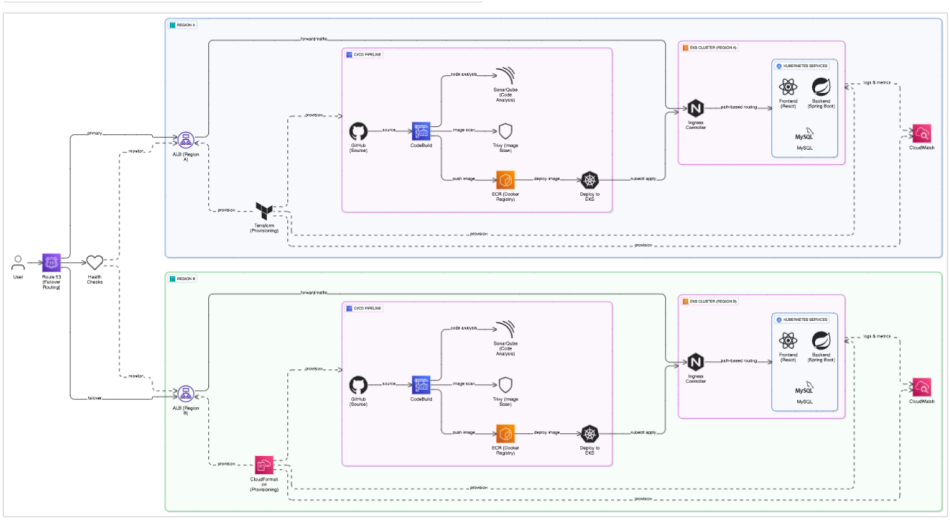
Three Tier Project deployed in EKS Cluster Through Terraform and Cloudformation

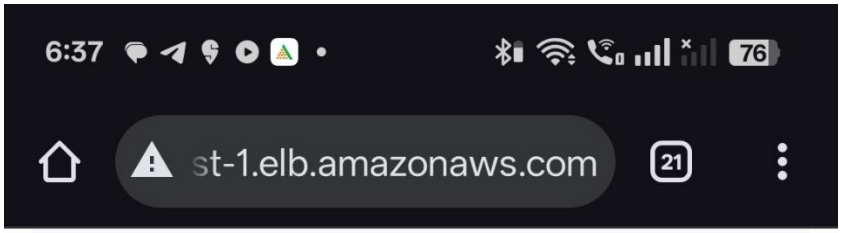
Cart-table App:

CloudFormation Stack Description: This stack provisions a full AWS infrastructure to deploy a containerized React + Spring Boot full-stack application using Amazon EKS, Amazon RDS, Amazon Route 53, CodePipeline, CloudWatch, and other supporting services. Main Infrastructure Components

1. Networking – Amazon VPC •
   Custom VPC with: 2 Public Subnets and 4 private Sunbets
2. EKS node group (frontend & backend pods)
3. RDS MySQL instance
4. Associated Route Tables
5. Internet Gateway, and NAT Gateway
6. Elastic IP for NAT Gateway

Architecture Diagram





Product App

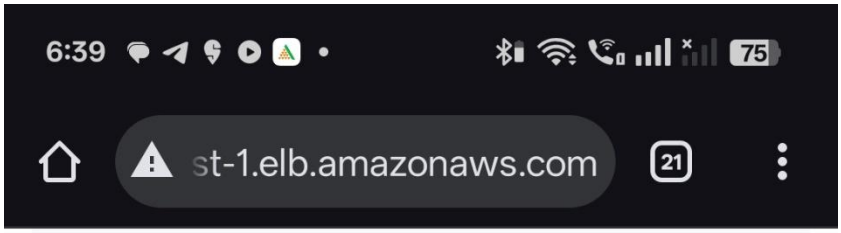
Products / 35

Product Info: 35

Title	Realme
Price	22000
Quantity	1

Edit

Delete



Product App

Products / 36 / edit

Title

iPhone

Input the product title here.

