How to Set up a Java application built with Maven on AWS Elastic Beanstalk.

Java, Maven, Elastic Beanstalk, IAM, S3, EC2

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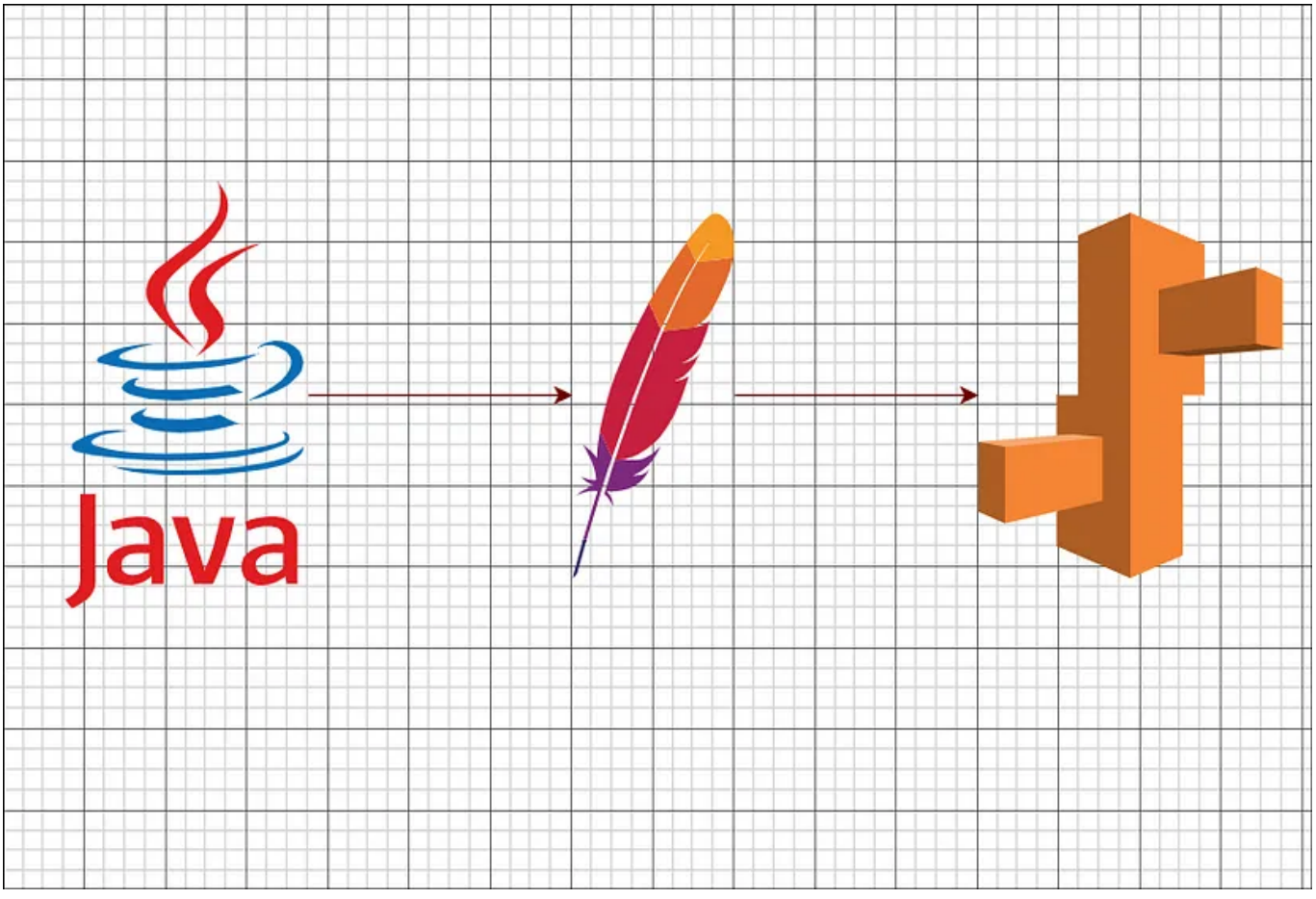
5 min read · 21 hours ago



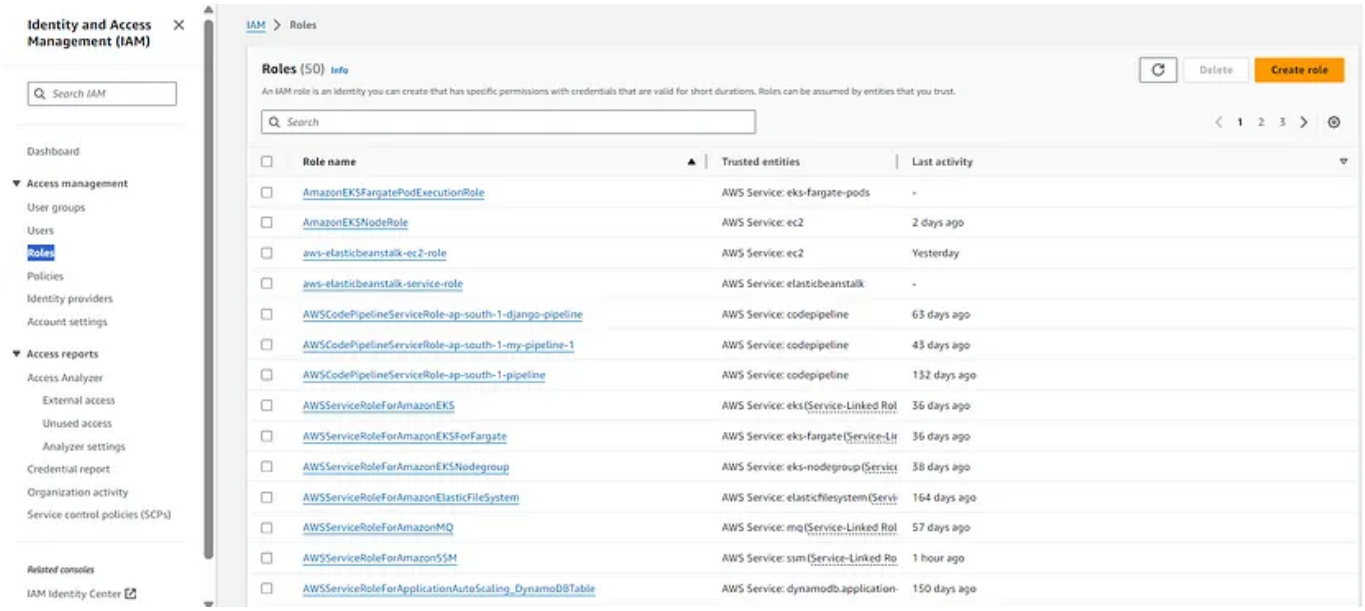
Hello friends, In this tutorial we will deploy Java Application which we build with Maven build tool and then deploy on AWS Elastic Beanstalk.

Step-1: Delete Unsupported IAM Roles
Step-2: Create new aws-elasticbeanstalk-ec2-role
Step-3: Create S3 Bucket For Storing Artifact
Step-4: Create EC2 Instance for Building Artifact
Step-5: Create Application in Elastic Beanstalk
Step 6: clean up

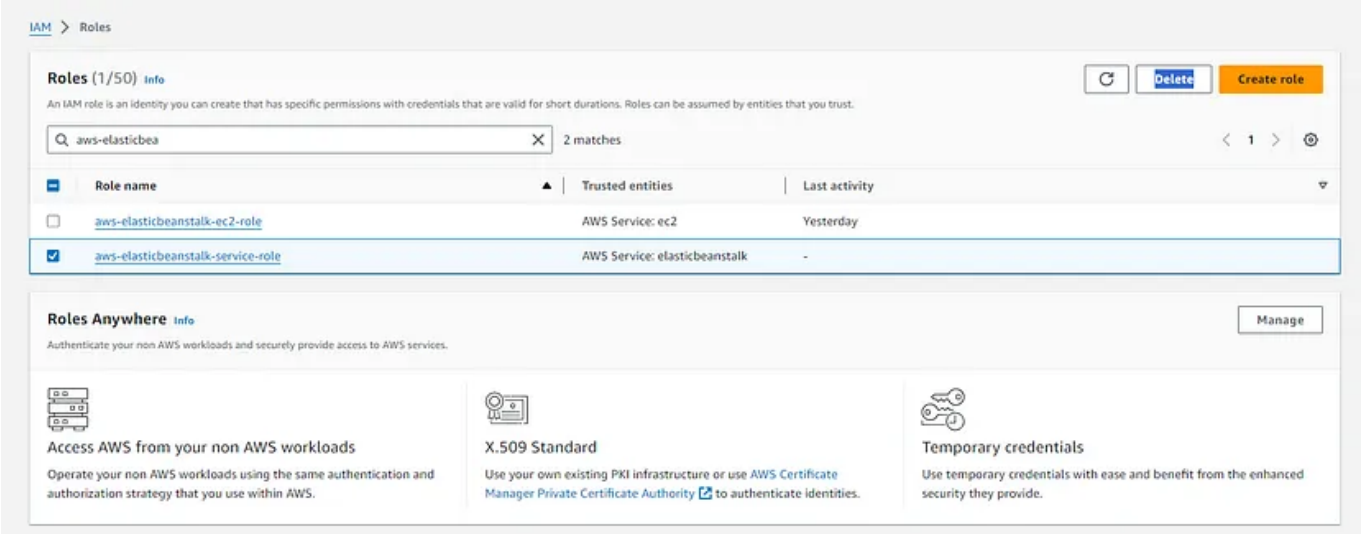
> *Note:- AWS Elastic Beanstalk has been facing issue related to IAM EC2 Role and to resolve that issue we have to follow respective instruction that are provided by AWS experts.*

