

Task Definition: Deploy Nginx Application with AWS ALB & CI/CD

Objective:

Design and implement an automated DevOps workflow to deploy an Nginx container application on AWS infrastructure with high availability and scalability.

Requirements:

1. Infrastructure Provisioning (Terraform)

- Provision **EC2 instances** to host the Nginx container application.
- Configure an **Application Load Balancer (ALB)** to distribute incoming traffic only to healthy instances.
- Implement an **Auto Scaling Group (ASG)** to dynamically scale instances based on traffic demand.

2. CI/CD Automation (Jenkins Pipeline or GitHub Actions)

- Build and deploy the Nginx container application automatically.
- Integrate Terraform execution into the pipeline for infrastructure provisioning.
- Ensure pipeline supports deployment, scaling, and updates seamlessly.

3. Security & Secrets Management

- Store sensitive credentials (e.g., AWS access keys, application secrets) securely in **AWS Secrets Manager**.
- Configure the pipeline to retrieve secrets securely at runtime.

Deliverables:

- Terraform code for provisioning AWS resources.
- Jenkinsfile or GitHub Actions workflow YAML for CI/CD automation.
- Documentation outlining setup, execution steps, and credential management.