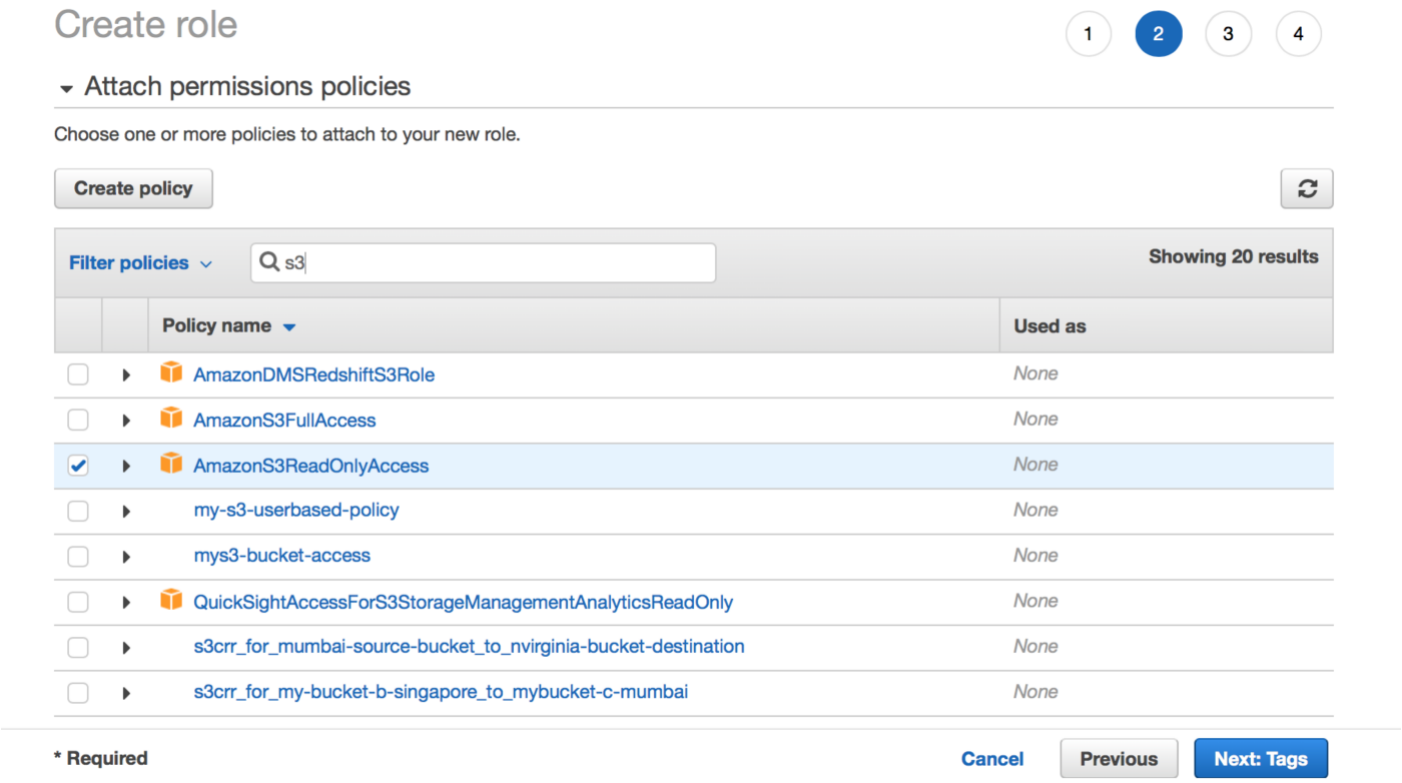
Exercise 05.1:Deploying a sample webapp using CodeDeploy

Step 1: Create a new role in IAM, which gives to EC2, S3 Full Access (ec2-s3-codedeploy-role)