Step-1: Delete Unsupported IAM Roles

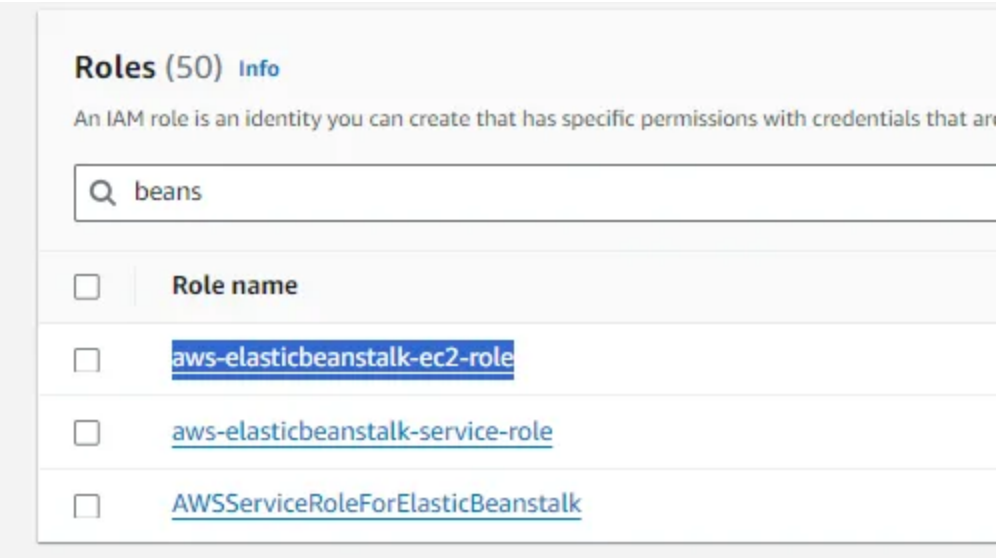
1. Navigate to **IAM console** → Select **Role** from left menu



2. search for **aws-elasticbeanstalk-service-role** in the search bar → Click on **Delete** button → **Delete it**

