ADVANCE DEVOPS EXPERIMENT NO.2

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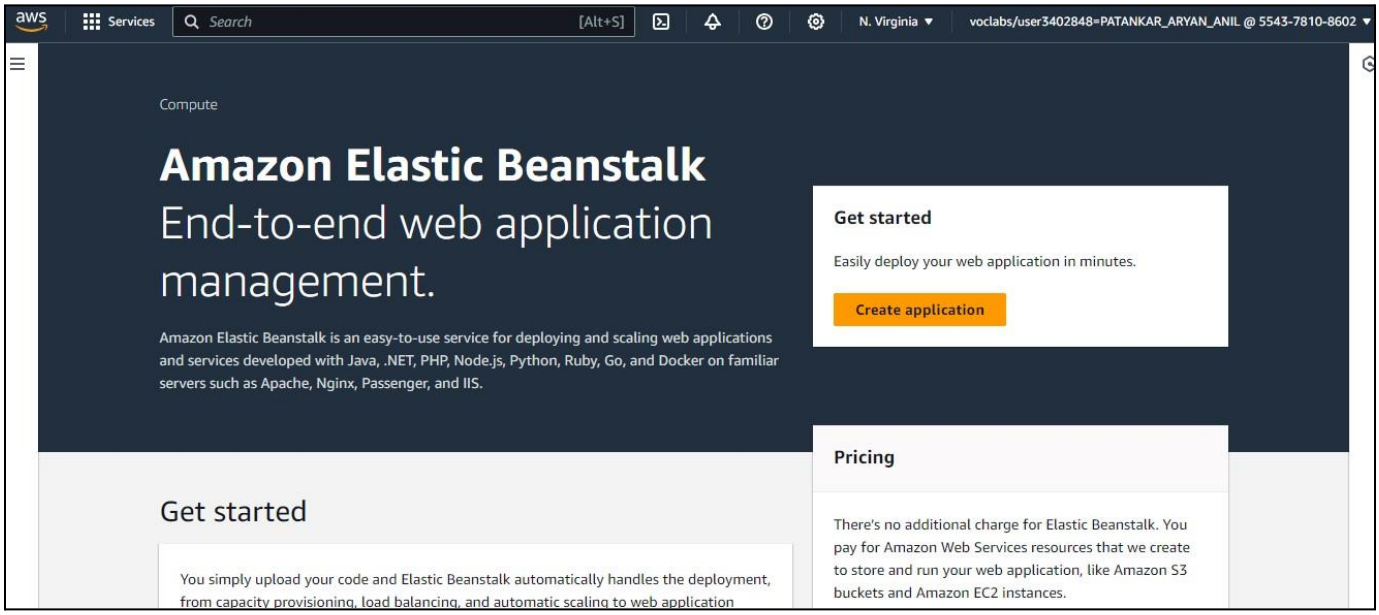
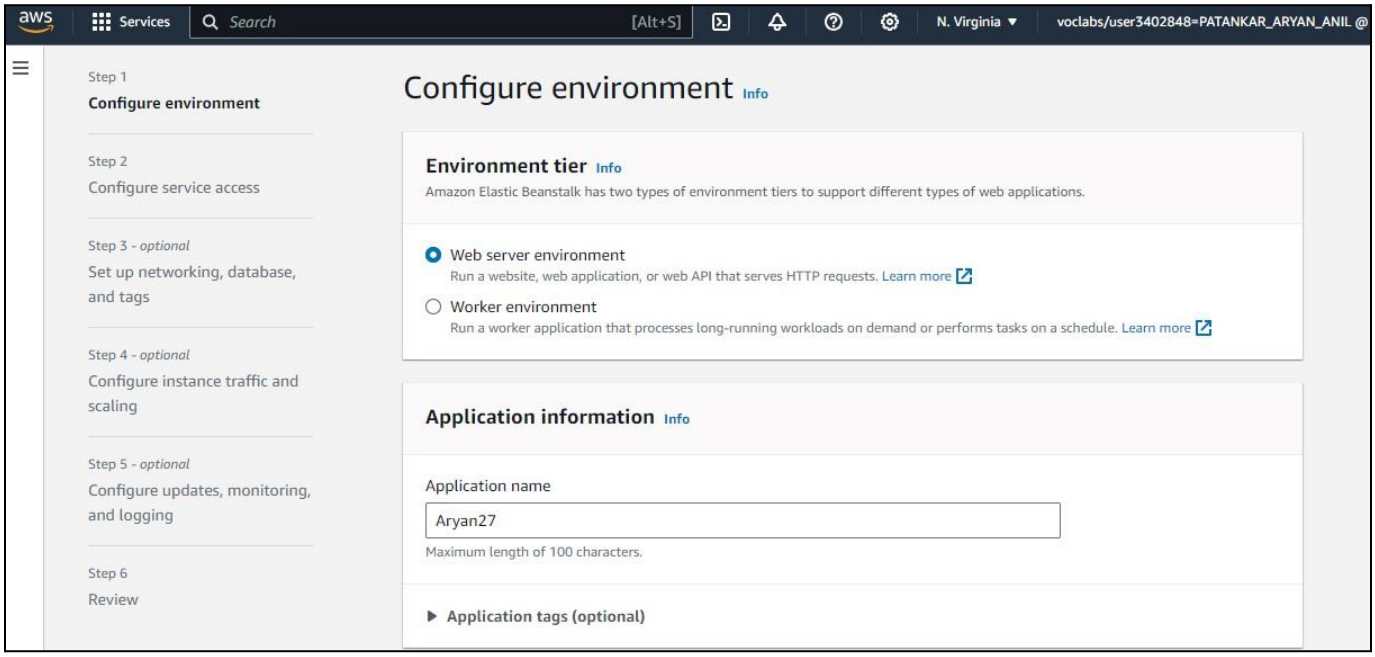
Class:D15A
Roll No:52

