

MY-PLAYERSLIST

CAPSTONE PROJECT

GITHUB-URL: <https://github.com/SanjidakramN/capstone-project>

TOPICS:

- CLOUDFORMATION - US-EAST-1
- TERRAFORM - US-WEST-2
- ROUTE 53
- CLOUD WATCH
- ALARM & SNS NOTIFICATION
- CodeCommit
- SONARQUBE

OVERVIEW:

This project involves deploying a Three-Tier Web Application (ReactJS frontend, NodeJS backend, and MongoDB database) on Amazon EKS. The application is containerized using Docker and images are stored in Amazon ECR.

SonarQube is integrated for code quality checks during the CI/CD process. Amazon CloudWatch monitors application health, with alarms triggering SNS notifications for issues like pod crashes. Amazon Route 53 is used to route traffic to the frontend via a custom domain, enabling external access.

[illegible]

1. **User Access:**
 - . Users interact with the application via API requests sent to the EKS Control Plane.
2. **EKS Cluster:**
 - . EKS Control Plane manages the Kubernetes Worker Nodes.
 - . Worker nodes run the application workloads (frontend/backend service)
3. **CloudWatch Logs:**
 - . Worker nodes send logs to **Amazon CloudWatch** for monitoring and observability.
4. **VPC & Subnets:**
 - . All resources are within a single **AWS VPC**.
 - . Split into **Public Subnets** (AZ1, AZ2) and **Private Subnets** (AZ1, AZ2) for high availability.
5. **Internet Connectivity:**
 - . **Internet Gateway** allows public subnets internet access.\
 - . **NAT Gateway** enables private subnets to reach the internet securely for updates.
6. **Network ACLs:**
 - . Network ACLs control traffic at the subnet level for both public and private traffic filtering.

7. Database Layer:

- Uses **Amazon documentDB for MySQL** with **Multi-AZ** deployment for high availability and reliability.

.The application communicates with the database through private networking.

1 CloudFormation via CodePipeline

.us-east-1

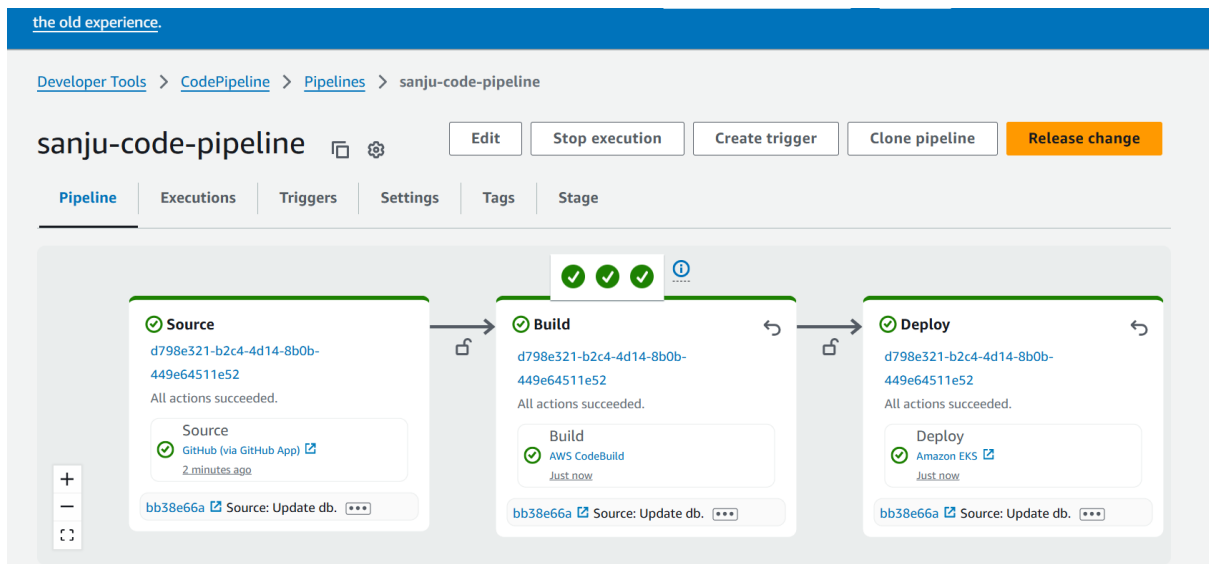
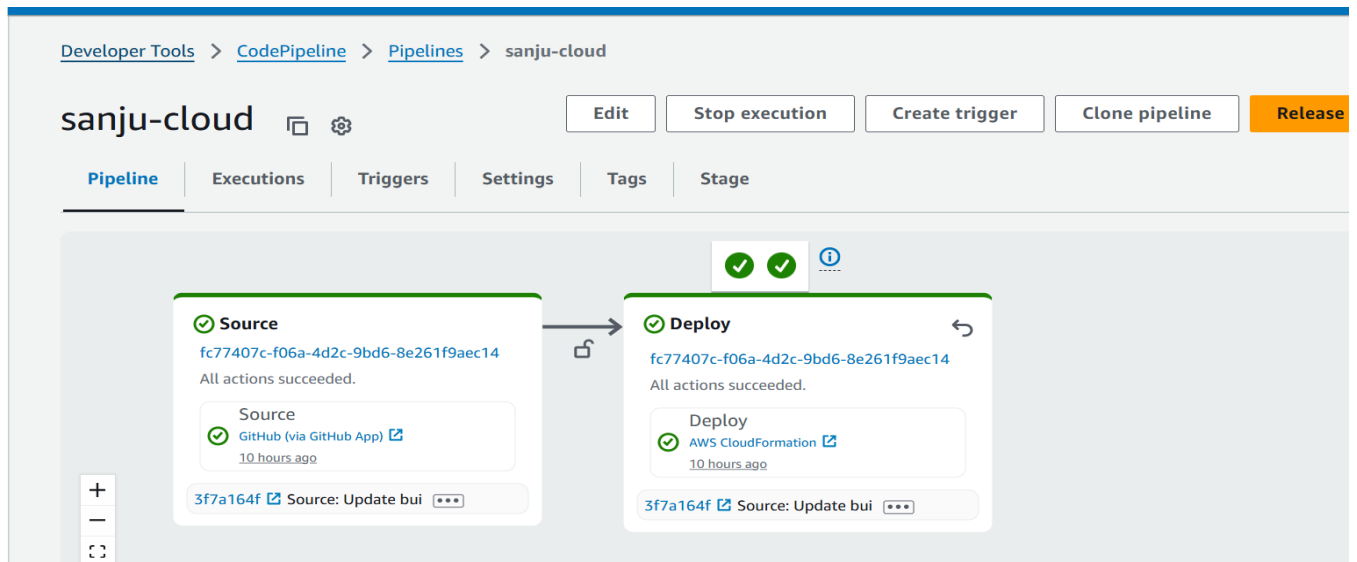
.git-url: <https://github.com/SanjidakramN/capstone-project/blob/main/cloudFormation.yaml>

. Uses **CloudFormation templates** to provision infrastructure (VPC, EKS, DB, etc.).

. Whenever code is pushed, **CodePipeline** triggers:

1. **Source stage** fetches code (e.g., from GitHub or CodeCommit).
2. **Build stage** runs validations (e.g., CodeBuild).
3. **Deploy stage** uses **CloudFormation** to create/update AWS resources.
4. Ensures **repeatable**, **version-controlled**, and **automated** infrastructure setup.