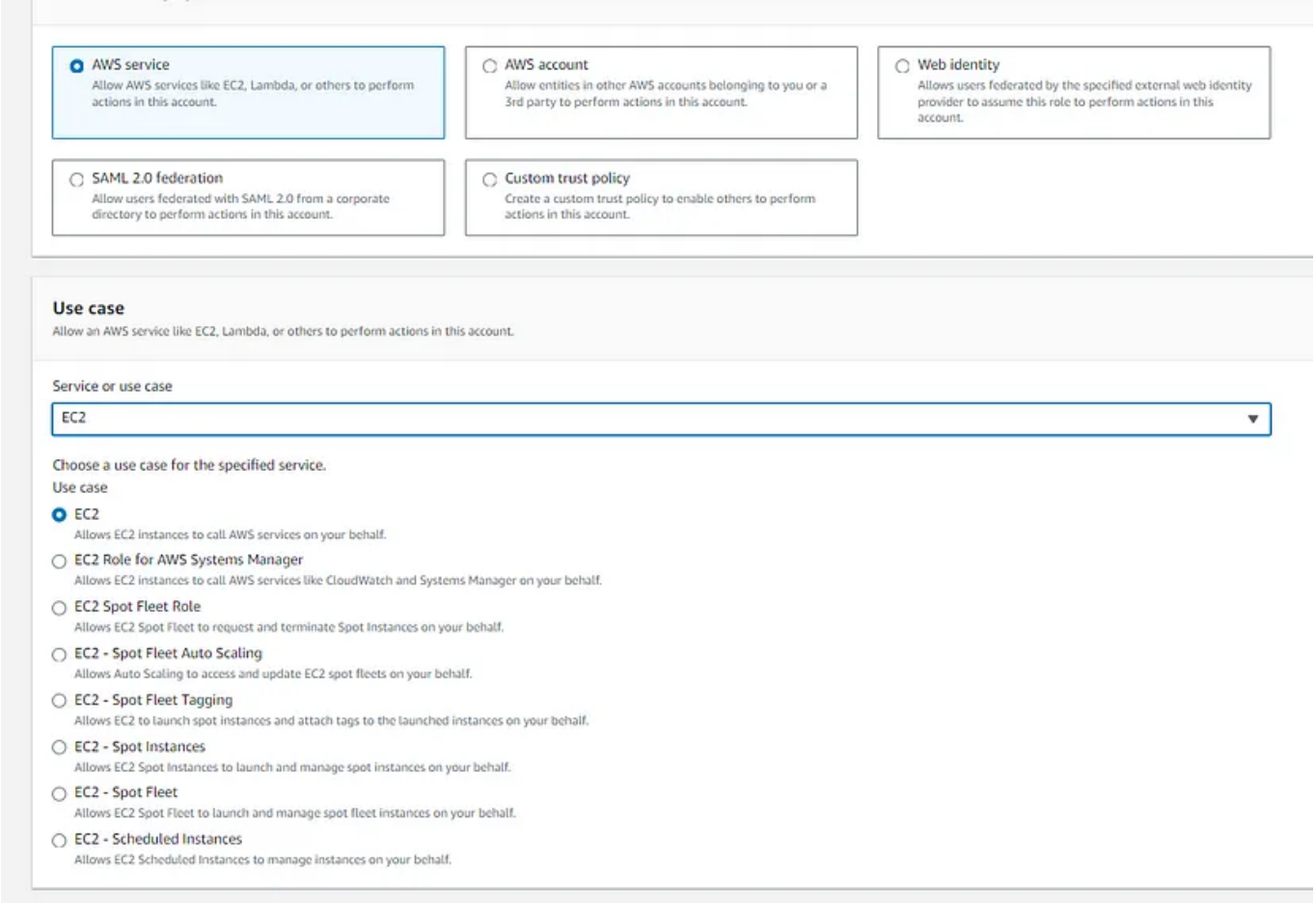


3. Search for **aws-elasticbeanstalk-ec2-role** → click on **Delete** button → Delete it also

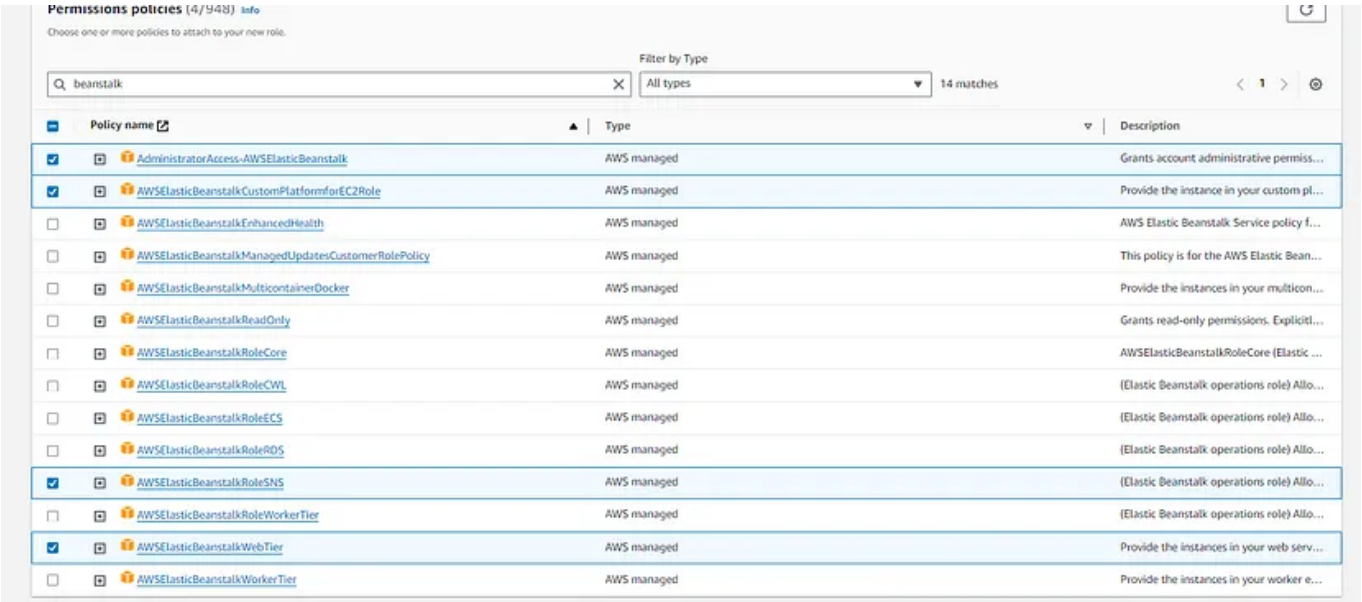


Step-2: Create new aws-elasticbeanstalk-ec2-role

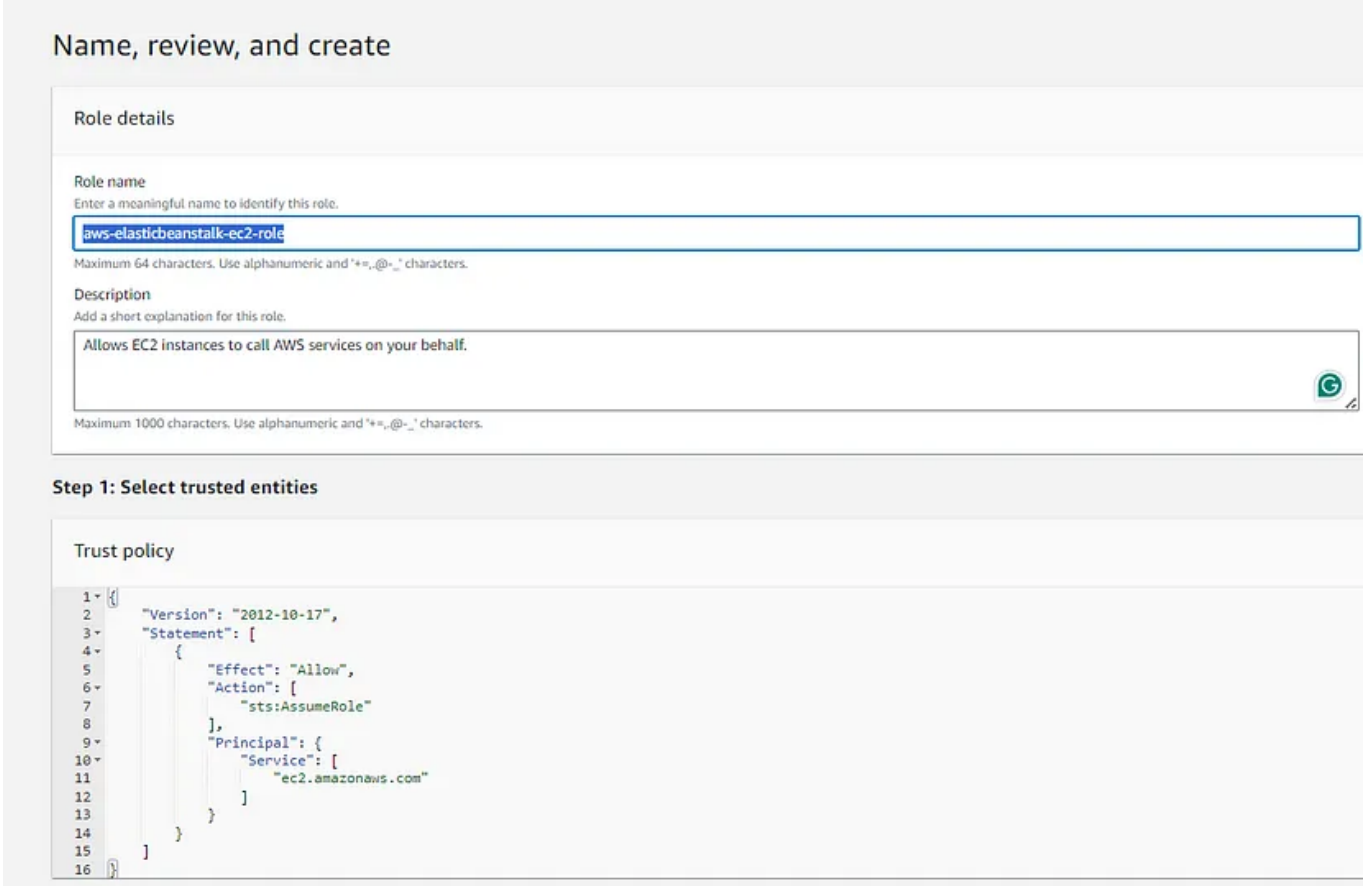
1. Click on Create role → Select **AWS Service** → in the use case choose **EC2**



2. Select necessary policies for our **IAM Role** → **Search** and **check the boxes** for **policies** that are in the image → click **Next**

