AWS CodeDeploy and CodePipeline

A) Pre-requisites:

1. Download and install git
    a. Windows - https://git-scm.com/download/win
    b. Linux - https://git-scm.com/download/linux
    c. MacOS - https://git-scm.com/download/mac
2. Configure Git
    a. git config --global user.name "Ritesh Goyal"
    b. git config --global user.email "ritesh.devopstrainer@gmail.com"
3. View Git configs
    a. git config --global --list
4. Check the IAM user has below permissions
    a. AWSCodeCommitFullAccess
    b. AWSCodePipelineFullAccess
5. Configure AWS Git credentials
    a. Security Credentials → AWS CodeCommit Credentials→ Generate HTTPS
6. Create Service Role for CodeDeploy
    a. Create role for CodeDeploy service
        i. Name: <yourname>-codedeploy-role
    b. Attach IAM policy “AWSCodeDeployRole”
7. Create IAM Role for EC2 to download artifacts from s3 bucket
    a. Create IAM role for EC2 service and attach “AmazonS3ReadOnlyAccess” policy
        i. Name: <yourname>-ec2-role

B) CodeCommit Repository

1. Goto CodeCommit repository
    a. Create new code repository: <yourname>-demo-project
    b. Copy the clone URL → Clone HTTPS
2. Clone the git repo from AWS
    a. git clone <url>
    b. Provide the Username and password
3. Download the Sample Application
    a. Use LINK
    b. Add the code to the cloned folder
    c. Then execute
        i. git add -A
        ii. git commit -m “Initial Commit for the application”
        iii. git push
4. Verify the code push into AWS console

C) Launch EC2 instance

1. Create EC2 instance and assign the IAM role created in pre-requisite

2. Add userdata

   #!/bin/bash
   sudo yum update -y
   sudo yum install ruby wget -y
   wget https://aws-codedeploy-ap-south-1.s3.ap-south-1.amazonaws.com/latest/install
   chmod +x ./install
   sudo ./install auto
   systemctl start codedeploy-agent
   systemctl status codedeploy-agent

3. Add TAGS
    a. Key = Name
    b. Value = <yourname>-demo
4. Security Group
    a. Open port 22 for ssh
    b. Open port 80 for http access
5. Configure SSH Key pair

D) CodeDeploy application creation
1. Goto CodeDeploy service
2. Create New Application
    a. Name: <yourname>-demo
    b. Compute platform: EC2 instance/On-premises
3. Deployment group
    a. Name: <yourname>-demo-group
    b. Deployment Type: In-place deployment
    c. Environment Configuration:
        i. Amazon EC2 instances
        ii. Enter Key=Name and Value=<yourname>-demo
4. Deployment configuration
    a. Select CodeDeployDefault.OneAta.Time

E) Create CodePipeline
1. Goto CodePipeline
2. Create Pipeline
    a. Name: <yourname>-demo-pipeline
    b. Service Role: New Service role
    c. Artifact store: default
3. Service Provider
    a. AWS CodeCommit
    b. Repository: Select repository '<yourname>-demo-project'
    c. Select master branch
    d. Detection option: Select cloudwatch events

4. Add build stage → skip
5. Add Deploy stage
    a. Deploy provider: AWS CodeDeploy
    b. Application Name: <yourname>-demo
    c. Deployment group: <yourname>-demo-group

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