Price

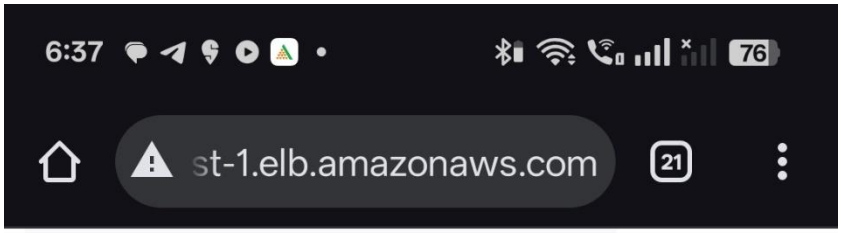
85000

Quantity

1

Update

```
mysql> select * from product;
+----+-------+----------+------------+
| id | price | quantity | title      |
+----+-------+----------+------------+
| 33 |  1100 |       55 | Blackberry |
| 35 | 22000 |        1 | Realme     |
+----+-------+----------+------------+
2 rows in set (0.01 sec)
```



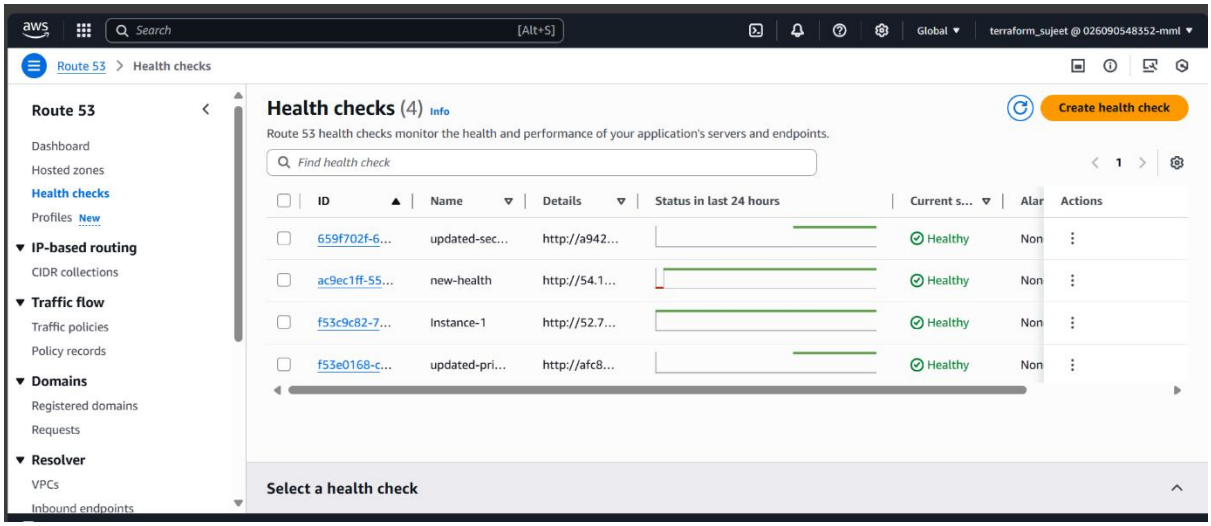
Product App

Products

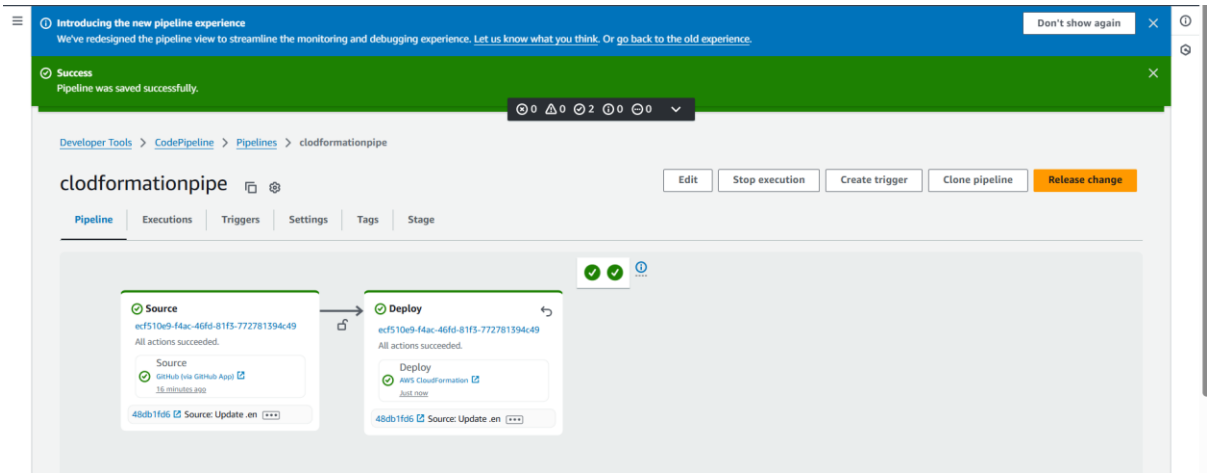
#	Title	Price	Quantity	Actions
33	Blackberry	1100	55	View Edit Delete
35	Realme	22000	1	View Edit Delete