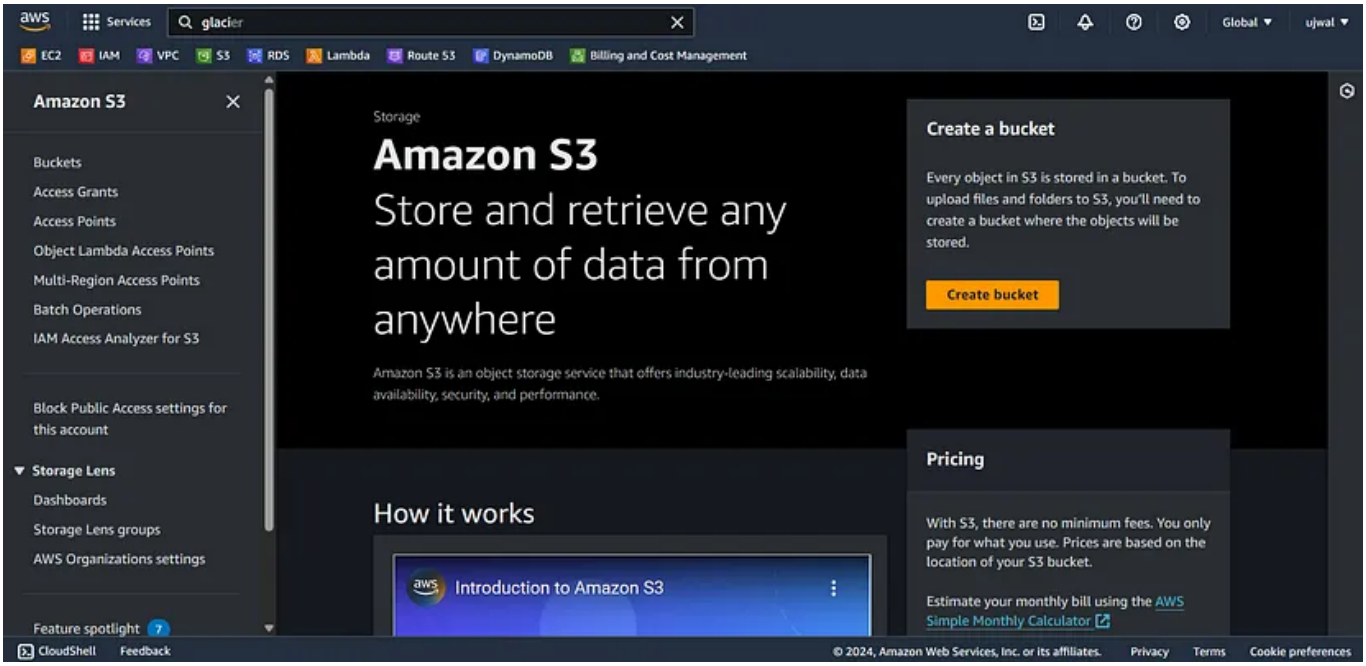


3. Give name to our **new Role** → Click on **Create Role** (button at the last)

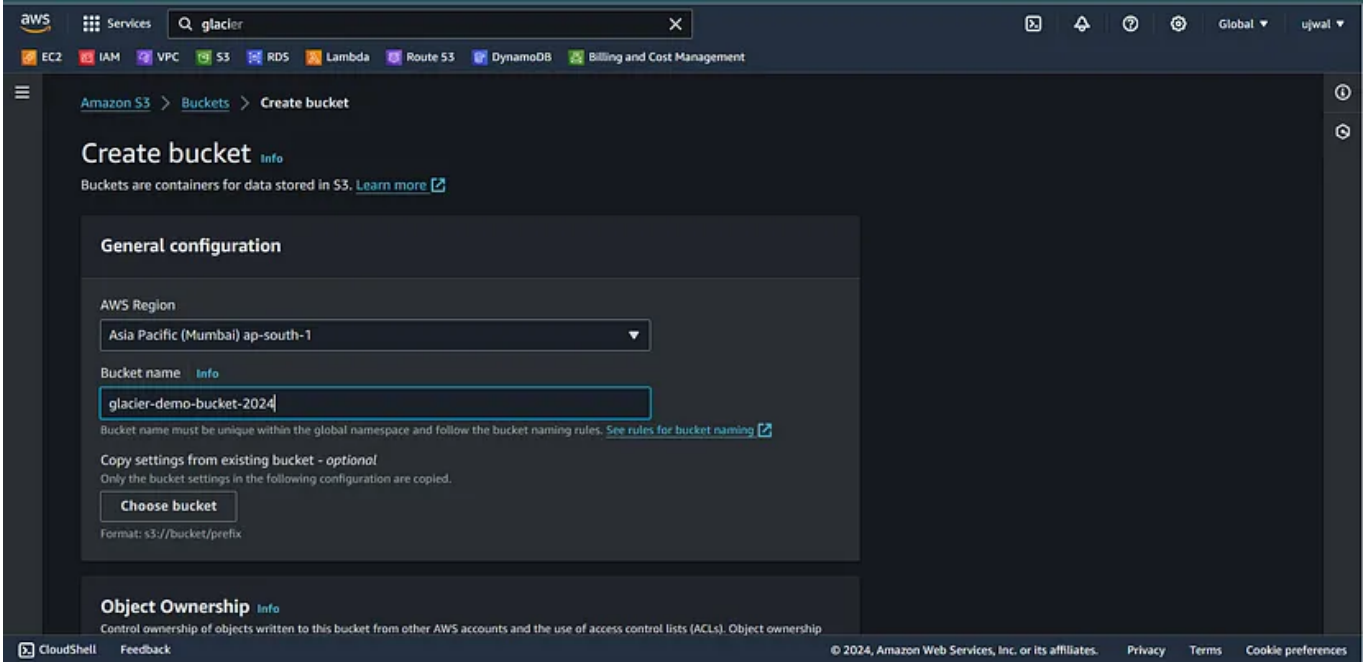


Step-3: Create S3 Bucket For Storing Artifact

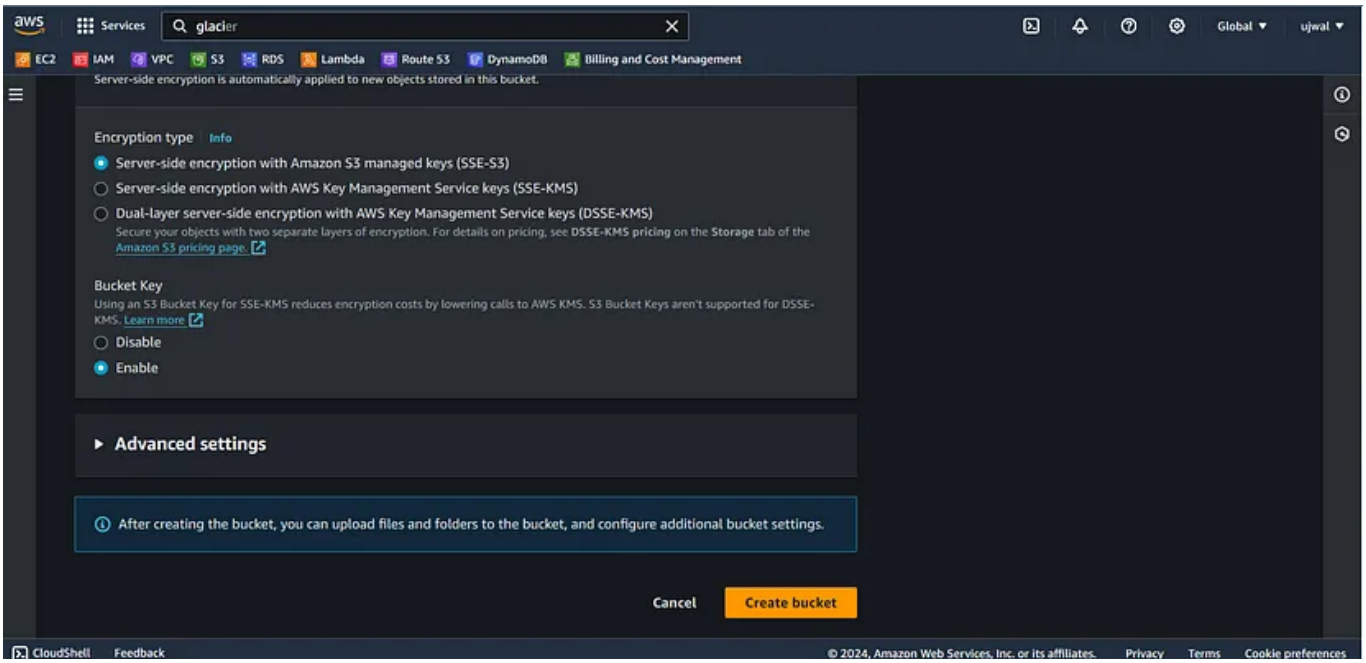
1. Go to **S3 Dashboard** and Click on **Create Bucket**



2. Giving unique name to the bucket

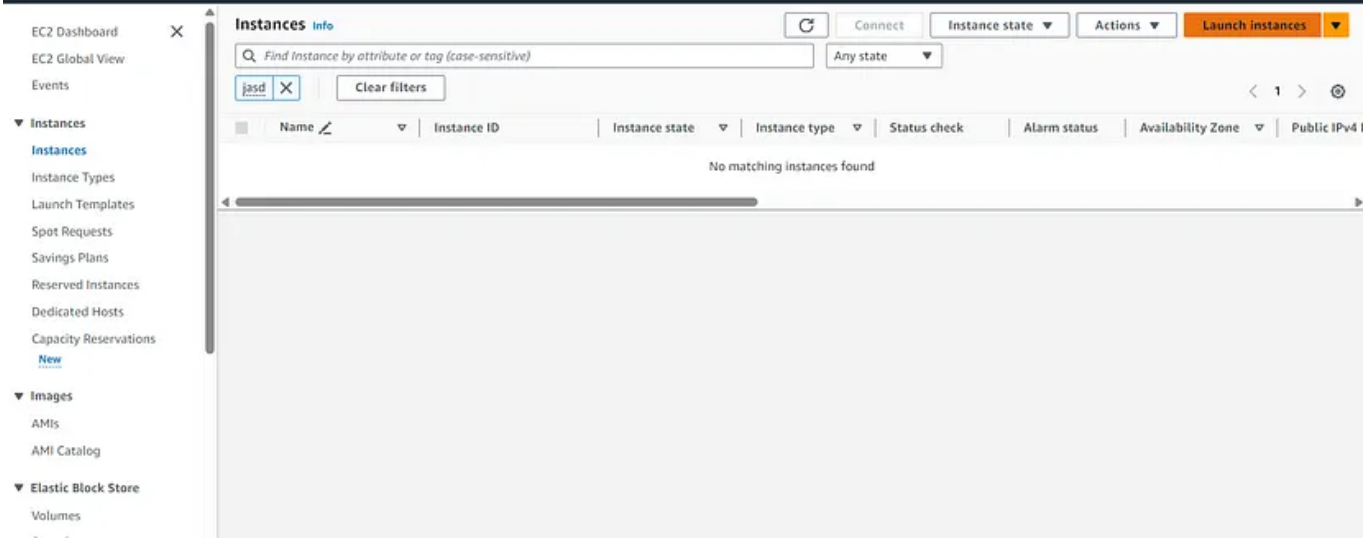


3. let all the options default and click on **Create Bucket** at last.

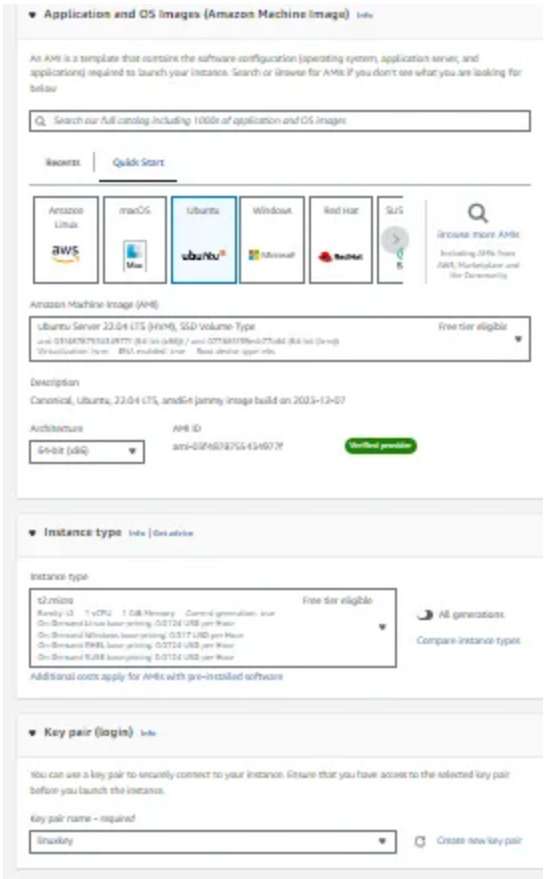


Step-4: Create EC2 Instance For Building Artifact

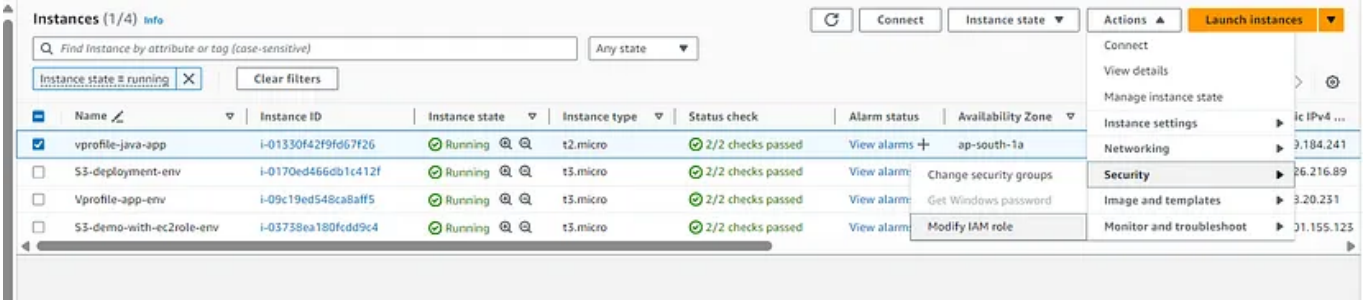
1. Navigate **EC2 Console** → Click on **Launch Instance**



