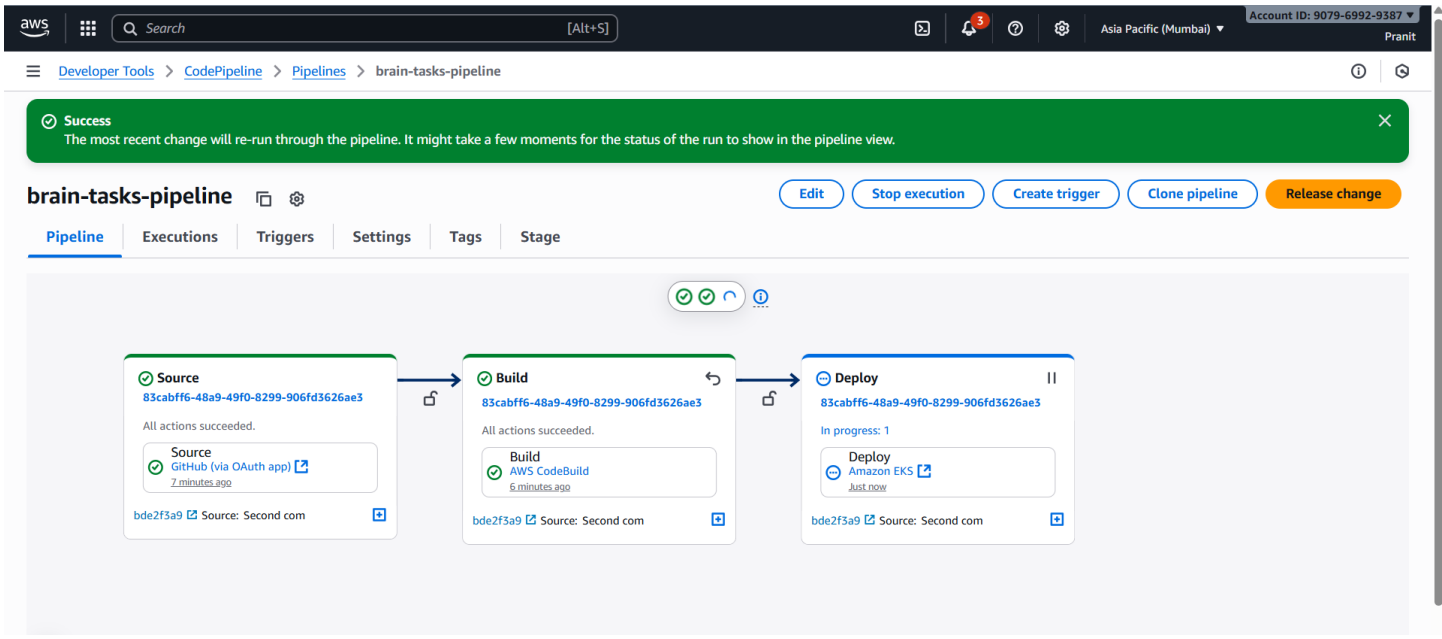


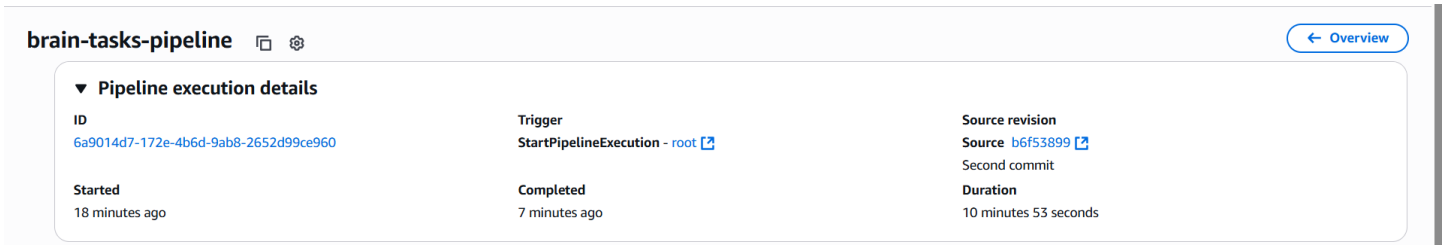


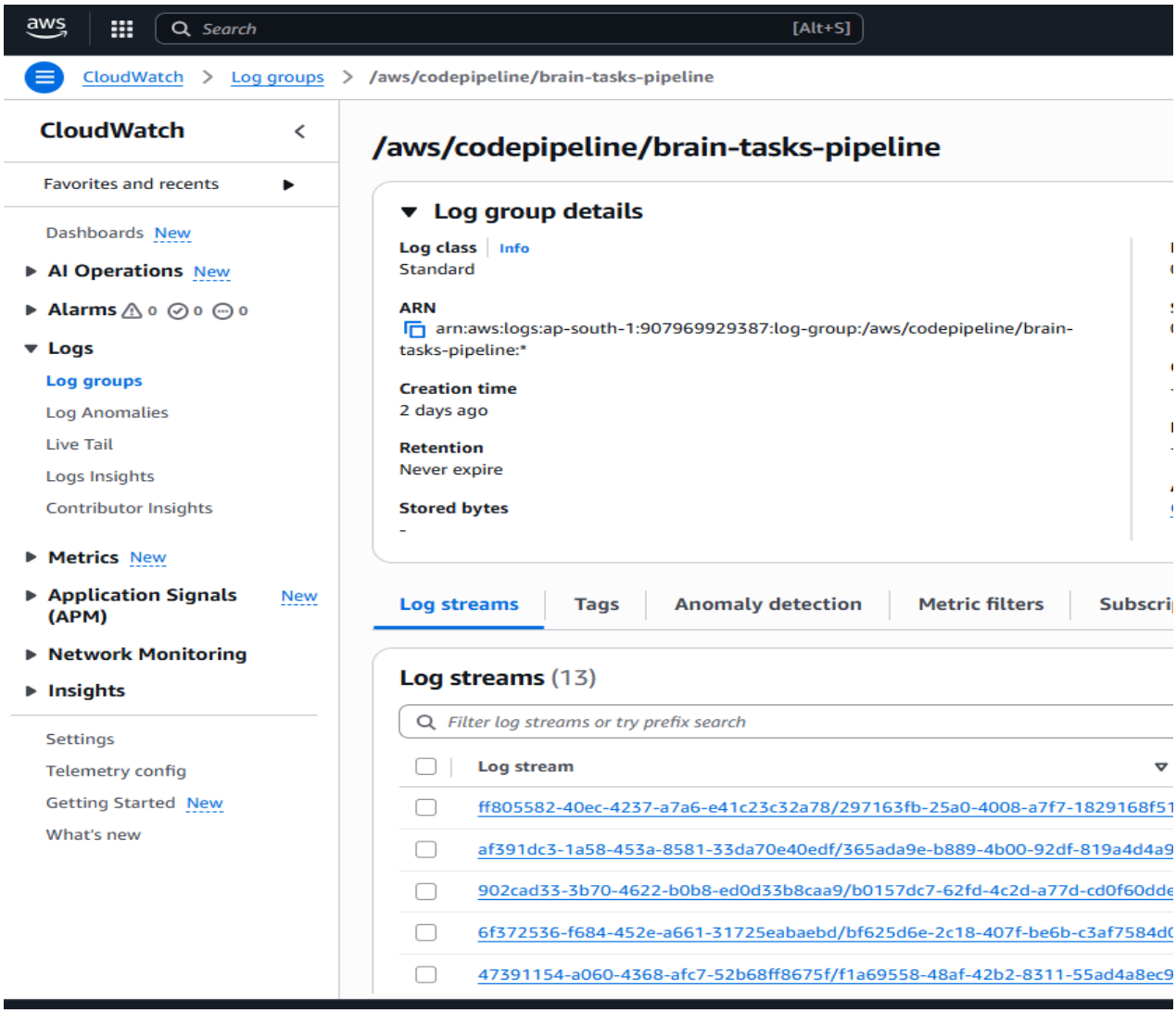

Search [Alt+S]
Asia Pacific (Mumbai)
Account ID: 9079-6992-9387
Pranit
Amazon ECR > Private registry > Repositories > brain-tasks-app
Amazon Elastic Container Registry
Private registry
Repositories
Summary
Images
Permissions
Lifecycle Policy
Repository tags
Features & Settings
Public registry
Repositories
Settings
ECR public gallery
Amazon ECS
Amazon EKS
Getting started
Image scan overview, status, and full vulnerabilities has moved to the Image detail page. To access, click an image tag.
Images (19)
Delete
Details
Scan
View push commands
Search artifacts
Image tag
Artifact type
Pushed at
Size (MB)
Image URI
Digest
Last recorded pull time
latest
Image
October 13, 2025, 12:14:25 (UTC+05.5)
21.11
Copy URI
sha256:584c206b15ac70...
October 13, 2025, 12:13:13 (UTC+05.5)
sha256:af471a60d49d4e...
October 13, 2025, 12:13:08 (UTC+05.5)
sha256:76bd78f8b23d51...
October 13, 2025, 11:52:09 (UTC+05.5)
sha256:b239568b88eaf3...
October 13, 2025, 11:44:39 (UTC+05.5)
sha256:574ea53d6d96ab...
October 13, 2025, 11:44:37 (UTC+05.5)
sha256:d8e72178d3a9ac...
October 13, 2025, 11:42:51 (UTC+05.5)
sha256:8c64d56269aafd...