Add

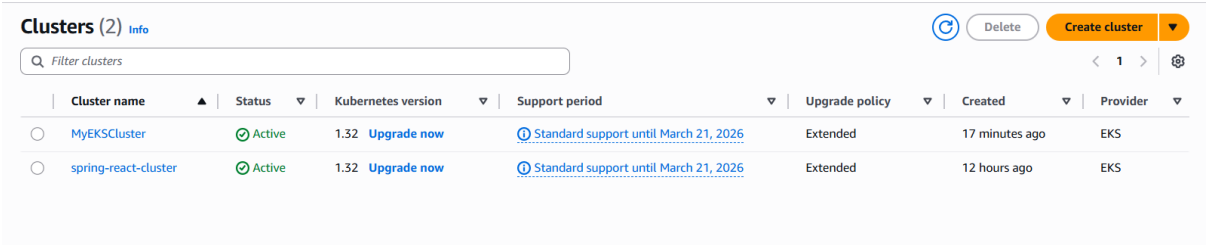
Creating rout53 for failover routing and health check.



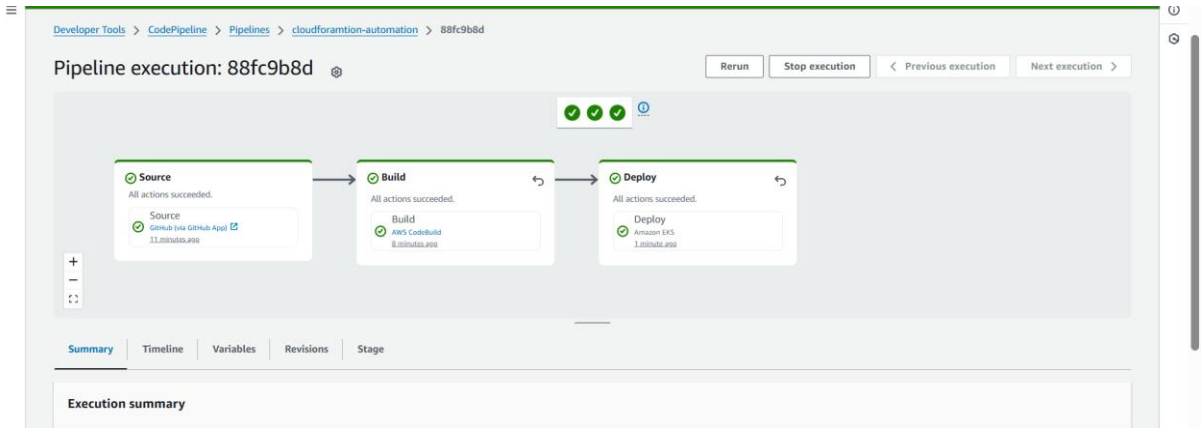
Creating Infrastructure through Cloudformation