Screenshots of running codePipelines



.aws eks update-kubeconfig --region us-east-1 --name SanjuEKSCluster

.export AWS_REGION=us-east-1

kubectl get all pod -n three-tier

```

root@ip-172-31-23-245:/home/ubuntu# kubectl get all -n three-tier
NAME                                     READY   STATUS    RESTARTS   AGE
pod/api-5d966c6fdc-j7dsj                1/1     Running   0           27h
pod/api-5d966c6fdc-wqjvh                1/1     Running   0           27h
pod/frontend-55bbdc94fd-kspm            1/1     Running   0           27h
pod/mongodb-799f9bc559-gp4zx            1/1     Running   0           28h
pod/restart-test-56bc999b9-4sl9s        1/1     Running   0           101m

NAME                                     TYPE          CLUSTER-IP   EXTERNAL-IP   PORT(S)        AGE
service/api                               ClusterIP      172.20.60.111 <none>        3500/TCP       28h
service/frontend                         ClusterIP      172.20.250.206 <none>        3000/TCP       28h
service/mongodb-svc                     ClusterIP      172.20.101.147 <none>        27017/TCP      28h

NAME                                     READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/api                     2/2     2             2           28h
deployment.apps/frontend                 1/1     1             1           28h
deployment.apps/mongodb                  1/1     1             1           28h
deployment.apps/restart-test             1/1     1             1           103m

NAME                                     DESIRED   CURRENT   READY   AGE
replicaset.apps/api-5d966c6fdc           2         2         2       27h

```

Loadbalancer:

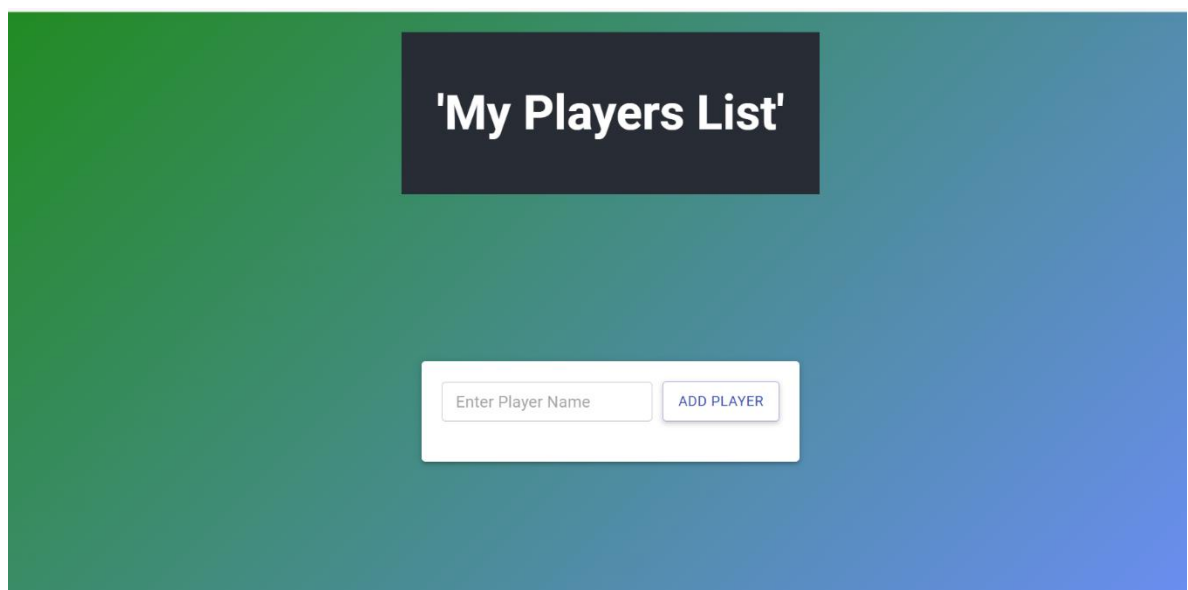
. us-east-1

. k8s-threetie-mainlb-369c6562fa-1073271001.us-east-1.elb.amazonaws.com

Q Filter load balancers

<input type="checkbox"/>	Name	DNS name	State
<input type="checkbox"/>	k8s-default-appingre-f839a6fdd0	k8s-default-appingre-f839a6fdd0-522583786.us-eas...	Active
<input type="checkbox"/>	k8s-threetie-mainlb-369c6562fa	k8s-threetie-mainlb-369c6562fa-1073271001.us-eas...	Active
<input type="checkbox"/>	k8s-energyconnectgrou-a66037c1b5	k8s-energyconnectgrou-a66037c1b5-1492575079.us...	Active

. Getting output through loadbalancer



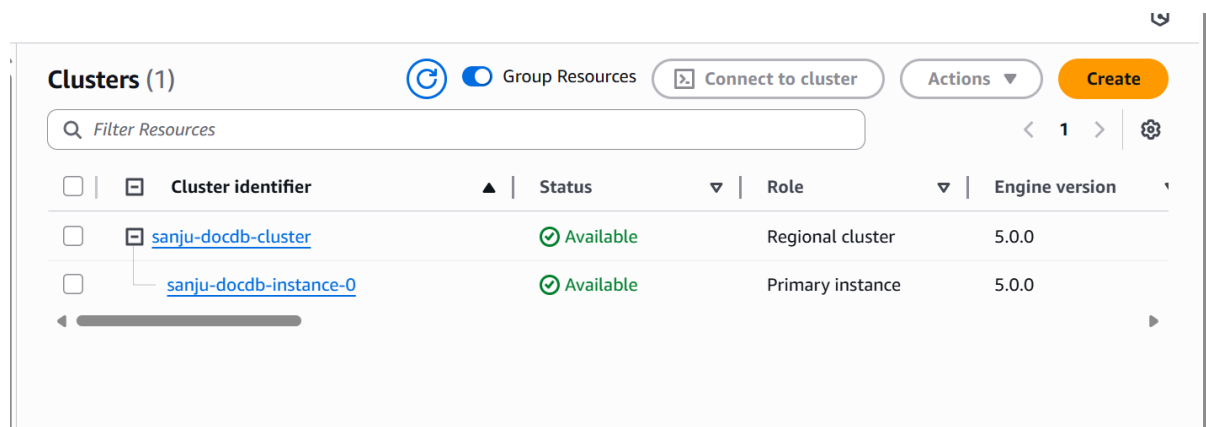
MongoDB with Amazon DocumentDB:

- .Amazon DocumentDB is a fully managed document database service.
- .Compatible with MongoDB APIs – supports MongoDB drivers/tools.
- .Used to store JSON-like (BSON) documents.
- .Provides scalability, high availability, and backup support.
- .Ideal for microservices needing schema flexibility.

.curl -o global-bundle.pem

<https://truststore.pki.rds.amazonaws.com/global/global-bundle.pem>

.mongosh "mongodb://Sanjidakram:Rabiyasanju@sanjudocdb-cluster.ch2c82wwifaa.us-east-1.docdb.amazonaws.com:27017/?tls=true&tlsCAFile=global-bundle.pem&retryWrites=false"



The screenshot shows the Amazon DocumentDB console. At the top, there's a 'Clusters (1)' header with a refresh icon, a 'Group Resources' toggle, a 'Connect to cluster' button, and an 'Actions' dropdown. Below this is a search bar labeled 'Filter Resources'. The main content is a table with columns: 'Cluster identifier', 'Status', 'Role', and 'Engine version'. There are two rows: one for the cluster 'sanju-docdb-cluster' (Regional cluster, 5.0.0) and one for the instance 'sanju-docdb-instance-0' (Primary instance, 5.0.0). Both are marked as 'Available'.