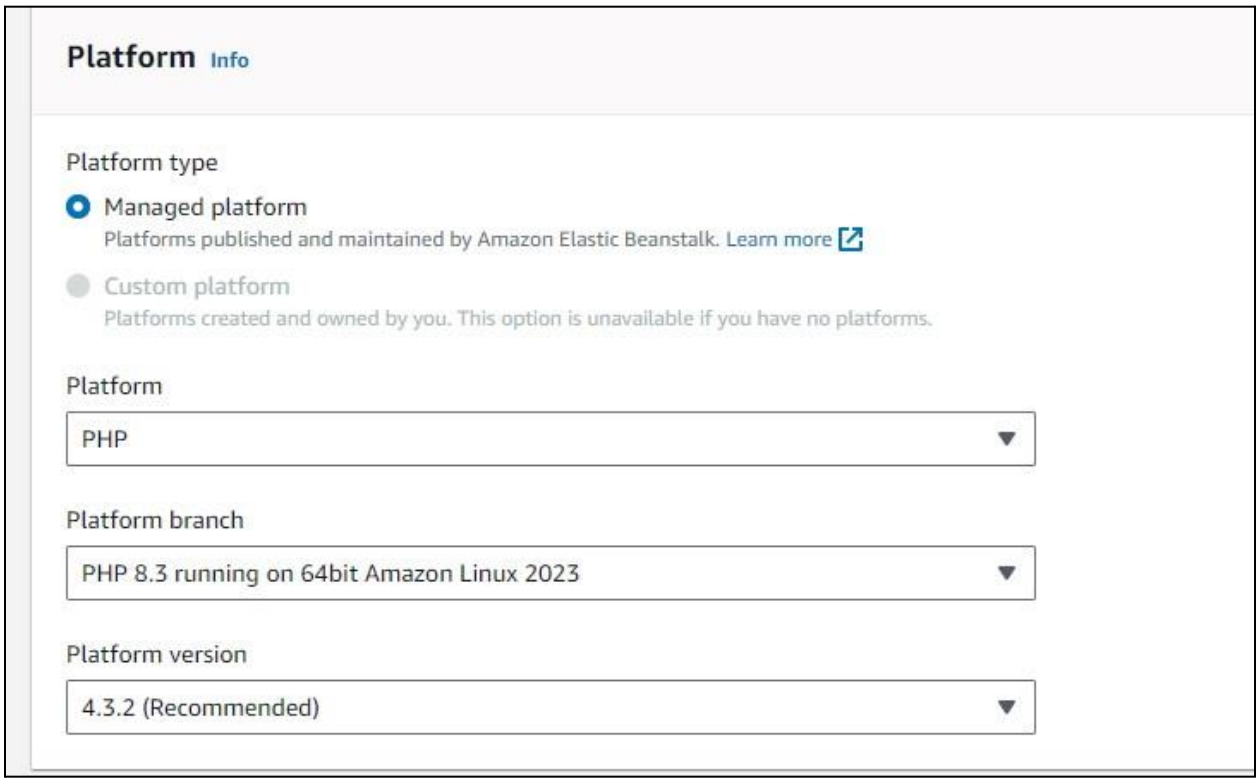
Aim: To Build Your Application using AWS CodeBuild and Deploy on S3 / SEBS using AWS CodePipeline, deploy Sample Application on EC2 instance using AWS CodeDeploy.