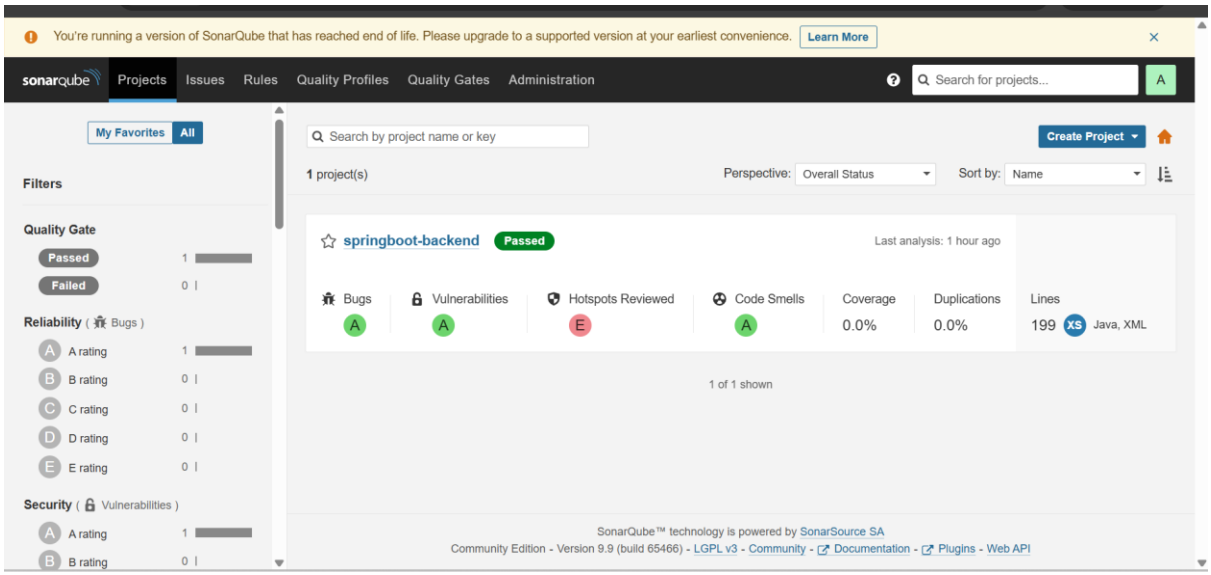
Craeted an Eks Cluster named MyEKSCluster

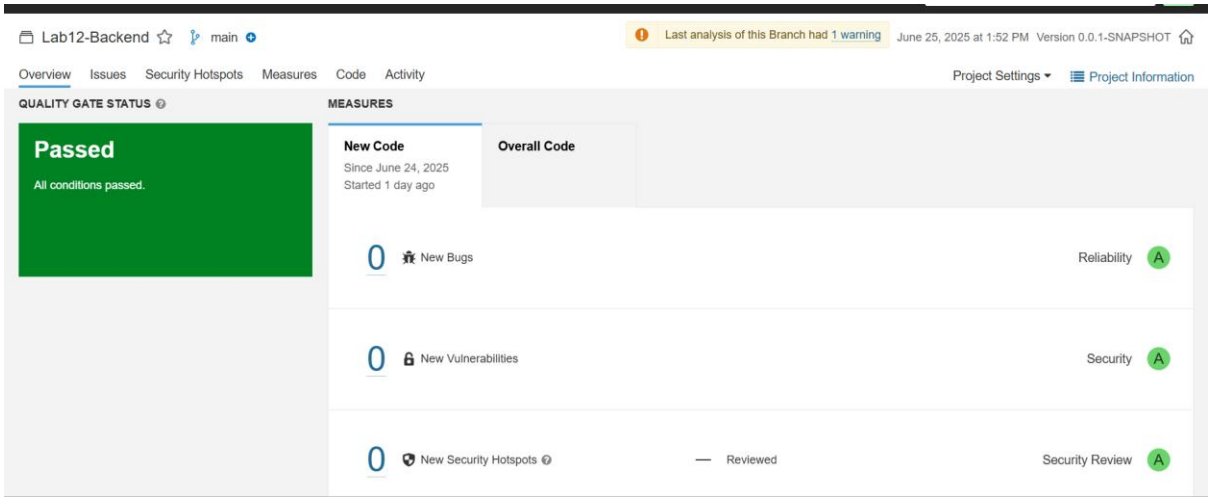


Creating Infrastructure and deploying application inside that infra. Now it's deployed so it's automated now.