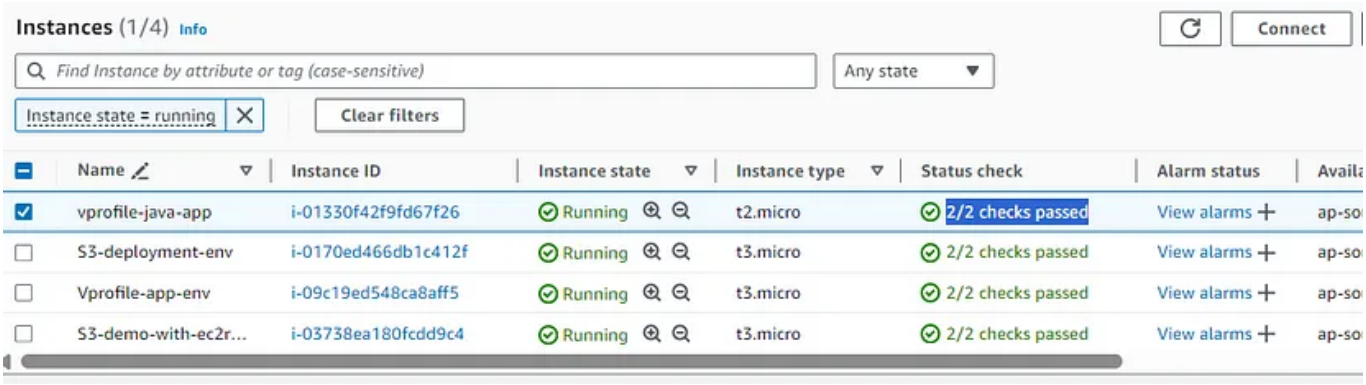
2. Give name to **EC2 Instance** → Select **Ubuntu AMI** → Select type **t2.micro** → select existing **key-pair** → let other things **default** → Click on **launch instance**



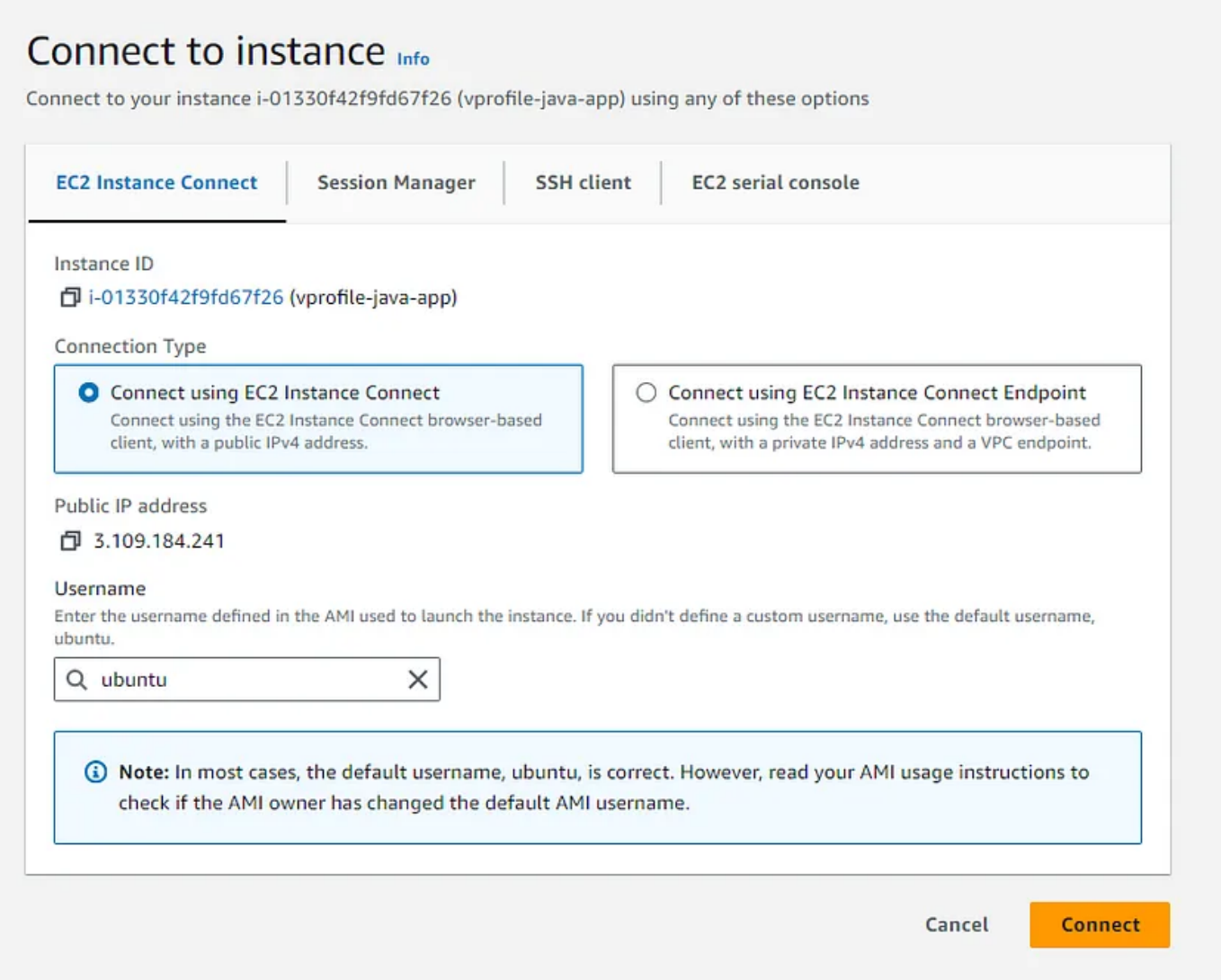
3. Wait for **Status check pass** → Select our instance → click on **Action** button → click on **Security** → click on **modify IAM Role** → Select Role that has permissions to put objects in **S3 Bucket** or create new one with **S3FullAccess** → at last click on **Update IAM Role**



4. **SSH** into Instance from browser → Select instance → Click on **Connect**



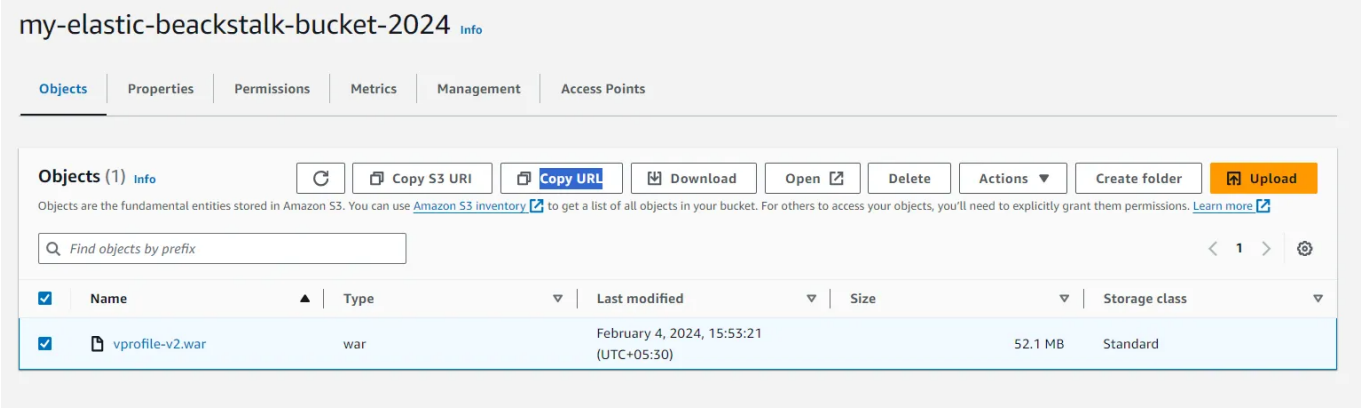
4. Connect to instance by clicking on **Connect**