Cluster identifier	Status	Role	Engine version
sanju-docdb-cluster	Available	Regional cluster	5.0.0
sanju-docdb-instance-0	Available	Primary instance	5.0.0

Download the Amazon DocumentDB Certificate Authority (CA) certificate required to authenticate to your cluster

```
wget https://truststore.pki.rds.amazonaws.com/global/global-bundle.pem
```

Connect to this cluster with the mongo shell [Copy](#)

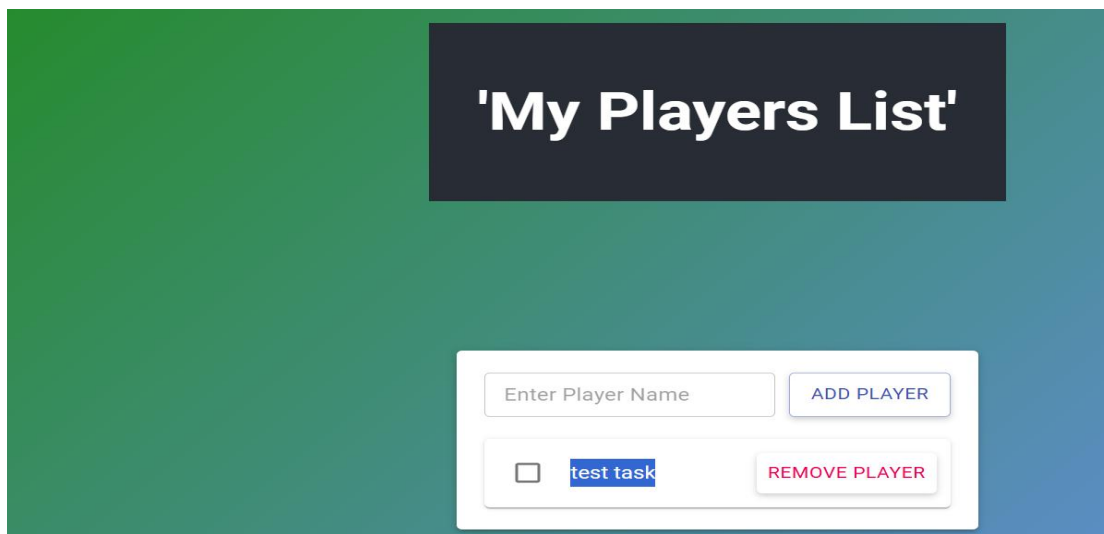
```
mongosh sanju-docdb-cluster.cluster-c5iic84aq1ja.us-west-2.docdb.amazonaws.com:27017 --tls --  
tlsCAFile global-bundle.pem --retryWrites=false --username docdbadmin --password  
<insertYourPassword>
```

Connect to this cluster with an application [Copy](#)

```
mongodb://docdbadmin:<insertYourPassword>@sanju-docdb-cluster.cluster-c5iic84aq1ja.us-west-  
2.docdb.amazonaws.com:27017/?tls=true&tlsCAFile=global-  
bundle.pem&replicaSet=rs0&readPreference=secondaryPreferred&retryWrites=false
```

```
. show dbs
. use todo
.show collections
.db.tasks.find().pretty()
```

```
3 |
ts0 [direct: primary] todo> db.tasks.find().pretty()
{
  _id: ObjectId('6858e91addea27a704baa8b9'),
  task: 'Test Task',
  completed: false
}
ts0 [direct: primary] todo>
```



Running EKSCluster

SanjuEKSCluster

↺

Delete cluster

Upgrade version

Monitor

ⓘ

End of standard support for Kubernetes version 1.32 is March 21, 2026. On that date, your cluster will enter the extended support period with additional fees. For more information, see the [pricing page](#).

Upgrade

▼ Cluster info [Info](#)

Status

✓

Active

Kubernetes version

Info

1.32

Support period

ⓘ

Standard support until March 21, 2026

Provider

EKS

Cluster health

✓

0

Upgrade insights

✓

4

Node health issues

✓

0

<

Overview

Resources

Compute 1

Networking

Add-ons

Access

Observability

Running Instances

Instances (8) [Info](#)

↺

Connect

Instance state ▼

Actions ▼

Launch instances

Q

Find Instance by attribute or tag (case-sensitive)

All states ▼

< 1 >

<input type="checkbox"/>	Name ↗ ▼	Instance ID	Instance state ▼	Instance type ▼	Status check	Alarm 🔔
<input type="checkbox"/>	Energy-cft	i-0c64ac2cb40266937	<div>✓</div> <div>Running</div> <div>🔍</div> <div>🔍</div>	t2.medium	<div>✓</div> <div>2/2 checks passed</div>	View details
<input type="checkbox"/>	terraform	i-093c6bd9ca0de75f4	<div>✓</div> <div>Running</div> <div>🔍</div> <div>🔍</div>	t2.medium	<div>✓</div> <div>2/2 checks passed</div>	View details
<input type="checkbox"/>	sanju-project	i-009447c20f5873472	<div>✓</div> <div>Running</div> <div>🔍</div> <div>🔍</div>	t3.large	<div>✓</div> <div>3/3 checks passed</div>	View details
<input type="checkbox"/>		i-00ba6493040c72d74	<div>✓</div> <div>Running</div> <div>🔍</div> <div>🔍</div>	t3.medium	<div>✓</div> <div>3/3 checks passed</div>	View details

Select an instance

2. Terraform with CodePipeline for Infrastructure:

.us-west-2

. Infrastructure as Code (IaC): Terraform is used to define and version infrastructure in code format.

. **CodePipeline Integration:** Automates the deployment of Terraform templates using AWS CodePipeline.

Stages:

1. **Source Stage:** Fetches Terraform code from a repo (e.g., GitHub/CodeCommit).
2. **Build Stage:** Runs terraform init, plan, and apply via CodeBuild.

Provisioning: Automatically creates resources like **VPC, Subnets, EKS, IAM roles, RDS, DocumentDB** etc.

Benefits: Ensures **consistent, repeatable**, and **automated infrastructure deployment**.

```
.aws eks update-kubeconfig --region us-west-2 --name SanjuEKSCluster-terraform
```

```
. export AWS_REGION=us-west-2
```

```
. kubectl get all -n three-tier
```

NAME	READY	STATUS	RESTARTS	AGE
pod/api-5d966c6fdc-kf85p	1/1	Running	0	2d10h
pod/api-5d966c6fdc-pdhxt	1/1	Running	0	2d10h
pod/frontend-55bbdc94fd-67r8l	1/1	Running	0	2d10h
pod/mongodb-799f9bc559-n2xn5	1/1	Running	0	2d10h

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/api	ClusterIP	172.20.50.213	<none>	3500/TCP	3d4h
service/frontend	ClusterIP	172.20.212.32	<none>	3000/TCP	3d4h
service/mongodb-svc	ClusterIP	172.20.60.98	<none>	27017/TCP	3d4h

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
deployment.apps/api	2/2	2	2	2d10h
deployment.apps/frontend	1/1	1	1	2d10h
deployment.apps/mongodb	1/1	1	1	2d10h

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/api-5d966c6fdc	2	2	2	2d10h
replicaset.apps/frontend-55bbdc94fd	1	1	1	2d10h
replicaset.apps/mongodb-799f9bc559	1	1	1	2d10h

root@ip-172-31-23-245: /home/ubuntu#

Codebuild through terraform

[Developer Tools](#) > [CodeBuild](#) > [Build projects](#) > [sanju-terraform](#) > sanju-terraform:7c5dbd63-3eeb-42a5-a1e7-be21...