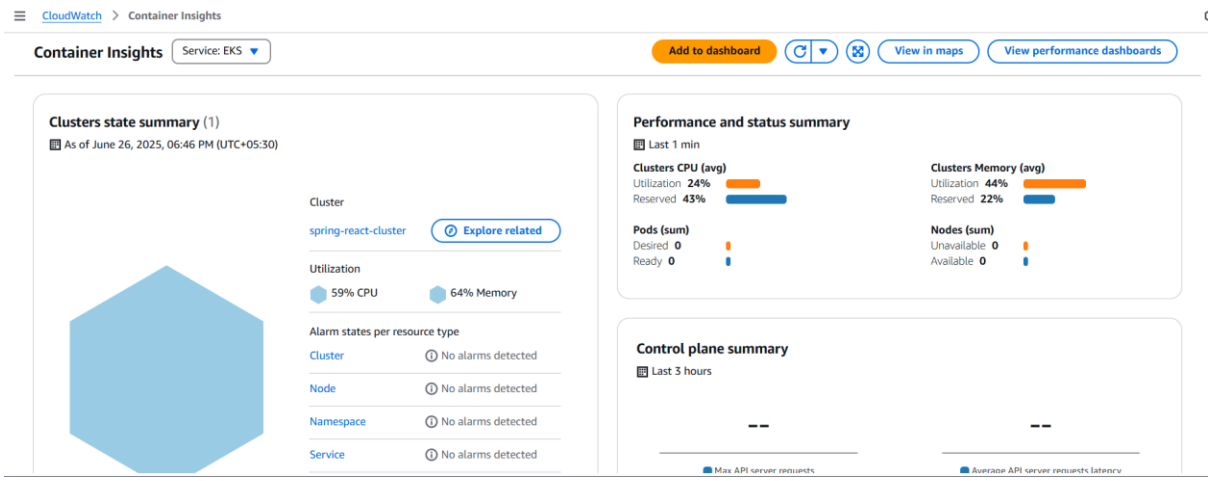


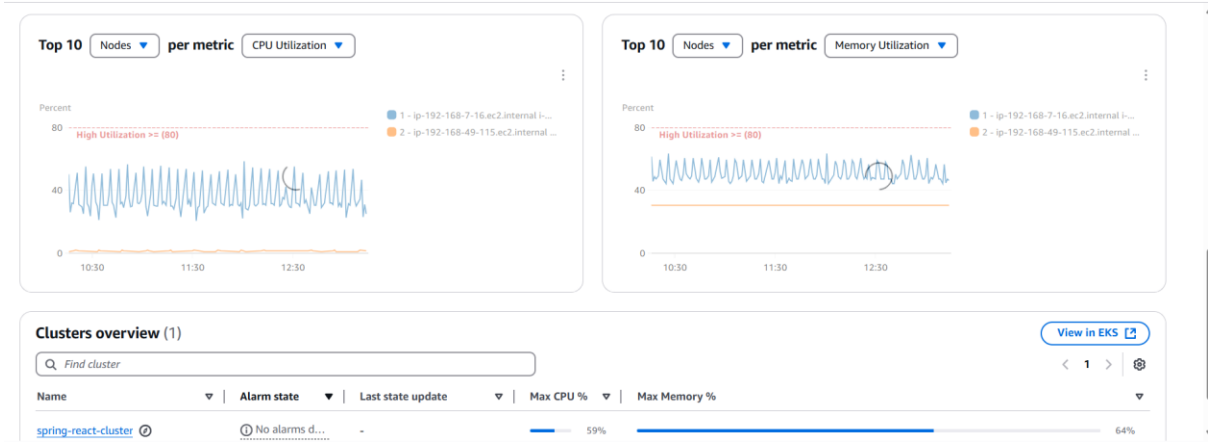
Adding SonarQube for codequality analysis.