5. Run following Script in that instance to **build** and **copy** artifact from **EC2** to **S3 Bucket**

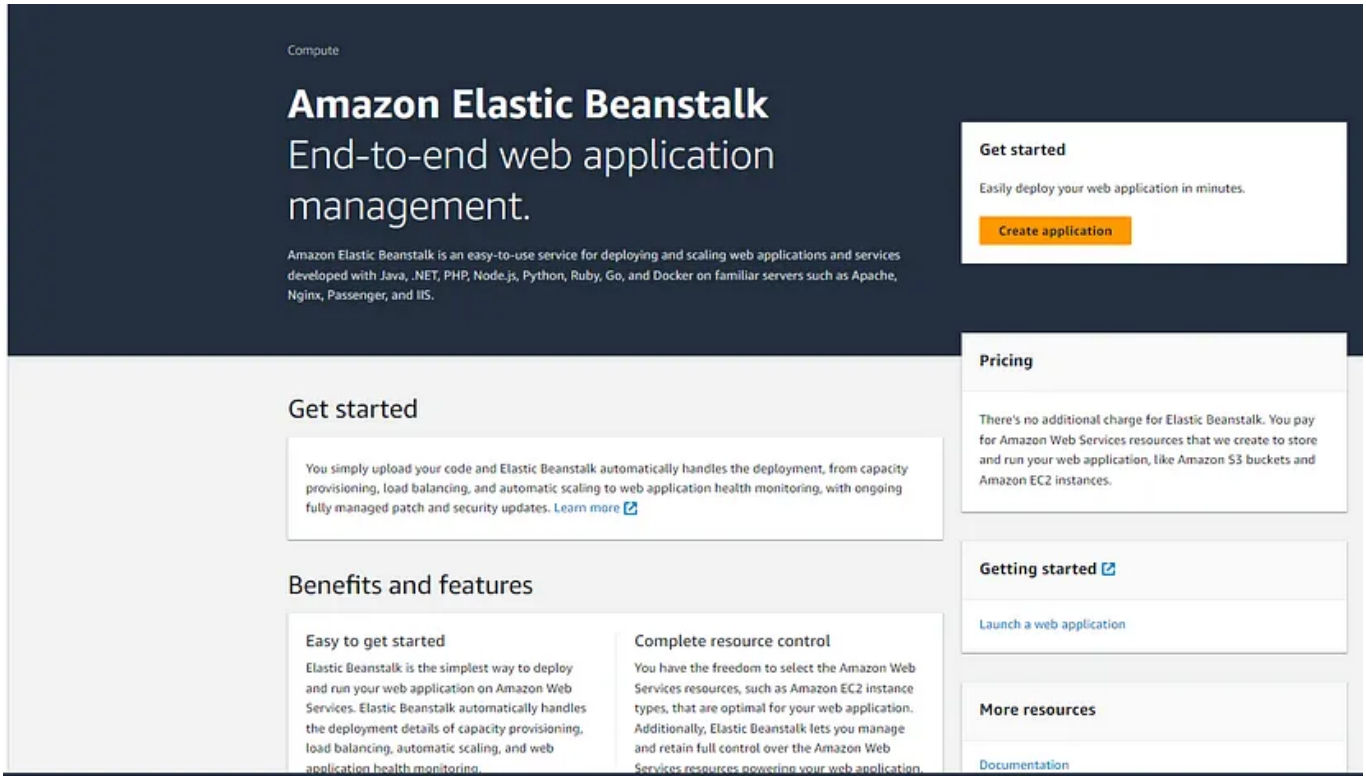
```
sudo apt update
sudo apt install maven awscli -y
sudo git clone https://github.com/hkhcoder/vprofile-project.git
cd vprofile-project
mvn install
aws s3 cp target/vprofile-v2.war s3://<your-s3-bucket-name>
```

6. Navigate to S3 Console → go inside our new bucket → click on Copy URL

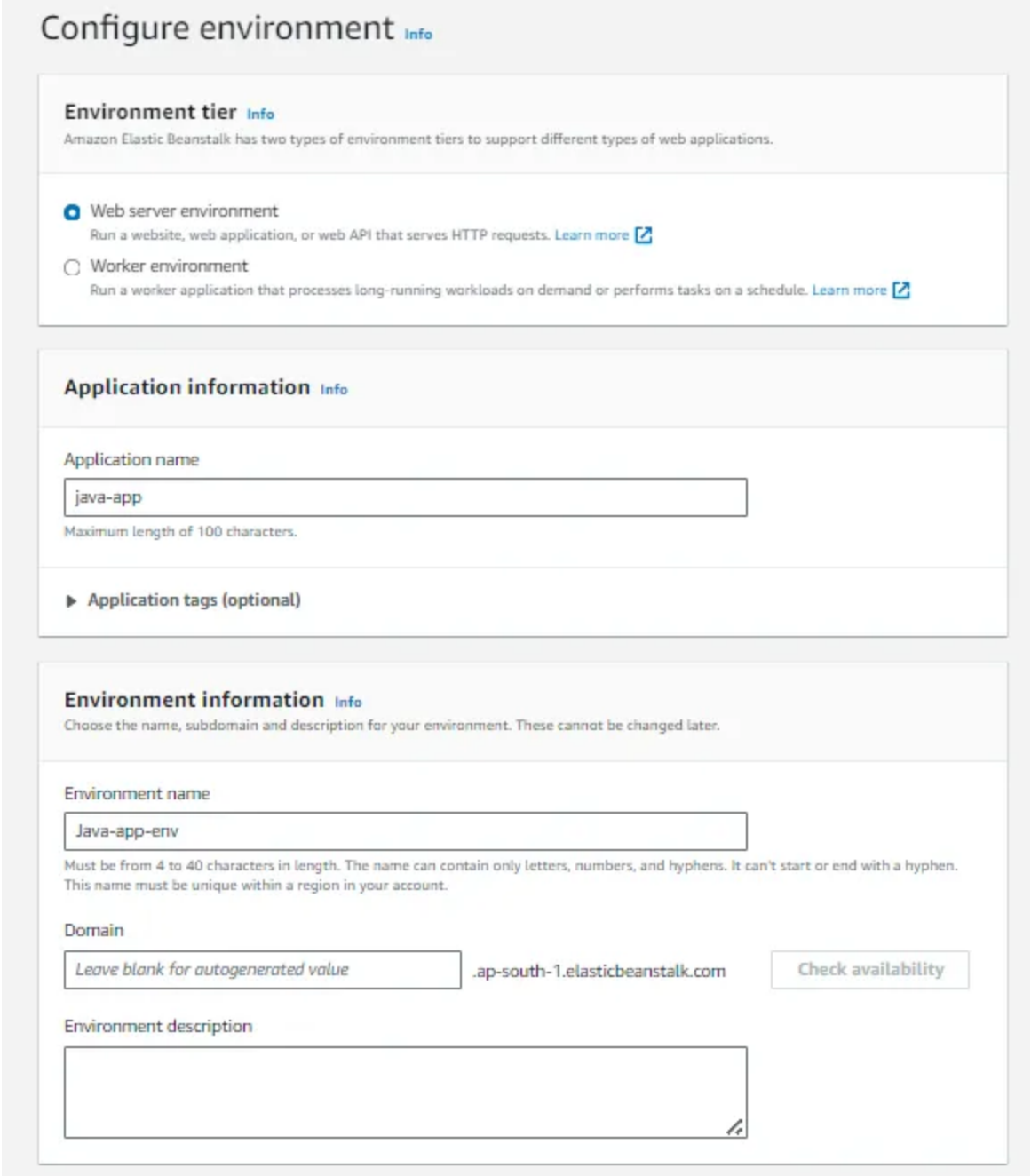


Step-5: Create Application in Elastic Beanstalk

1. Navigate to AWS Elastic Beanstalk Dashboard → Click on Create Application



2. Select **Web Server Environment** for deploying web application. Give name to our application and it will automatically take the environment name according to our application name.



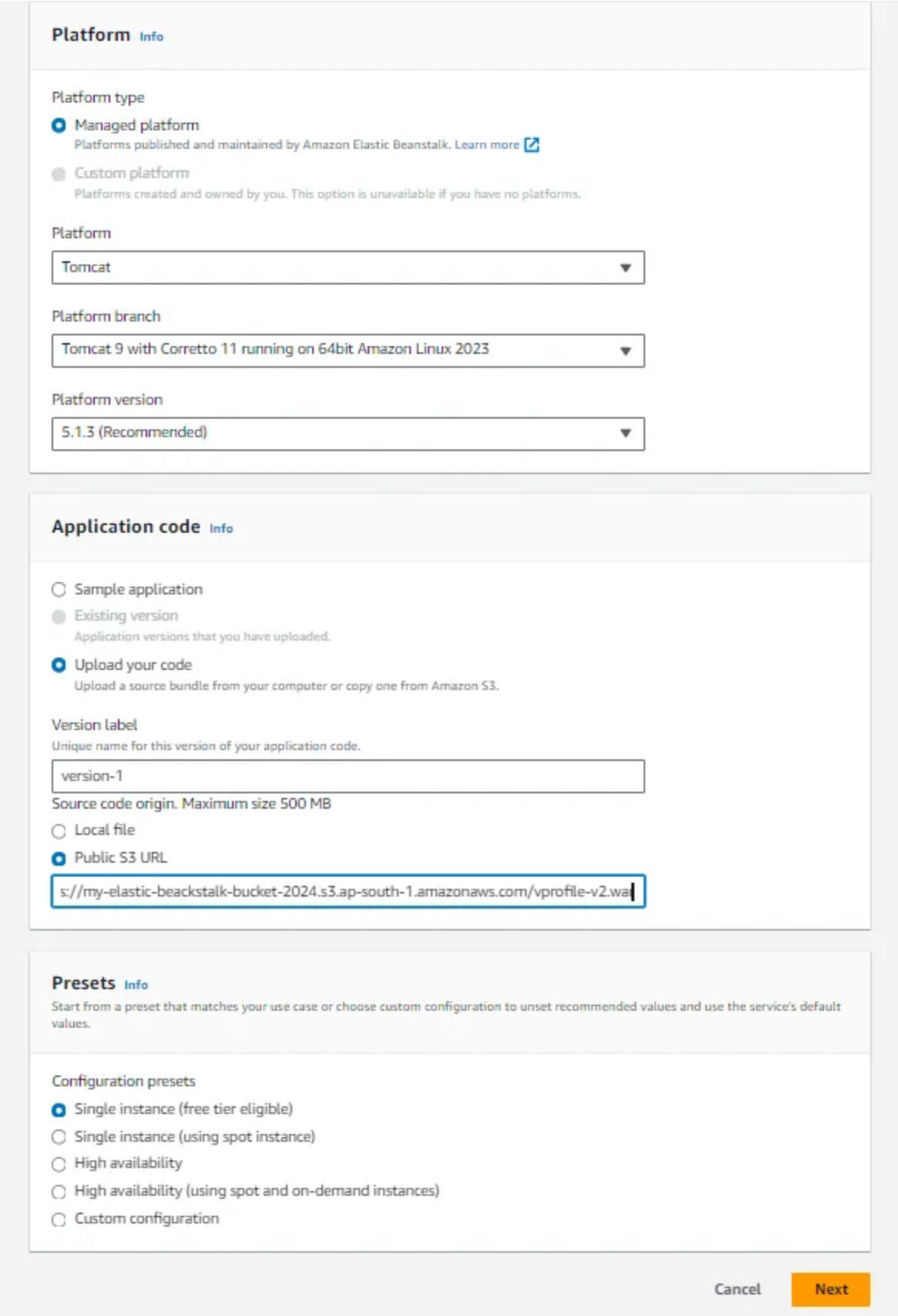
3. Select platform for deploying our app. Our app is written in JAVA, so we will choose

