Project Description:

Build CI / CD Pipeline using Jenkins and deploy the real world Web Application in AWS Cloud

Goals:

CI/CD Pipelines will help you learn server automation, continuous integration, building pipelines, configuration of tools, automated testing, code quality improvement, and distributed systems in Jenkins through intensive, handson practical assignments.

Technologies Used:-

1. Jenkins

2. Groovy

3. AWS Cloud

4. Git

5. Docker

Steps:

1. Create jenkins file using our in-house code repo [should be cloned from git/bitbucket]

2. Create Docker file in the same repository

3. Build-Docker image with tagging as build version, unit test cases should pass if any for the code

4. The Image should be available in ECR with build version as TAG

5. The Docker Image should be deployed to EC2 Machine

6. The EC2 Machine Need to open specific Inbound Port and restrict Access only for admin user to login

7. Jenkins Jobs should do validation and display successful message

8. Report should be sent to e-mail and it should contain status of each JOB

9. Domain should be registered with AWS

Implement:

1. Create a ec2 instants, then install Jenkins, git, Dcoker as per demand

* Install Jenkins:

# amazon-linux-extras install java-openjdk11 –y

# java –version

# sudo wget -O /etc/yum.repos.d/jenkins.repo \https://pkg.jenkins.io/redhat-stable/jenkins.repo

# sudo rpm --import <https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key>

# sudo yum upgrade

# sudo amazon-linux-extras install java-openjdk11 –y (for Amazon linux 2)

# sudo dnf install java-11-amazon-corretto –y (for Amazon Linux 2023)

sudo yum install jenkins -y

sudo systemctl enable jenkins

sudo systemctl start jenkins

sudo systemctl status jenkins

* Install Docker on Aws Linux 2

# amazon-linux-extras install docker –y

# systemctl enable docker

# systemctl start docker

# systemctl status docker

* Install git On Aws

# yum install git –y