sanju-terraform:7c5dbd63-3eeb-42a5-a1e7-be2109958eb0

Stop build

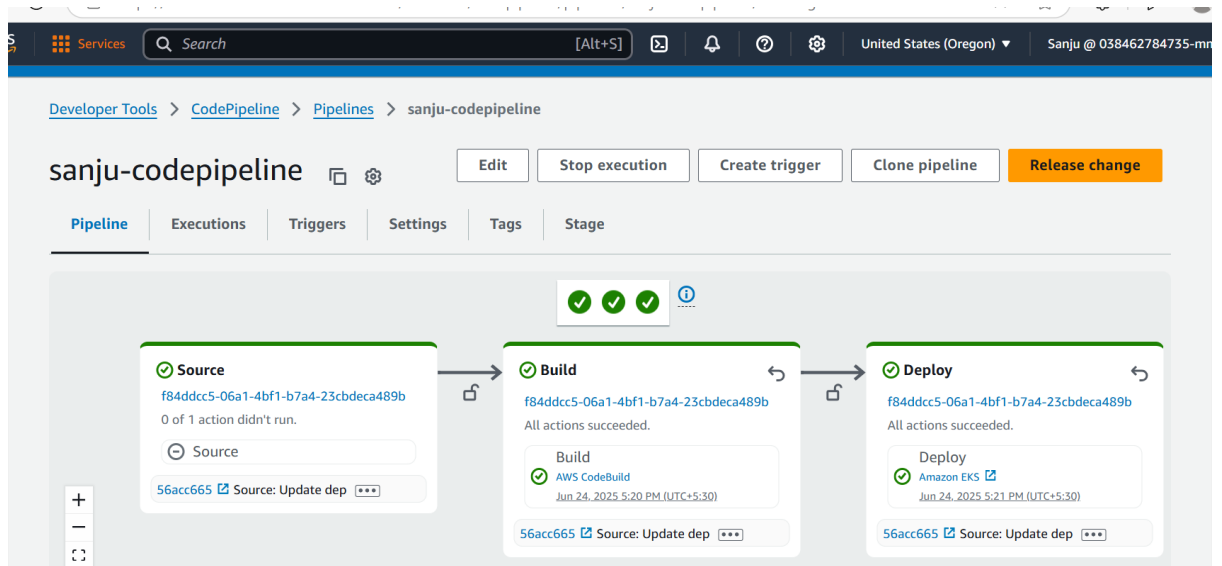
Debug build

Retry build

Build status

Status	Initiator	Build ARN
✔ Succeeded	GitHub-Hookshot/2d5e4d4	arn:aws:codebuild:us-west-2:038462784735:build/sanju-terraform:7c5dbd63-3eeb-42a5-a1e7-be2109958eb0
Resolved source version	Start time	End time
3f7a164f4deafc5d92cf82deb5340b5a85de4c11	Jun 25, 2025 10:53 AM (UTC+5:30)	Jun 25, 2025 10:57 AM (UTC+5:30)
Build number		
16		

Codepipeline



LoadBalancer – us-west-2:

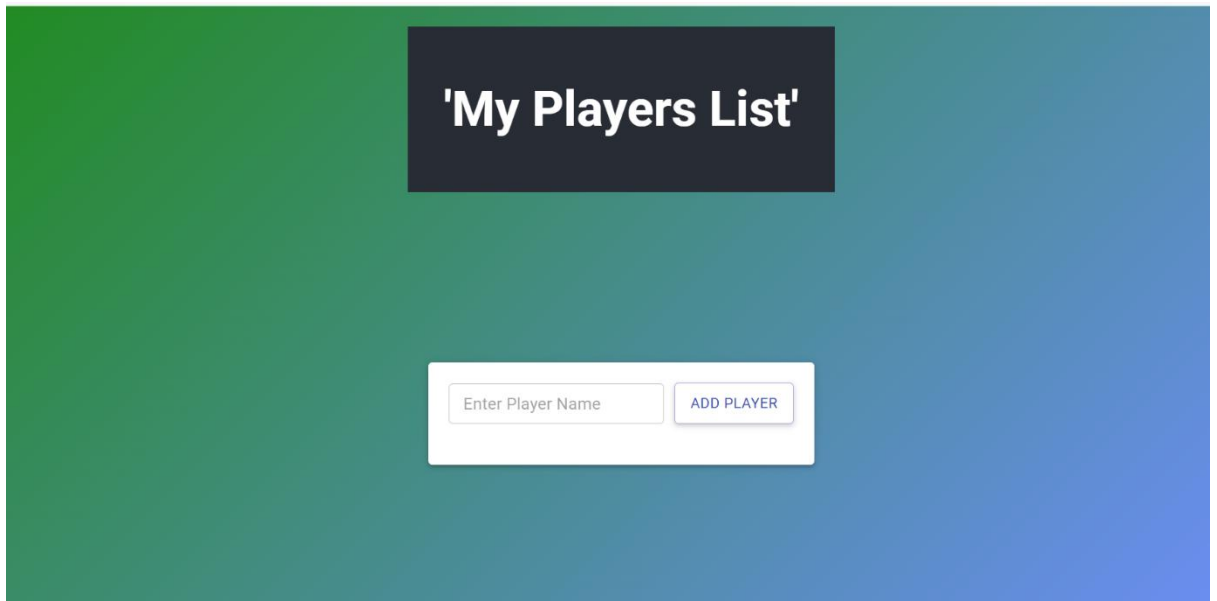
Distributes Traffic: Automatically distributes incoming application traffic across multiple EC2 instances.

.k8s-threetie-mainlb-f1fc0f5c18-1847115127.us-west-2.elb.amazonaws.com

<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zone
<input type="checkbox"/>	k8s-threetie-mainlb-f1f...	k8s-threetie-mainlb-f1fc0f5c...	Active	vpc-0b9013cb49215e8c3	2 Availability Zones

0 load balancers selected

Select a load balancer above



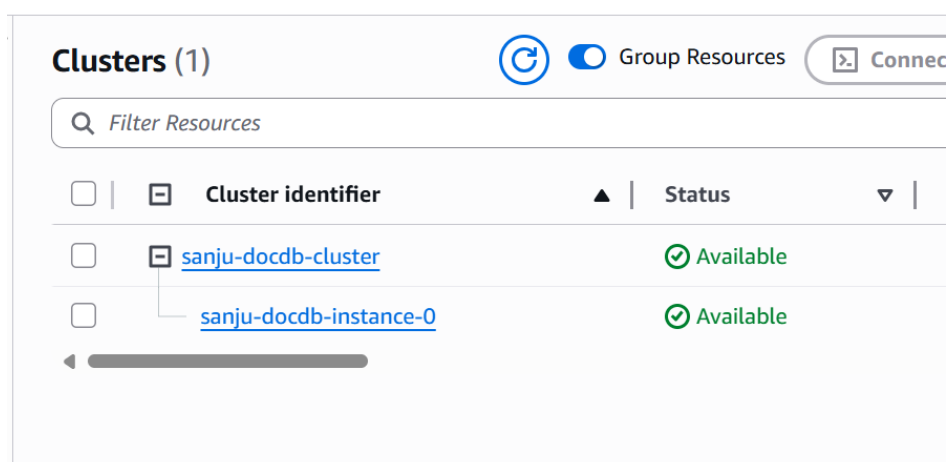
MongoDB with Amazon DocumentDB:

US-WEST-2

curl -o global-bundle.pem

<https://truststore.pki.rds.amazonaws.com/global/global-bundle.pem>

mongosh "mongodb://Sanjidakram:Rabiyasanju@sanjudocdb-cluster.ch2c82wwifaa.us-east-1.docdb.amazonaws.com:27017/?tls=true&tlsCAFile=global-bundle.pem&retryWrites=false"



Download the Amazon DocumentDB Certificate Authority (CA) certificate required to authenticate to your cluster [Copy](#)

```
wget https://truststore.pki.rds.amazonaws.com/global/global-bundle.pem
```