Platform: Tomcat Server

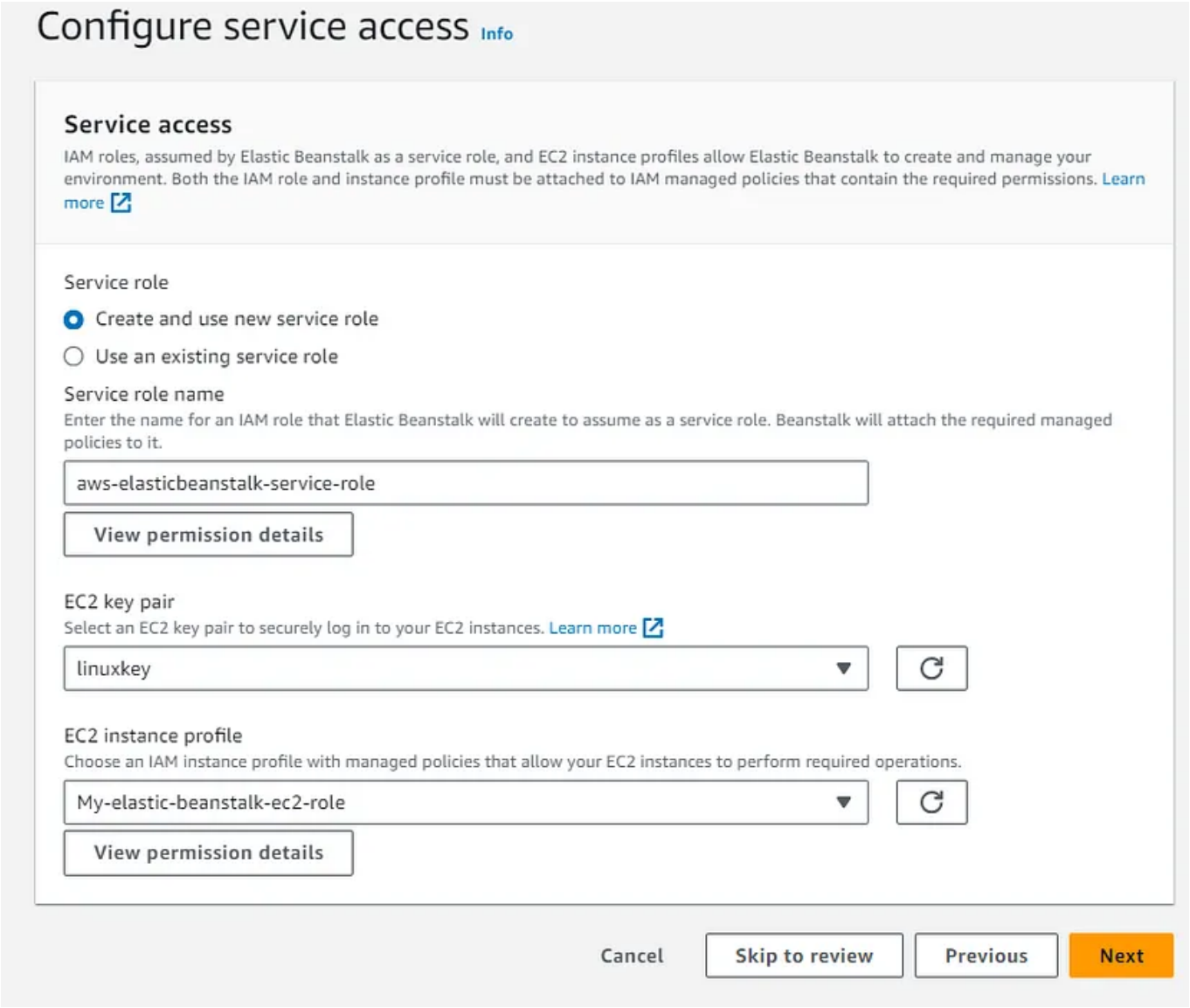
Platform branch: Tomcat 9 with corretto 11 running on 64bit Amazon Linux 2023 (because our app is test and build in Java 11 runtime environment)

Platform version: 5.1.3(Recommended)

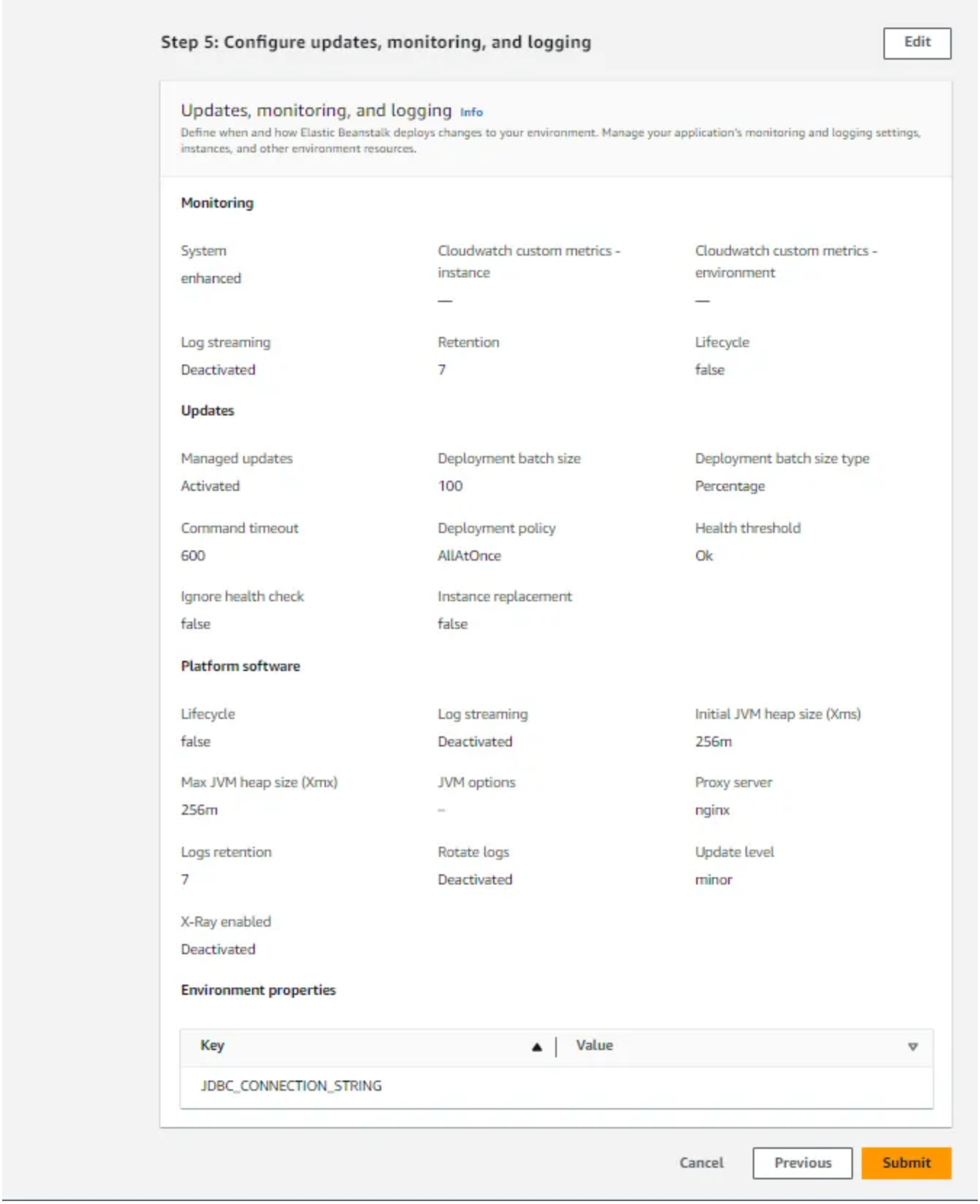
Check the circle of **Upload your code** → Give **version label** whatever you want → then **paste our S3 bucket URL** that we copied in step 4.5