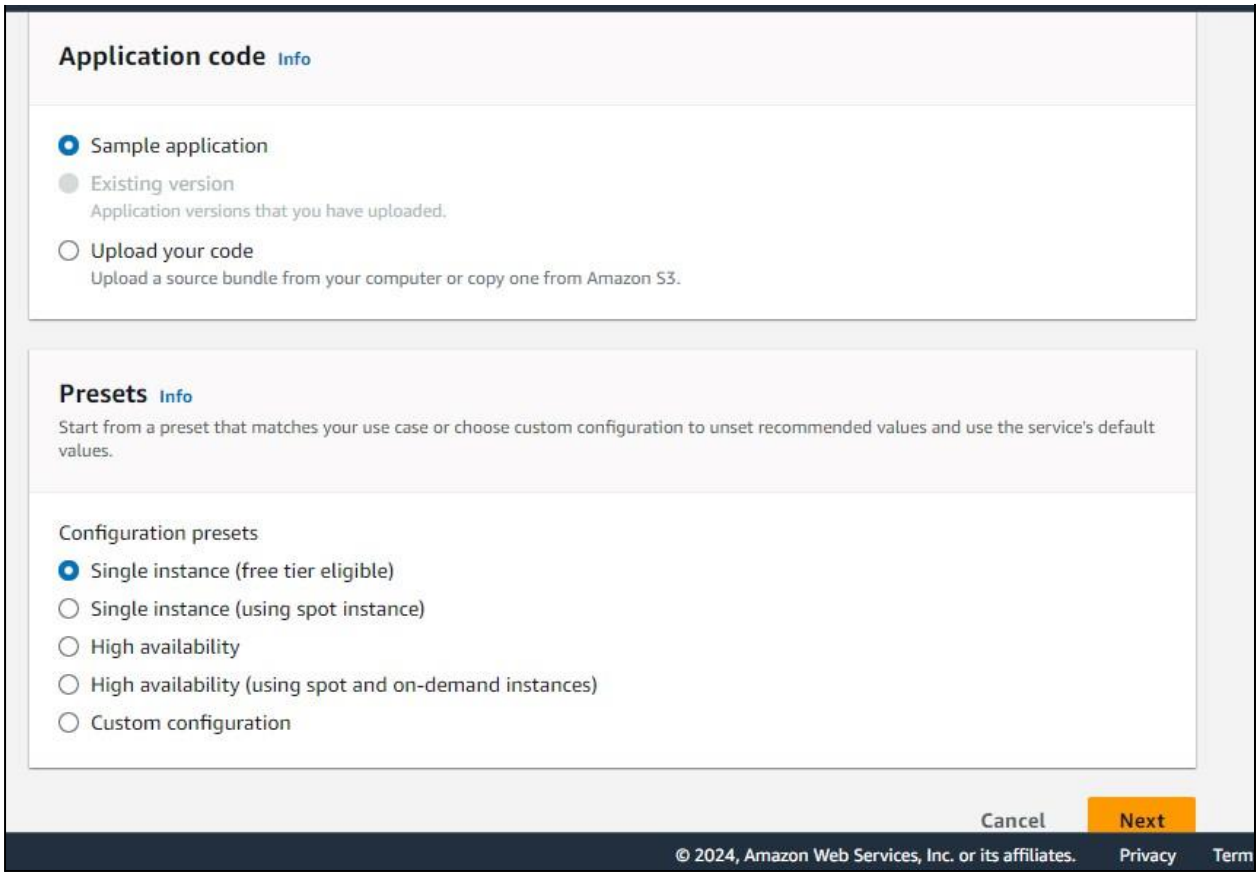


Step 1: Search for **Elastic Beanstalk** in the search bar next to services section and you would see the following page.