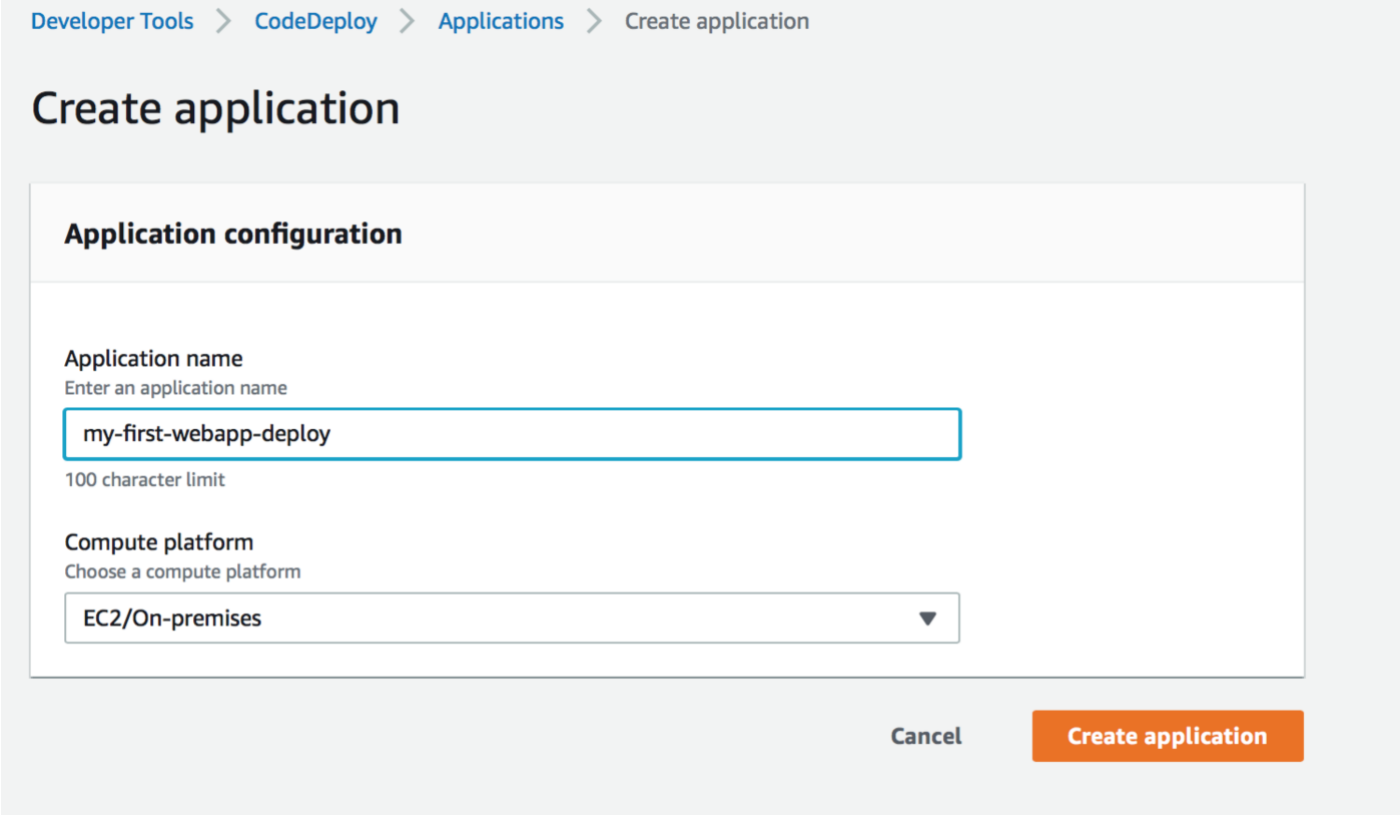


Step 2: Create a new EC2 instance(Linux 2) and attach the above created IAM Role. Select all defaults and create the instance. Install the below softwares in the new instance

```
sudo yum update -y
sudo yum install -y ruby wget
wget https://aws-codedeploy-ap-south-1.s3.ap-south-1.amazonaws.com/latest/install
chmod +x ./install
sudo ./install auto
sudo service codedeploy-agent status
```

Step 3: Add a couple of tags to the EC2 instance
Name : webserver
Environment: Development

Step 4: Go to AWS CodeDeploy and click Create Application Enter an Application name (my-first-web-app-deploy) and Compute platform(EC2/OnPremise)



Step 5: Goto IAM and create a service role for CodeDeploy

Go to IAM→ roles→ New Role → Select CodeDeploy→ Select CodeDeploy in "Select your Use Case→ Permissions → tags →Review→ enter a rolename(CodeDeploy-role) and submit

Step 6: Go to CodeDeploy /Create Deployment Groups

Step 7: Enter the following properties

Deployment Group Name : my-dev-instances-group
Service role : CodeDeploy-role

Deployment Type: In-place
Env Config: Amazon EC2 instances
Under Tag group 1 select **Environment** and **Development**
Deployment Settings: CodeDeployDefault.AllAtOnce
Load Balancer: Uncheck
Click “Create Deployment Group”

Step 8: Type the following commands in the git project that we created in our local(EC2) machine