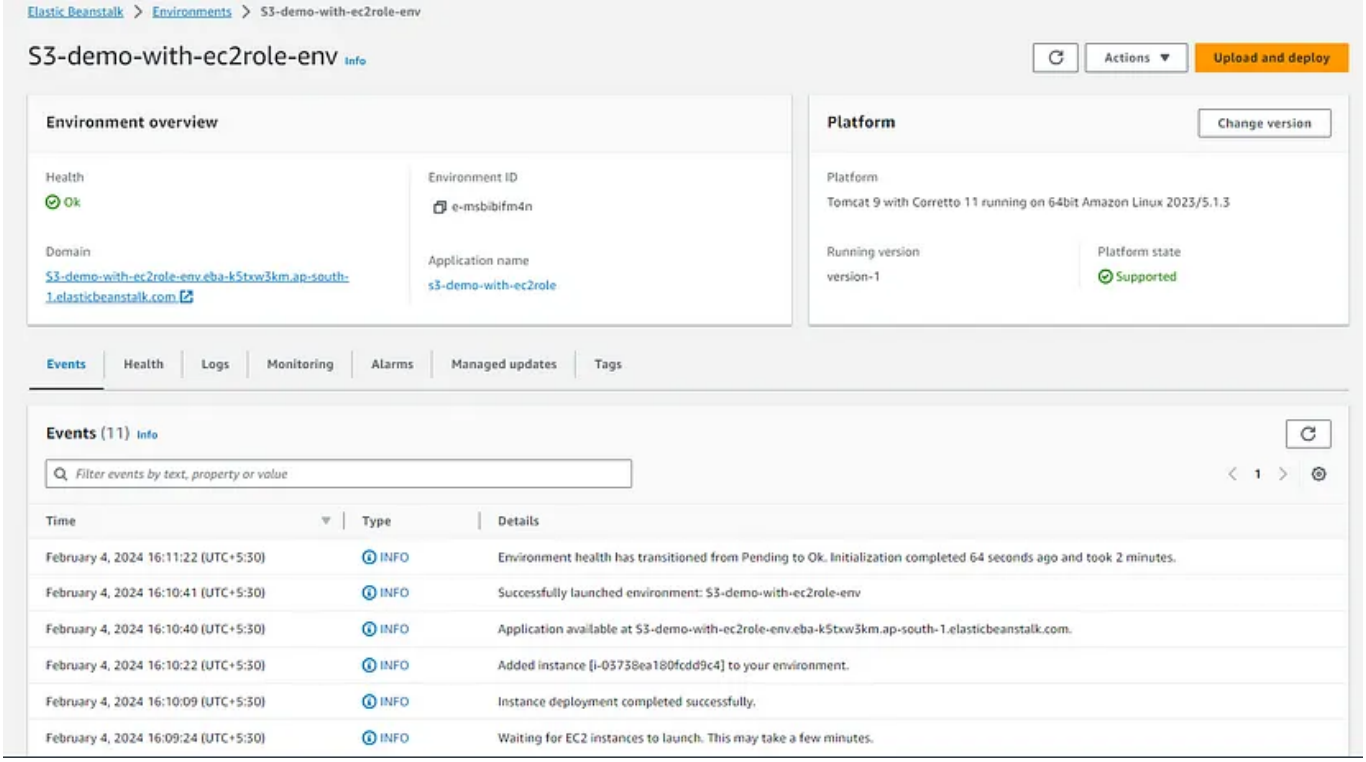
5. Check **first circle button** to create new role → choose **existing key-pair** → in **EC2 instance profile** choose the which we have created previously.



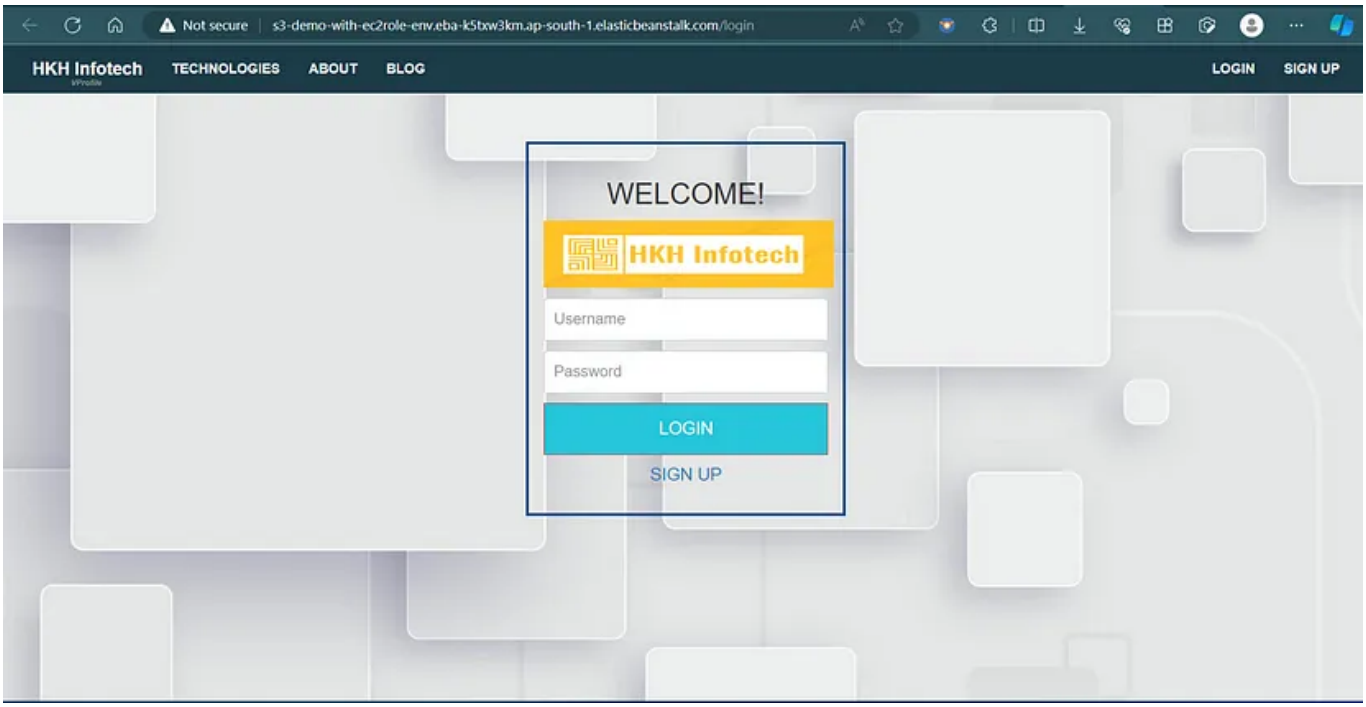
6. If you want to configure other things like **Load Balancer and Autoscaling groups** so click on Next or just take all default values of Elastic Beanstalk by clicking on **Skip to review button** and after that **review the changes** then click on **submit button.**



7. Keep in mind that it will take 4–5 minutes for deployment of our application



8. After deployment you can see **Ok status** that means now you can access the application so **click on Domain** then you will see following application login page

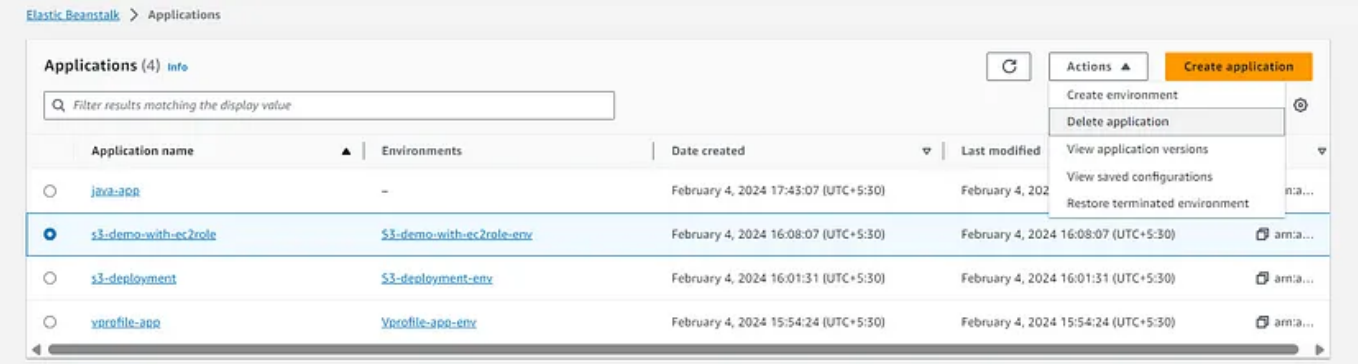


Wow you have successfully deployed JAVA Application on AWS Elastic Beanstalk.

Step 6: clean up

Now it's time to clean all the resources. so first click on **application** from left navigation panel in **elastic beanstalk console.**

Select the app to delete → Actions → Delete application



Finally confirm to delete application by typing our applicaton name in the box and click on **Delete.**