Step 2: Create a new application and proceed with the following settings






Application code Info
Sample application
Existing version
Application versions that you have uploaded.
Upload your code
Upload a source bundle from your computer or copy one from Amazon S3.
Presets Info
Start from a preset that matches your use case or choose custom configuration to unset recommended values and use the service's default values.
Configuration presets
Single instance (free tier eligible)
Single instance (using spot instance)
High availability
High availability (using spot and on-demand instances)
Custom configuration
Cancel
Next
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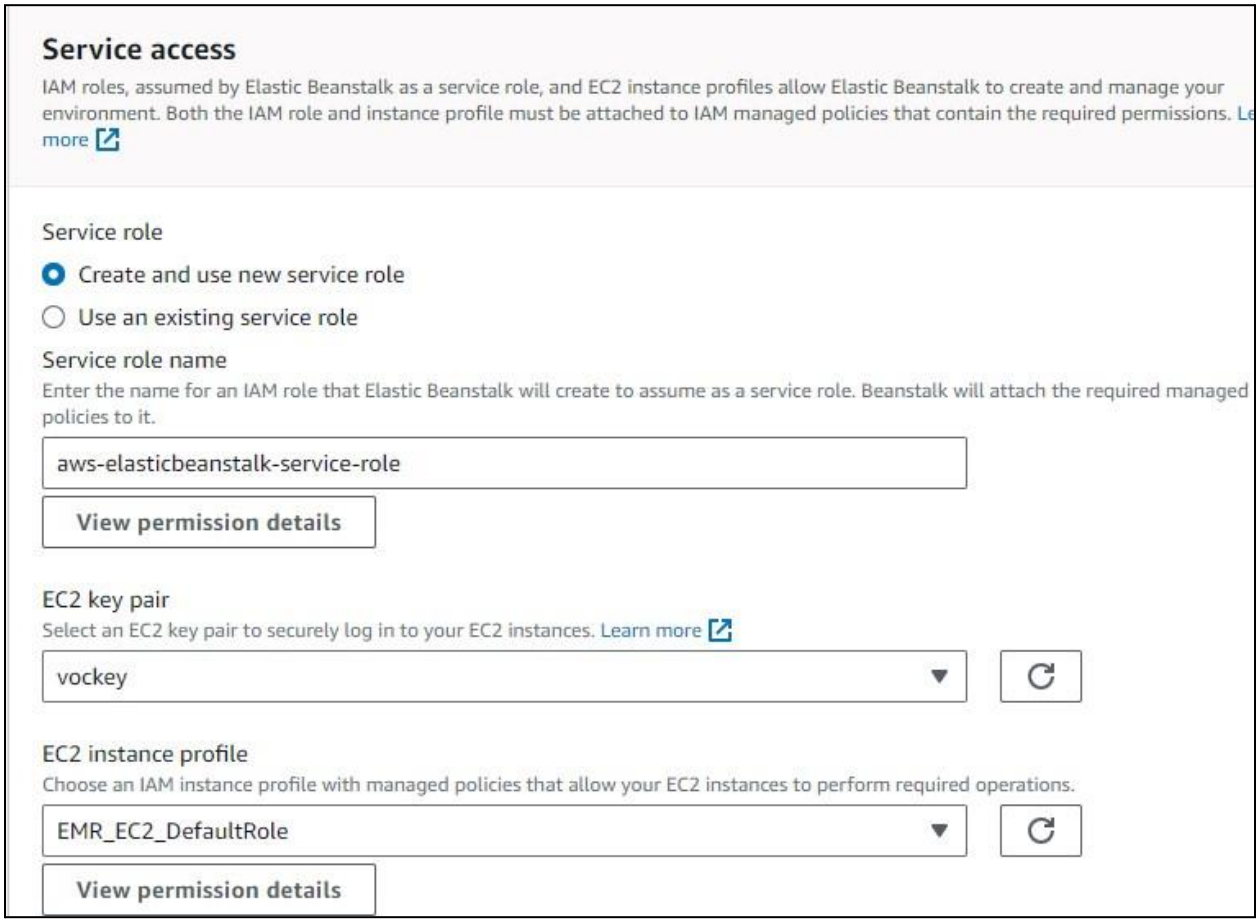
Privacy
Term

Step 3: Create a new service role as given below,if an existing service role with the same name does not exist.Proceed with the steps given below.



Instances Info

Configure the Amazon EC2 instances that run your application.

Root volume (boot device)

Root volume type

(Container default)

Size

The number of gigabytes of the root volume attached to each instance.

