EXP NO: 3	Create a CD pipeline in Jenkins and deploy in Cloud
DATE:	

AIM: -

To Create a CD pipeline in Jenkins and deploy in Cloud

ALGORITHM / PROCEDURE: -

1. In Jenkins, create a new Pipeline job by navigating to New Item, naming the job, selecting Pipeline, and clicking OK.
2. Under Pipeline settings, select Pipeline script from SCM and provide your Git repository URL, specifying the branch to deploy from.
3. Configure a Jenkinsfile in the repository that contains stages for building, testing, and deploying to the cloud.
4. In the Jenkinsfile, define build and test steps, followed by a deployment step that uses SSH or cloud CLI commands to deploy the application.
5. Set up a webhook in your version control system (e.g., GitHub or GitLab) to trigger the Jenkins pipeline whenever code is pushed to the main branch.
6. Test the pipeline by running Build Now in Jenkins, which will execute the build, test, and deployment stages automatically.
7. Monitor the pipeline in Jenkins to confirm successful deployment and check the application status on the cloud platform.

CODING: -

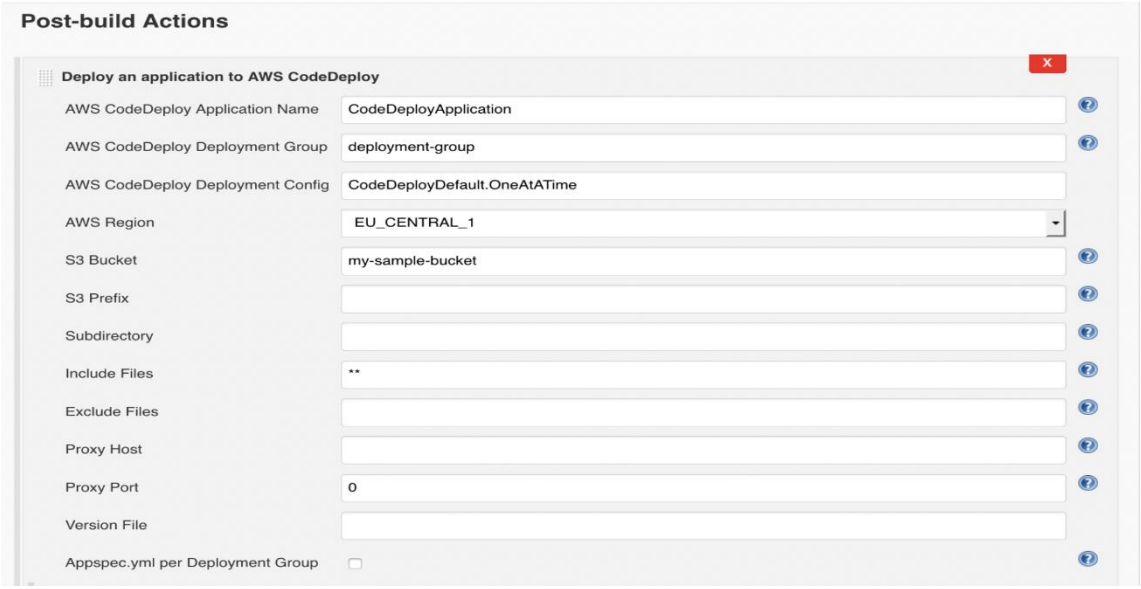
Jenkins File:

```
pipeline {
    agent any
    environment {
        DEPLOY_USER = 'ec2-user'                    // EC2 instance username
        DEPLOY_HOST = 'your-instance-public-ip'     // EC2 instance public IP
        DEPLOY_PATH = '/var/www/myapp'              // Directory on EC2 to deploy app
```

```
    SSH_KEY = credentials('aws-ec2-ssh-key')      // SSH key stored in Jenkins credentials
}
stages {
    stage('Clone') {
        steps {
            git 'https://github.com/your-repository.git'
        }
    }
    stage('Build') {
        steps {
            sh './build-script.sh' // Replace with build commands (e.g., Maven or npm)
        }
    }
    stage('Test') {
        steps {
            sh './test-script.sh' // Run tests
        }
    }
    stage('Package') {
        steps {
            sh './package-script.sh' // Package app files (e.g., create JAR or ZIP)
        }
    }
    stage('Deploy') {
        steps {
            sshagent(['aws-ec2-ssh-key']) { // Use Jenkins credentials for SSH
                sh """
                scp -o StrictHostKeyChecking=no -i $SSH_KEY target/myapp.jar \
                ${DEPLOY_USER}@${DEPLOY_HOST}:${DEPLOY_PATH}
```

```
                ssh -i $SSH_KEY ${DEPLOY_USER}@${DEPLOY_HOST} 'sudo systemctl restart
myapp'
                """ // Copy package and restart service
            }
        }
    }
    stage('Notify') {
        steps {
            mail to: 'team@example.com',
                subject: "Deployment ${currentBuild.fullDisplayName}",
                body: "Deployment completed with status: ${currentBuild.result}"
        }
    }
  }
  post {
    success {
        echo 'Deployment successful!'
    }
    failure {
        echo 'Deployment failed!'
    }
  }
}
```

OUTPUT: -



RESULT: -

Thus we successfully created a CD pipeline in Jenkins and deploy in Cloud.