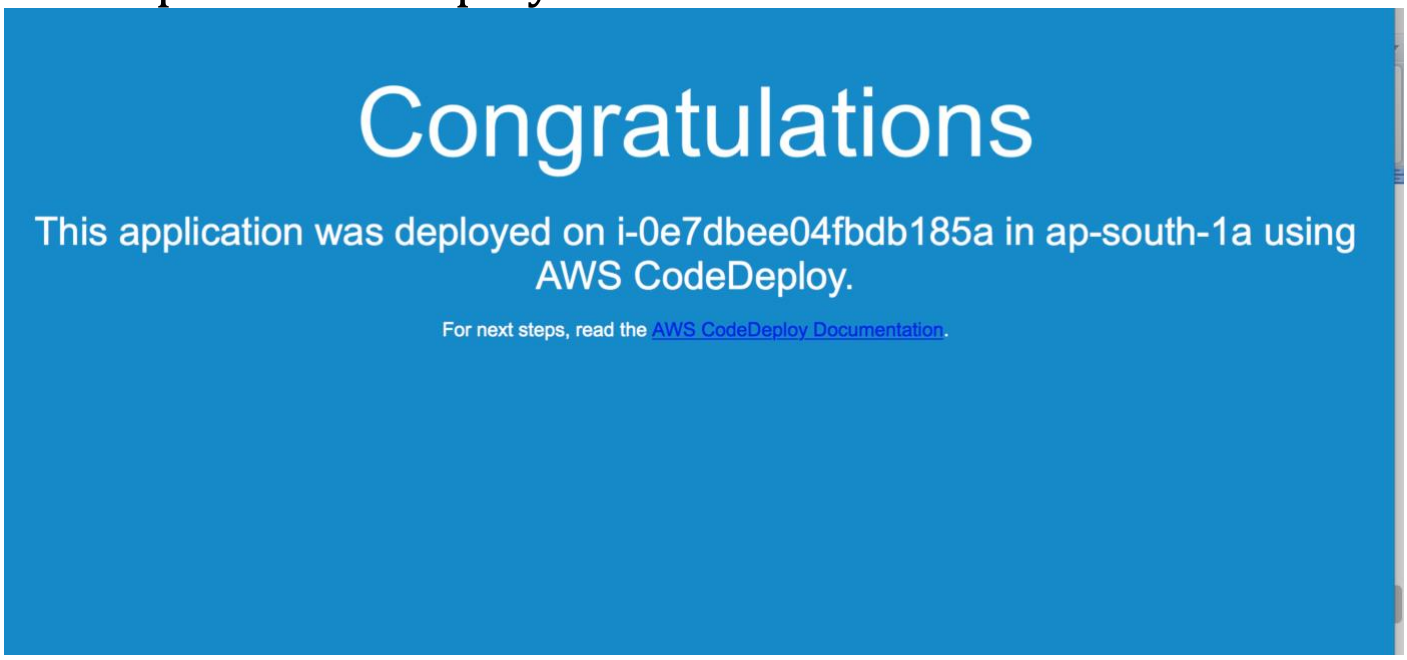
//Create a Bucket in S3
$ aws s3 mb s3://aws-devops-course-training0427 --region ap-south-1
//Enable Versioning
$ aws s3api put-bucket-versioning --bucket aws-devops-course-training0930 --versioning-configuration Status=Enabled --region ap-south-1

$ aws deploy push --application-name myfirstwebapp --s3-location s3://aws-devops-course-training0930/codedeploy-demo/app.zip --ignore-hidden-files --region ap-south-1

note: --application-name is your code-deploy application name
Go to S3 and check if the zip file is created in the new bucket

Step 12: Click Create Deployment for the Deploment group that was created above

Step 13: Under the Revision type , please select “My Application is stored in S3”
Step 14: Under Revision Location , please select the uploaded s3 zip file that was done using the aws deploy push command
Step 15: Click Create deployment.
Step 16: If the deployment is successful the status should show a successful Message
Step 17: Add a HTTP rule in the security group of the deployment EC2 server to allow all inbound traffic, so that the application that is just deployed can be accessed from the web.
Step 18: Access the public IP of the Deployment server from the browser to display a page like the one shown below makes the whole process of deployment successful



Step 19: Create a couple of more EC2 instances using the feature "Launch more like this" in EC2 instance properties (Actions). Select No of instances=2, add the following script to the user data and go to tags and change the Environment tag to "Production" .

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

Step 20: Go to Code-Deploy and select your application and create a new Deployment group named my-prod-instances, select the same role,DeploymentType=Inplace, Env Config=EC2, Select Name=Environment, value=Production. Click Create Deployment Group

Step 21: Click Create deployment and select the same revision location

Step 22: Check if the deployment is successful

Step 23: Access the prod instances using the Public IP address and check if your web app is working.

Step 24: Terminate the Prod EC2 instances

Discuss Cloud-Deploy Hooks and ENV variables - appspec.yml
Reference Links:

- https://docs.aws.amazon.com/codedeploy/latest/userguide/reference-appspec-file-structure-hooks.html

- https://docs.aws.amazon.com/codedeploy/latest/userguide/reference-appspec-file-structure-hooks.html#appspec-hooks-server

- https://docs.amazonaws.cn/en_us/codedeploy/latest/userguide/reference-appspec-file-structure-hooks.html#reference-appspec-file-structure-environment-variable-availability

Monitoring Deployments with CloudWatch

- https://docs.aws.amazon.com/codedeploy/latest/userguide/monitoring-cloudwatch-events.html

- https://docs.aws.amazon.com/codedeploy/latest/userguide/monitoring-sns-event-notifications.html

Rollbacks

- https://docs.aws.amazon.com/codedeploy/latest/userguide/deployments-rollback-and-redeploy.html