8 GB

IOPS

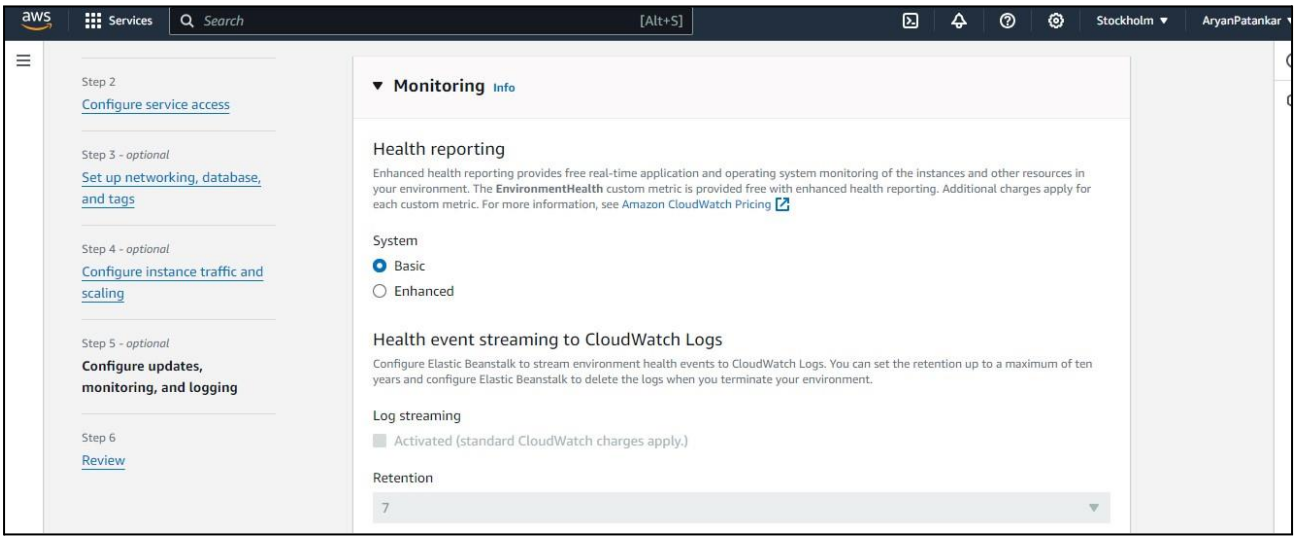
Input/output operations per second for a provisioned IOPS (SSD) volume.