Connect to this cluster with the mongo shell [Copy](#)

```
mongosh sanju-docdb-cluster.cluster-c5iic84aq1ja.us-west-2.docdb.amazonaws.com:27017 --tls --
tlsCAFile global-bundle.pem --retryWrites=false --username docdbadmin --password
<insertYourPassword>
```

Connect to this cluster with an application [Copy](#)

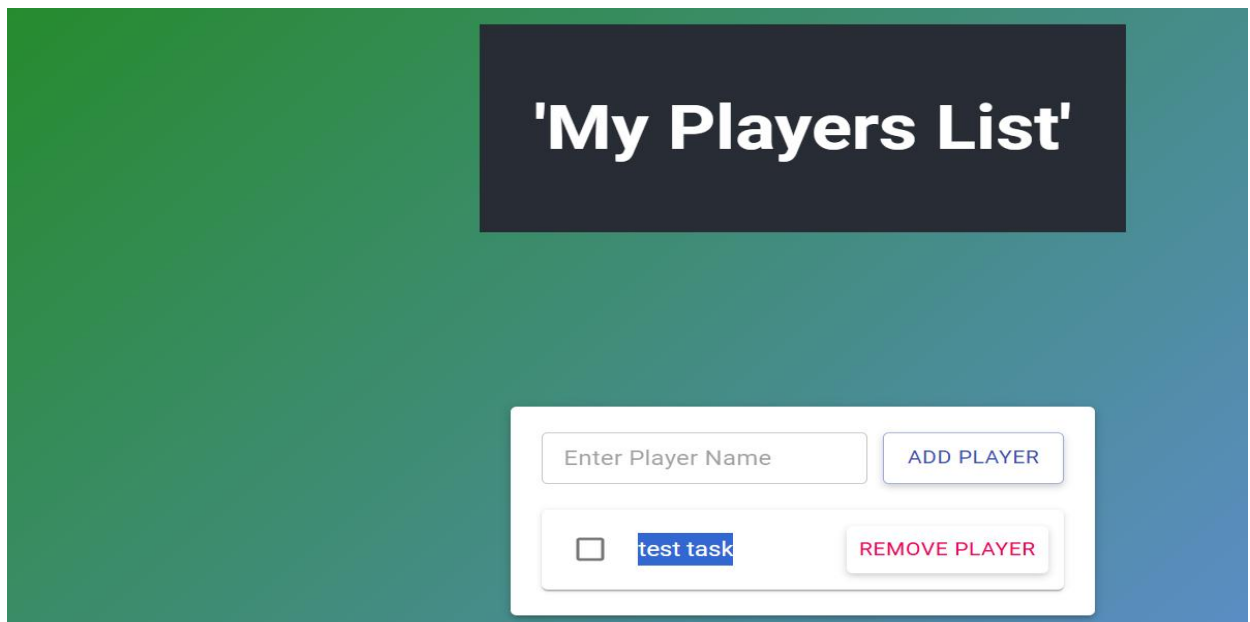
```
mongodb://docdbadmin:<insertYourPassword>@sanju-docdb-cluster.cluster-c5iic84aq1ja.us-west-
2.docdb.amazonaws.com:27017/?tls=true&tlsCAFile=global-
bundle.pem&replicaSet=rs0&readPreference=secondaryPreferred&retryWrites=false
```

Security Groups (1)

- . Show dbs
- . use todo
- . show collections
- . db.tasks.find().pretty()

```
-----
rs0 [direct: primary] test> show dbs
...
todo 32.00 KiB
rs0 [direct: primary] test> use todo
switched to db todo
rs0 [direct: primary] todo> show collections
...
tasks
rs0 [direct: primary] todo> db.<collection>.find().pretty()
... db.tasks.find().pretty()
Incaught:
```

```
3 |
s0 [direct: primary] todo> db.tasks.find().pretty()
{
  _id: ObjectId('6858e91addea27a704baa8b9'),
  task: 'Test Task',
  completed: false
}
s0 [direct: primary] todo>
```



The screenshot shows a web application with a dark blue header and a light blue body. The header contains the title 'My Players List' in white. Below the header, there is a white form with a light blue border. The form has two sections. The top section has a text input field labeled 'Enter Player Name' and a blue button labeled 'ADD PLAYER'. The bottom section has a checkbox, a text input field containing 'test task', and a red button labeled 'REMOVE PLAYER'.

Cluster us-west-2

Clusters (1) [Info](#)

🔄

Delete

🔍

Filter clusters

	Cluster name ▲	Status ▼	Kubernetes version ▼	Support period
<input type="radio"/>	SanjuEKSCluster-terraform	✔ Active	1.32 Upgrade now	Standard support until M

Instances:

Instances (2) [Info](#)

Last updated less than a minute ago

🔄

Connect

Instance state ▼

🔍

Find Instance by attribute or tag (case-sensitive)

A

<input type="checkbox"/>	Name ✎ ▼	Instance ID	Instance state ▼	Insta
<input type="checkbox"/>		i-0335e0ea2ad5d02ea	✔ Running 🔍 🔍	t3.m
<input type="checkbox"/>		i-07fa4d7022b187a5d	✔ Running 🔍 🔍	t3.m

Select an instance

ECR repositories

Private repositories (2)

View push commands

Delete

Actions

	Repository name ▲	URI	Created at ▼	Tag immutability
<input type="radio"/>	backend	038462784735.dkr.ecr.us-west-2.amazonaws.com/backend	24 June 2025, 16:22:19 (UTC+05.5)	Mutable
<input type="radio"/>	frontend	038462784735.dkr.ecr.us-west-2.amazonaws.com/frontend	24 June 2025, 16:22:07 (UTC+05.5)	Mutable

Vpc

Your VPCs (1/1)

Info

Last updated less than a minute ago

Actions

Create VPC

Find VPCs by attribute or tag

< 1 >

⚙

<input checked="" type="checkbox"/>	Name	VPC ID	State	Block Public...	IPv4 CIDR
<input checked="" type="checkbox"/>	main-vpc	vpc-0b9013cb49215e8c3	Available	Off	10.0.0.0/

VPC

Show details

Your AWS virtual network

main-vpc

Subnets (4)

Subnets within this VPC

us-west-2a

public-subnet-0

private-subnet-0

us-west-2b

public-subnet-1

Route tables (3)

Route network traffic to resources

rtb-022decc91c0535354

private-rt

public-rt

Amazon Route 53 and Failover:

Route 53 is a DNS web service that routes user requests to AWS resources (like EC2, Load Balancer).

- Use Case:** Ensures **high availability** for critical applications by reducing downtime.
- Failover Routing Policy:

- Used to automatically redirect traffic from a **primary** resource to a **secondary (backup)** resource if the primary fails.
- Works by configuring **health checks** to monitor endpoint health.