Build projects Info
Actions
Create trigger
View details
Debug build
Start build
Your projects
Name
Source provider
Repository
Latest build status
Description
brain-tasks-build
GitHub
Wanted162/mind-track-app
Succeeded
Build and push Docker image for Brain Tasks App

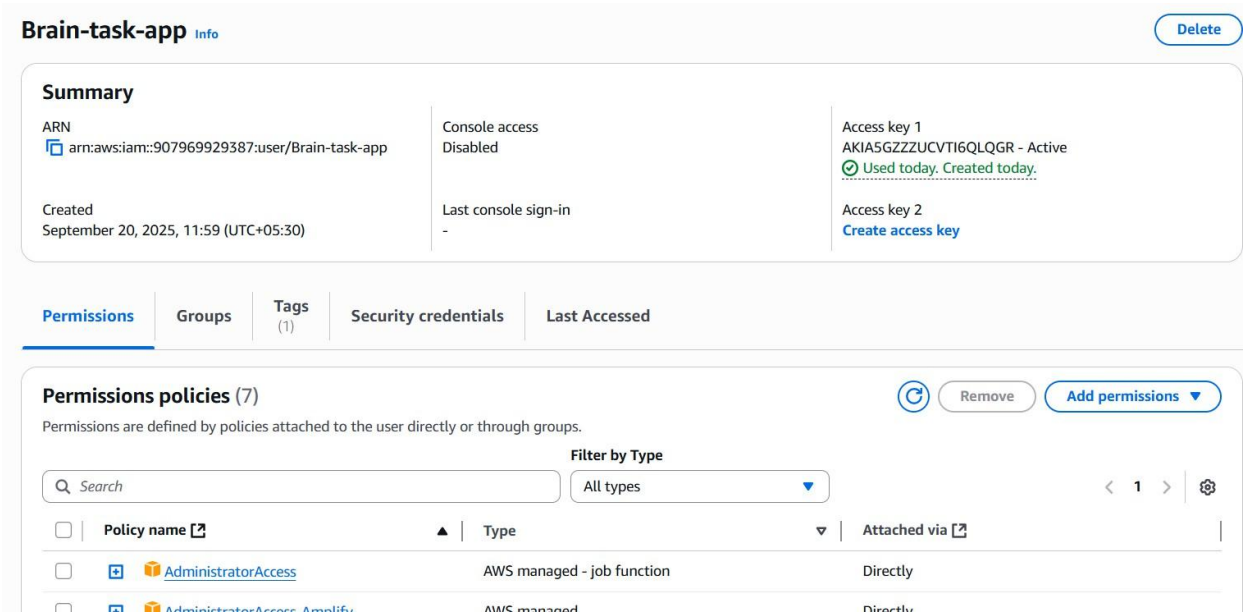

Developer Tools > CodePipeline > Pipelines > brain-tasks-pipeline > 83cabff6 > Build/Build: 19eb2f3e
Build: 19eb2f3e – AWS CodeBuild
Previous action
Next action
Execution summary
Copy action execution ID
View in AWS CodeBuild
Status
Succeeded
Started
14 minutes ago
Completed
13 minutes ago
Duration
1 minute 5 seconds
Pipeline execution ID
83cabff6-48a9-49f0-8299-906fd3626ae3
Message
-
Action details
Stage name
Build
Action name
Build
Action provider
AWS CodeBuild
Region
ap-south-1
Namespace
BuildVariables