100 IOPS

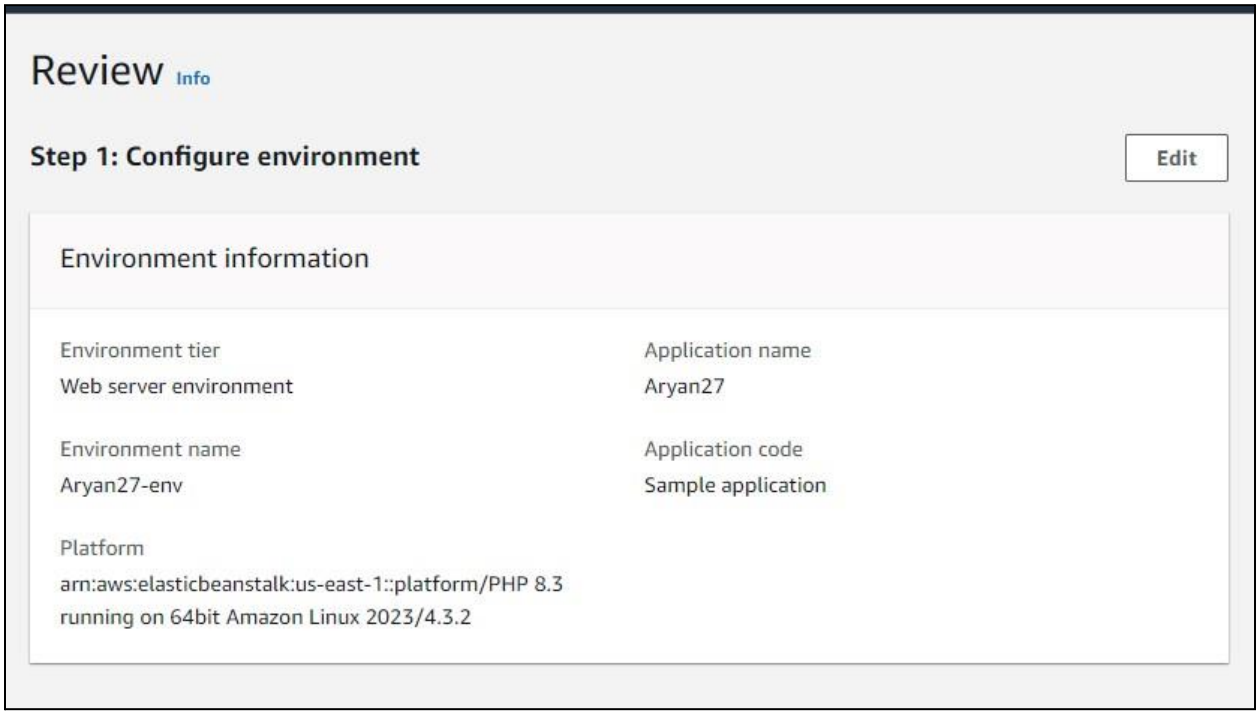
Throughput

The desired throughput to provision for the Amazon EBS root volume attached to your environment's EC2 instance

125 MiB/s



Step 4: Review each step along with the selected options and verify that the correct options have been chosen.



Step 2: Configure service access

Edit

Service access Info

Configure the service role and EC2 instance profile that Elastic Beanstalk uses to manage your environment. Choose an EC2 key pair to securely log in to your EC2 instances.

Service role	EC2 instance profile
arn:aws:iam::405894863107:role/service-role/aws-elasticbeanstalk-service-role	aws-elasticbeanstalk-ec2-role

Step 3: Set up networking, database, and tags

Edit

Networking, database, and tags Info

Configure VPC settings, and subnets for your environment's EC2 instances and load balancer. Set up an Amazon RDS database that's integrated with your environment.

Network

VPC	Public IP address	Instance subnets
vpc-0bf7d7d872a737f13	false	subnet-035fe38d8d742329e,subnet-0a7c9c6dedec1325d

Step 5: Configure updates, monitoring, and logging

Edit

Updates, monitoring, and logging Info

Define when and how Elastic Beanstalk deploys changes to your environment. Manage your application's monitoring and logging settings, instances, and other environment resources.