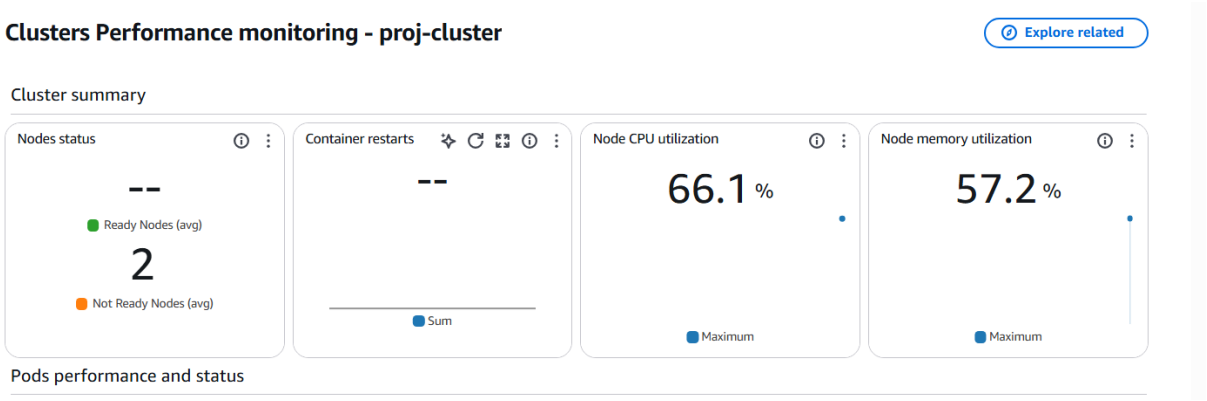




Adding Cloudwatch for logging and monitoring purpose







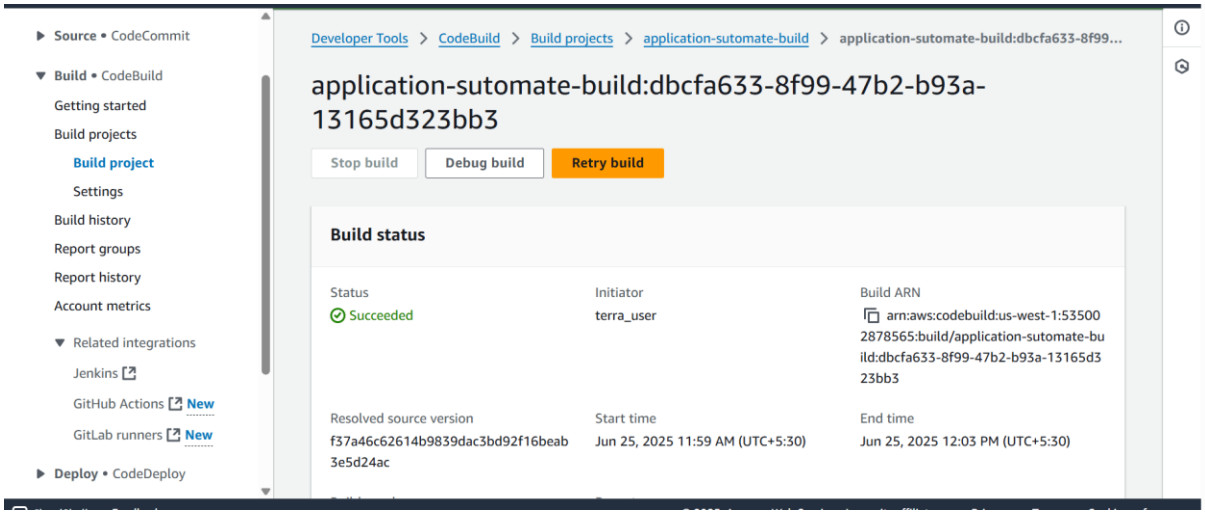
Now we can access the application through loadbalancer.

react-springboot-alb-53400275.us-east-1.elb.amazonaws.com

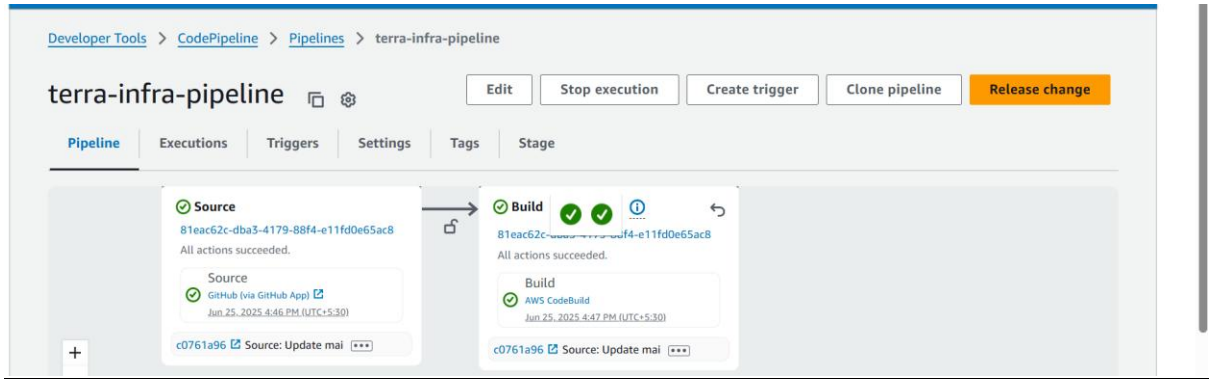
git repo: **https://github.com/Supriya9876/Terraform-Capstone**

Now Automating the Infra through terraform

Build



Pipeline



Application automation through eks deploying through terraform