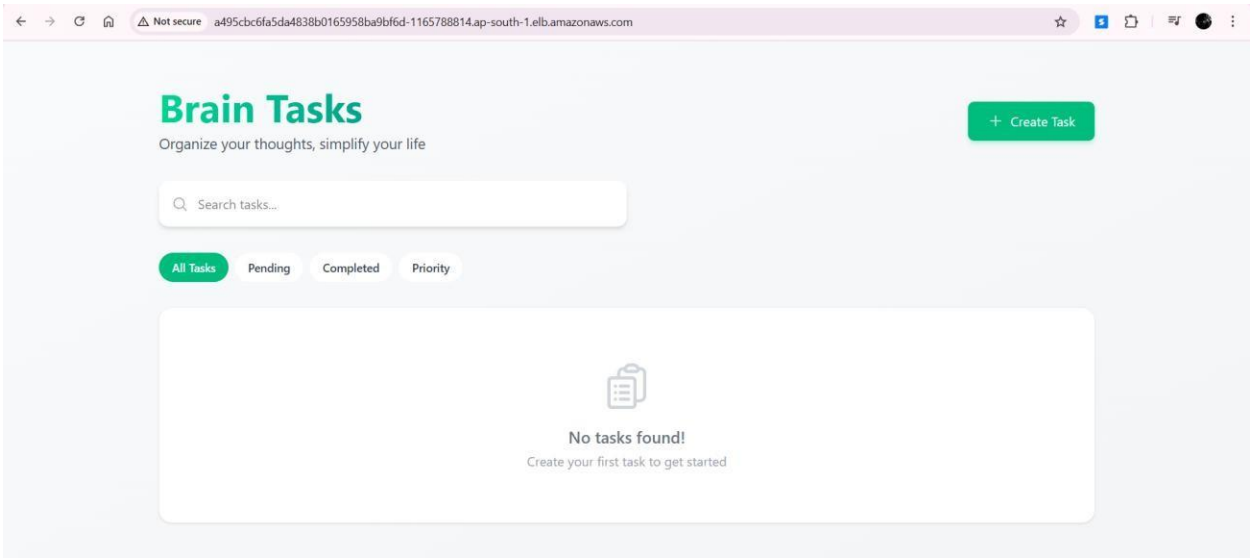

Search
[Alt+S]
Asia Pacific (Mumbai)
Account ID: 9079-6992-9387
Pranit
Developer Tools > CodePipeline > Pipelines > brain-tasks-pipeline
Success
The most recent change will re-run through the pipeline. It might take a few moments for the status of the run to show in the pipeline view.
brain-tasks-pipeline
Edit
Stop execution
Create trigger
Clone pipeline
Release change
Pipeline
Executions
Triggers
Settings
Tags
Stage
Source
83cabff6-48a9-49f0-8299-906fd3626ae3
All actions succeeded.
Source
GitHub (via OAuth app)
7 minutes ago
bde2f3a9 Source: Second com
Build
83cabff6-48a9-49f0-8299-906fd3626ae3
All actions succeeded.
Build
AWS CodeBuild
6 minutes ago
bde2f3a9 Source: Second com
Deploy
83cabff6-48a9-49f0-8299-906fd3626ae3
In progress: 1
Deploy
Amazon EKS
Just now
bde2f3a9 Source: Second com


brain-tasks-pipeline
Overview
Pipeline execution details
ID
6a9014d7-172e-4b6d-9ab8-2652d99ce960
Trigger
StartPipelineExecution - root
Source revision
Source b6f53899
Second commit
Started
18 minutes ago
Completed
7 minutes ago
Duration
10 minutes 53 seconds



➔ Step 8: Verifications and Monitoring






```
91866@LAPTOP-I9TPEN7J MINGW64 ~/projects1/Brain-Tasks-App (main)
$ kubectl top nodes
NAME                                          CPU(cores)   CPU(%)   MEMORY(bytes)   MEMORY(%)
ip-192-168-90-130.ap-south-1.compute.internal   40m          2%       680Mi           47%

91866@LAPTOP-I9TPEN7J MINGW64 ~/projects1/Brain-Tasks-App (main)
$ kubectl top pods
NAME                                    CPU(cores)   MEMORY(bytes)
brain-tasks-deployment-bd49c7b95-n24rf   1m           3Mi
brain-tasks-deployment-bd49c7b95-n9whj   1m           3Mi

91866@LAPTOP-I9TPEN7J MINGW64 ~/projects1/Brain-Tasks-App (main)
$ kubectl get pods -n kube-system -l k8s-app=metrics-server
NAME                              READY   STATUS    RESTARTS   AGE
metrics-server-7c7855dd75-rf6mx   1/1     Running   0          10m
metrics-server-7c7855dd75-t76jn   1/1     Running   0          10m
```