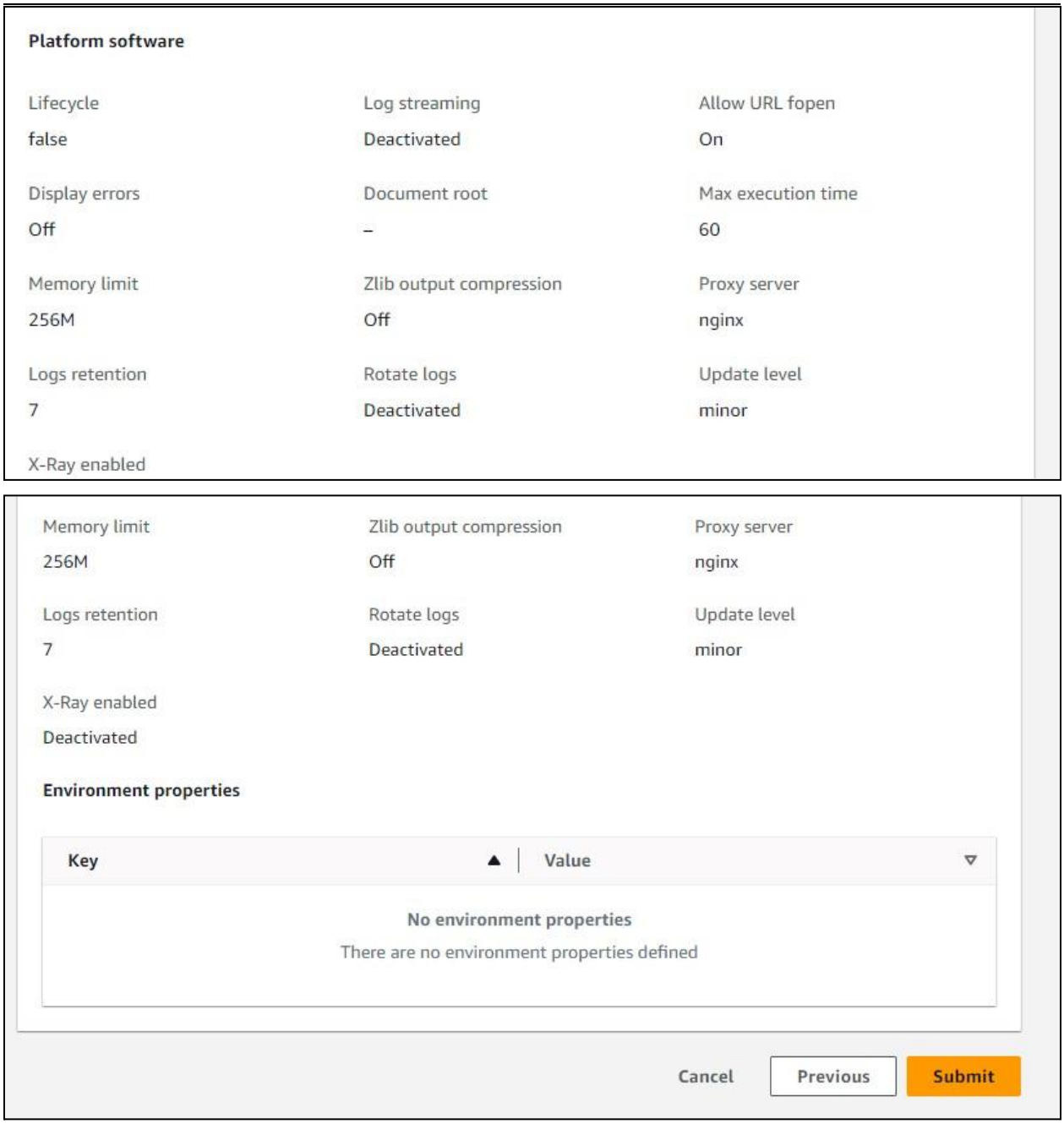
Monitoring

System	Cloudwatch custom metrics - instance	Cloudwatch custom metrics - environment
enhanced	—	—

Log streaming	Retention	Lifecycle
Deactivated	7	false

Updates

Managed updates	Deployment batch size	Deployment batch size type
Activated	100	Percentage



Platform software

Lifecycle	Log streaming	Allow URL fopen
false	Deactivated	On
Display errors	**Document root**	**Max execution time**
Off	–	60
Memory limit	**Zlib output compression**	**Proxy server**
256M	Off	nginx
Logs retention	**Rotate logs**	**Update level**
7	Deactivated	minor

X-Ray enabled

Memory limit	Zlib output compression	Proxy server
256M	Off	nginx
Logs retention	**Rotate logs**	**Update level**
7	Deactivated	minor