. enconnect.xyz

us.enconnect.xyz

us.enconnect.xyz

< 1 > ⚙

<input type="checkbox"/>	Record name ▾	Type ▾	Routin... ▾	Differ
<input type="checkbox"/>	enconnect.xyz	SOA	Simple	-
<input type="checkbox"/>	us.enconnect.xyz	A	Failover	Prima
<input type="checkbox"/>	us.enconnect.xyz	A	Failover	Secor

. playerlist.xyz

play.playerlist.xyz

play.playerlist.xyz

<input type="radio"/>	enconnect.xyz
<input type="radio"/>	playerlist.xyz

filter results. [To change modes go to settings.](#)

Type ▾

Routing p... ▾

Alias ▾

< 1 > ⚙

<input type="checkbox"/>	Record ... ▾	Type ▾	Routin... ▾	Differ... ▾
<input type="checkbox"/>	playerlist....	SOA	Simple	-
<input type="checkbox"/>	us-east-1....	A	Failover	Primary
<input type="checkbox"/>	us-west-2....	A	Failover	Secondary

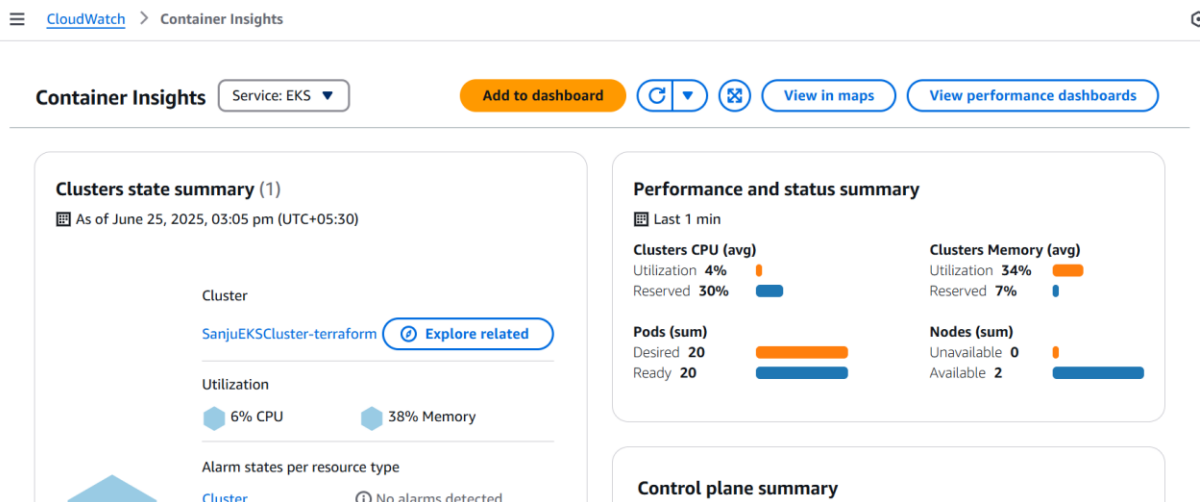
Healthcheck:

Health checks (4) Info				
Route 53 health checks monitor the health and performance of your application's servers and endpoints.				
<input type="text" value="Find health check"/>				
▲	Name ▼	Details ▼	Status in last 24 hours	Current s... ▼
:67-...	sanju-rout...	http://k8s...	<div></div>	✓ Healthy
e80...	sanju-rout...	http://k8s...	<div></div>	✓ Healthy
:7b-...	energy	http://k8s...	<div></div>	✓ Healthy
29d...	energycon...	http://k8s...	<div></div>	✓ Healthy

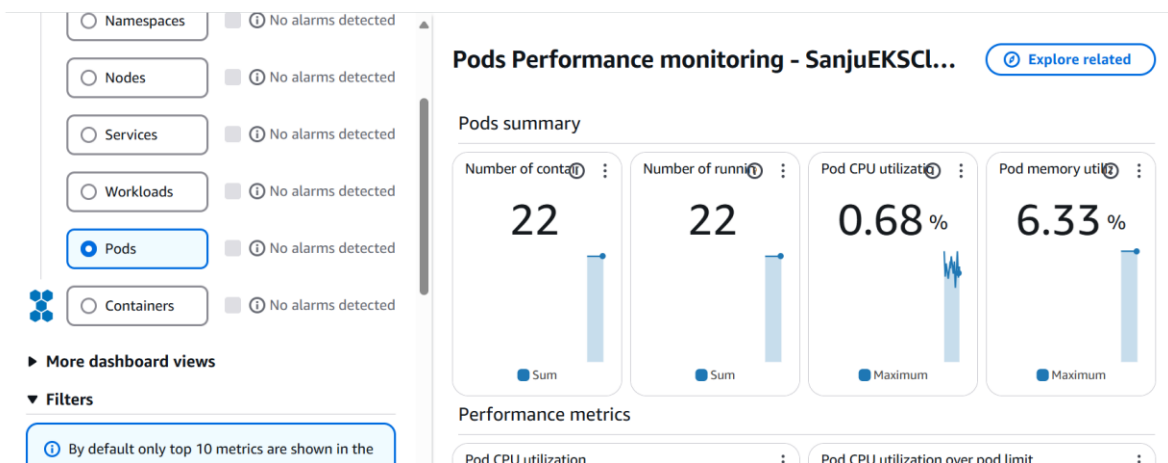
Amazon CloudWatch:

- . **Monitoring Tool:** Tracks metrics, logs, and events for AWS resources and applications.
- . **Real-Time Metrics:** Monitors CPU, memory, disk, and network usage of EC2, EKS, RDS, etc.
- . **Log Collection:** Collects and stores logs from applications and containers
- . **Alarms & Notifications:** Triggers alarms based on thresholds and integrates with **SNS** for alerts.
- . **Dashboard Support:** Visualizes metrics using custom dashboards for better insights.

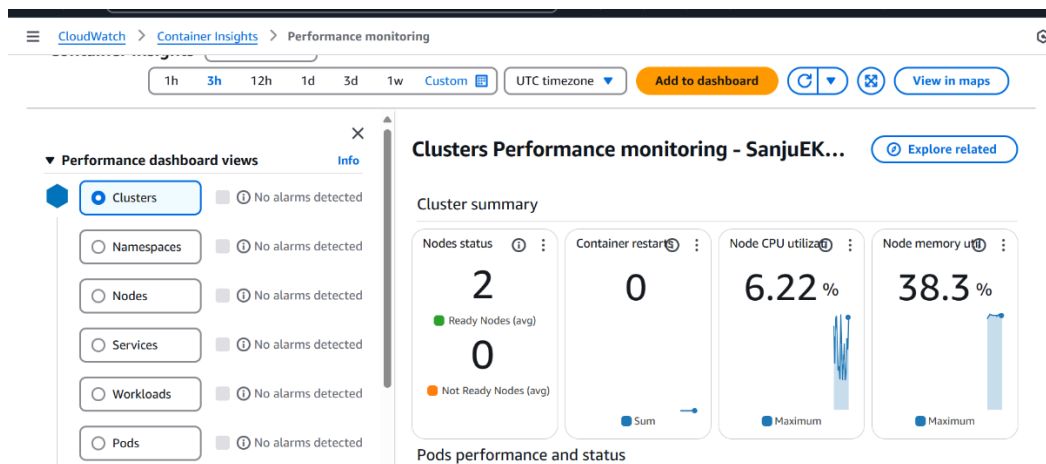
containerInsights:

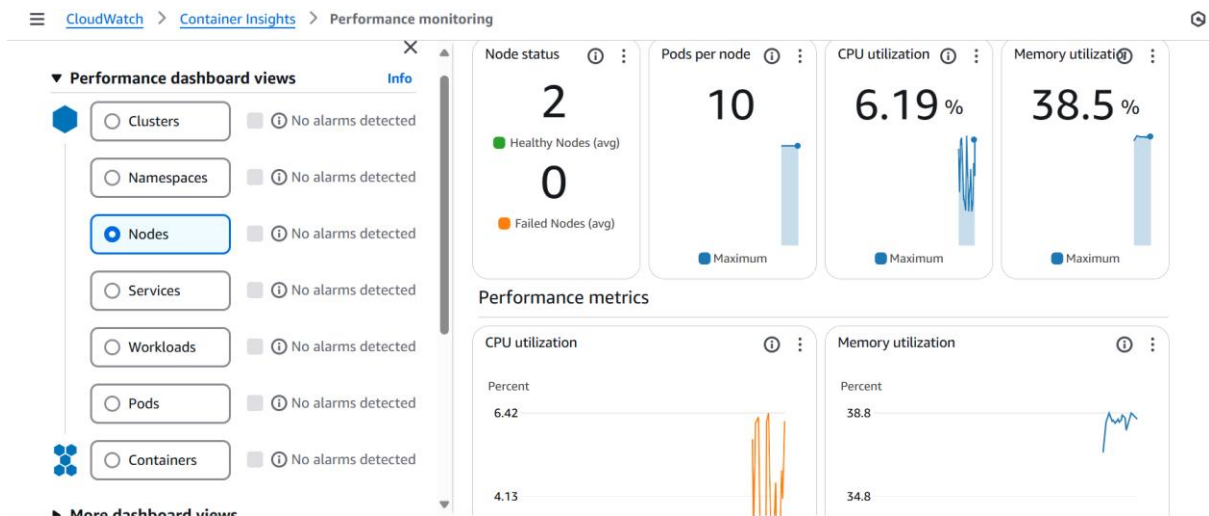


Pods performance monitoring



Cluster performance monitoring:





Log group – application

/aws/containerinsights/SanjuEKSCluster-terraform/application

Actions ▾ View in Logs Insights Start tailing Search log group

▼ Log group details

Log class Info Standard	Metric filters 0	Data protection -
ARN arn:aws:logs:us-west-2:038462784735:log-group:/aws/containerinsights/SanjuEKSCluster-terraform/application:*	Subscription filters 0	Sensitive data count -
Creation time 2 hours ago	Contributor Insights rules -	Field indexes Configure
Retention Never expire	KMS key ID -	Transformer Configure
	Anomaly detection Configure	

Log group – dataplane

/aws/containerinsights/SanjuEKSCluster-terraform/dataplane

Actions ▾ View in Logs Insights Start tailing Search log group

▼ Log group details


Log class Info Standard	Metric filters 0	Data protection -
ARN arn:aws:logs:us-west-2:038462784735:log-group:/aws/containerinsights/SanjuEKSCluster-terraform/dataplane:*	Subscription filters 0	Sensitive data count -
Creation time 2 hours ago	Contributor Insights rules -	Field indexes Configure
Retention Never expire	KMS key ID -	Transformer Configure
	Anomaly detection Configure	

Log group – performance

/aws/containerinsights/SanjuEKSCluster-terraform/performance

Actions ▾ View in Logs Insights Start tailing Search log group

▼ Log group details

Log class Info Standard	Metric filters 0	Data protection -
ARN  arn:aws:logs:us-west-2:038462784735:log-group:/aws/containerinsights/SanjuEKSCluster-terraform/performance:*	Subscription filters 0	Sensitive data count -
Creation time 27 minutes ago	Contributor Insights rules -	Field indexes Configure
Retention Never expire	KMS key ID -	Transformer Configure
	Anomaly detection Configure	

Metrics:

Browse Multi source query Graphed metrics Options **Source**

Metrics (106) [Info](#) ☐ Alarm recommendations [Download alarm code](#) ▾ [Create alarm](#)

Oregon ▾ [All](#) > [ContainerInsights](#) > ClusterName, ContainerName, FullPodName, Namespace, PodName

<input type="checkbox"/> ClusterName 100/106 ▲	ContainerName ▼	FullPodName
<input type="checkbox"/> SanjuEKSCluster-terraform	cert-manager-controller	cert-manager-7659df9f47-zbhfi
<input type="checkbox"/> SanjuEKSCluster-terraform	api	api-5d966c6fdc-wqjvh

Alarms & SNS Notifications:

CloudWatch Alarms: Monitor specific metrics (e.g., CPU > 80%) and detect threshold breaches.

Automatic Alerts: Trigger actions like notifications, Auto Scaling, or Lambda functions.

SNS (Simple Notification Service): Sends alerts via **email, SMS, or HTTP endpoints**.

Integration: Alarms are linked to SNS topics to **notify teams instantly** of issues.

Use Case: Helps ensure **quick response** to failures or performance drops.

PodCrashAlerts

EditDelete

Details

Name

PodCrashAlerts

ARN

arn:aws:sns:us-west-2:038462784735:PodCrashAlerts

Type

Standard

Display name

-

Topic owner

038462784735

Subscriptions (1)

EditDeleteRequest confirmationConfirm subscriptionCreate subscription

Q Search

< 1 > ⚙

ID▲Endpoint▼Status▼Protocol▼Topic▼

☐

Deleted

sanjidakram2@g...

✔

Confirmed

EMAIL

[PodCrashAlerts](#)

Alarms (1)

☐ Hide Auto Scaling alarms

Clear selection

↺

Create composite alarm

Actions ▼

Create alarm

Q Search

Alarm state: OK ▼

Alarm type: Any ▼

Actions status: Any ▼

< 1 > ⚙

☐Name▼State▼Last state update (UTC)▼Conditions

☐

[sanju-newpodalarm](#)

✔

OK

2025-06-25 13:21:23

pod_status_unknown > 1 for 1 da
within 5 minutes

sanju-newpodalarm			
<div> <div>Alarms</div> <div>View</div> <div>Investigate</div> <div>Actions</div> <div>Explore related</div> </div>			
Type Metric alarm	Threshold pod_status_unknown > 1 for 1 datapoints within 5 minutes	Metric name pod_status_unknown	Missing data treatment Treat missing data as missing
Description No description	Last state update 2025-06-25 13:21:23 (UTC)	PodName frontend	Percentiles with low samples evaluate
	Actions <div> <div>Actions enabled</div> </div>	ClusterName SanjuEKSCluster-terraform	ARN arn:aws:cloudwatch:us-west-2:038462784735:alarm:sanju-newpodalarm
		Namespace three-tier	
		Statistic Average	
		Period 5 minutes	

AWS CodeCommit:

- . us-east-1
- . **Fully Managed Git Repository:** Securely stores your source code in the cloud.
- . **Private & Secure:** Integrated with **IAM** for access control and encryption.
- . **Integration Ready:** Easily connects with **CodePipeline**, **CodeBuild**, and **CodeDeploy** for CI/CD.

CodeCommit repository

Repositories Info				
<div> <div></div> <div>Notify</div> <div>Clone URL</div> <div>View repository</div> <div>Delete repository</div> <div>Create repository</div> </div>				
<div> <div></div> <div>< 1 ></div> <div></div> </div>				
Name	Description	Last modified	Clone URL	AWS KMS Key
cloudops-demo	-	4 hours ago	<div> <div>HTTPS</div> <div>SSH</div> <div>HTTPS (GRC)</div> </div>	arn:aws:kms:us-east-1:365591124323:key/ee874354-d669-4782-9212-68ad7b425130

Running of CodeCommit.

```

gdu9J3CpDX59q3pnfULB41dAKOBrChIMZQZxfD/4gZ2eW7uvXL8eWjy3AAVjzzW39m2d1LLXp7vpL2bAxqCdatIBKJ8K258x/f01b//BFGYJpBf1xwKO7g8NZg8V/ewToKq318gcfz
TeYzmttBLgsVDG6hhtJksr1jotWtGfh8fVXxaEFcdIkM71ohAO2UUVYp1biLrUvsnZ11dLWfxP06u+FnMYFxjL0hycV93721a5e0002y/bMyMoNywQ007PMkOTKmp/8pRAQSPb/PTY
nSpjIoLwabyryunk88VukK4gay7hwpB7zeY70yx5tgf7oKgVpx7HGFVnuZwvPfwc8U31xRM/79SASQGWtLlFar+5d2AJ0K78qWqVC6YUfG6AveNX2d8zbYguzJitvYyP8m2MRylZ0g36X
1Zf425gj27pDx7mXchtQE0== codecommit-access
root@ip-172-31-86-56:~/.ssh# cd
root@ip-172-31-86-56:~# cd /home/ubuntu/
root@ip-172-31-86-56:/home/ubuntu# nano ~/.ssh/config
root@ip-172-31-86-56:/home/ubuntu# chmod 600 ~/.ssh/config
root@ip-172-31-86-56:/home/ubuntu# git clone ssh://git-codecommit.us-east-1.amazonaws.com/v1/repos/cloudops-demo
Cloning into 'cloudops-demo'...
The authenticity of host 'git-codecommit.us-east-1.amazonaws.com (52.94.226.180)' can't be established.
RSA key fingerprint is SHA256:eIMYlj0DKA4uvDZcl/KgtIay2ANwX6t8+8isPtotBoY.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'git-codecommit.us-east-1.amazonaws.com' (RSA) to the list of known hosts.
Warning: You appear to have cloned an empty repository.
root@ip-172-31-86-56:/home/ubuntu# ssh git-codecommit.us-east-1.amazonaws.com
You have successfully authenticated over SSH. You can use Git to interact with AWS CodeCommit. Interactive shells are not supported. Connect
on to git-codecommit.us-east-1.amazonaws.com closed by remote host.
Connection to git-codecommit.us-east-1.amazonaws.com closed.
root@ip-172-31-86-56:/home/ubuntu#

```

SonarQube for Application

.Code Quality Tool: Analyzes source code for bugs, vulnerabilities, and code smells.

CI/CD Integration: Integrated with **CodeBuild** or **GitHub Actions** to scan code during each deployment.

Improves Reliability: Helps maintain **clean, secure, and efficient codebase** in your application.

<http://18.212.217.245/dashboard?id=playerslist>

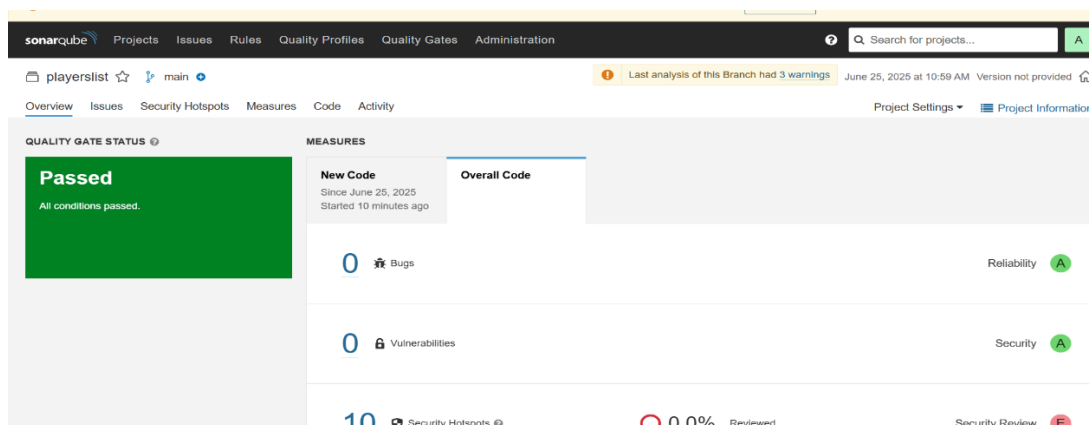
sonar-scanner \

-Dsonar.projectKey=playerslist \

-Dsonar.sources=. \

-Dsonar.host.url=http://18.212.217.245 \

-Dsonar.login=sqp_ba1336c4d48188123a5cb0c4b98461522b71d5f4



SonarQube – codepipeline

[Developer Tools](#) > [CodeBuild](#) > [Build projects](#) > [sanju-newsonar](#) > [sanju-newsonar:f9d93aff-2177-41b7-9a75-e53b](#)

sanju-newsonar:f9d93aff-2177-41b7-9a75-e53b

Stop build

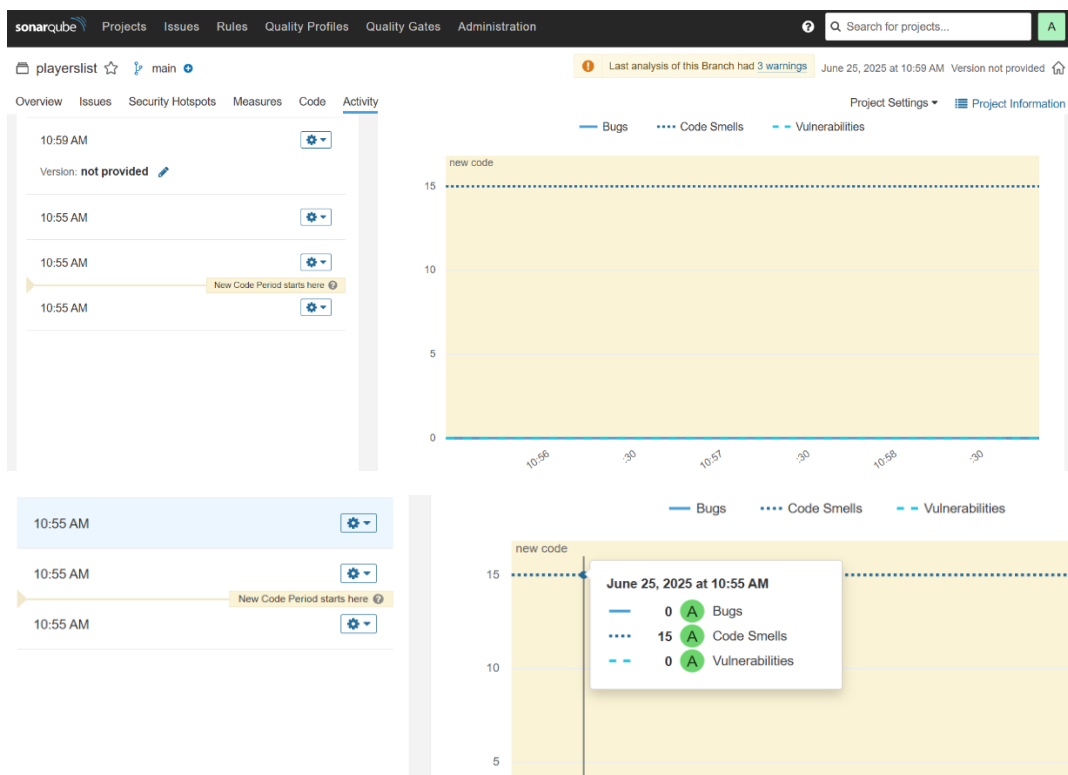
Debug build

Retry build

Build status

Status	Initiator	Build ARN
✔ Succeeded	Sanju	arn:aws:codebuild:us-east-1:46278473593aff-2177-6
Resolved source version	Start time	End time
3f7a164f4deafc5d92cf82deb5340b5a85de4c11	Jun 25, 2025 10:57 AM (UTC+5:30)	Jun 25, 2025
Build number		
14		

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Final Output – MyPlayerList Application

Purpose: A full-stack To-Do List style app for managing a list of players.

Features:

- . Add, update, and delete player details.
- . User-friendly frontend built with **ReactJS**.
- . Backend powered by **Node.js** with a **MongoDB** (Amazon DocumentDB) database.

Deployed on: Amazon EKS using Docker containers and in **DocumentDB service**

CI/CD Enabled: Fully automated deployment via **CodePipeline** in **CloudFormation** and **Terraform**.

Monitoring & Security:

CloudWatch for logs and metrics.

SonarQube ensures code quality.

Route 53 & Load Balancer handle traffic routing and failover.