X-Ray enabled

Deactivated

Environment properties

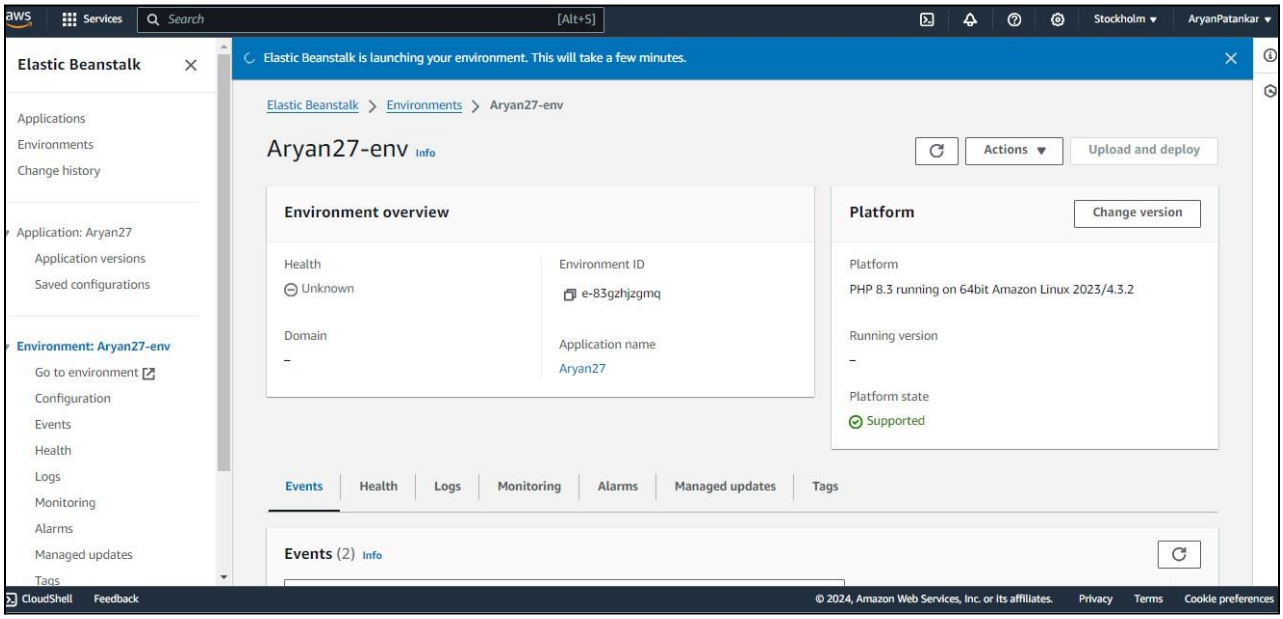
Key ▲	Value ▽

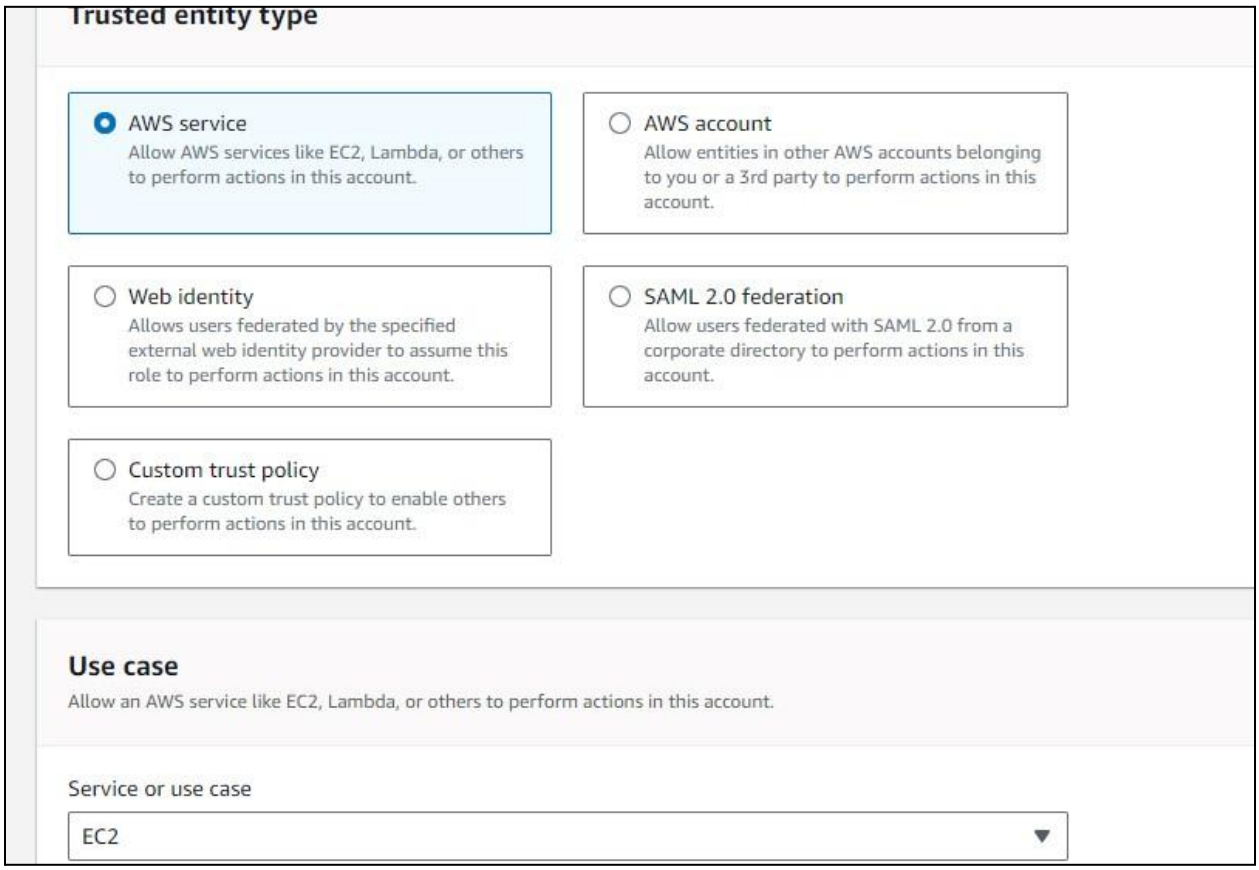
No environment properties

There are no environment properties defined

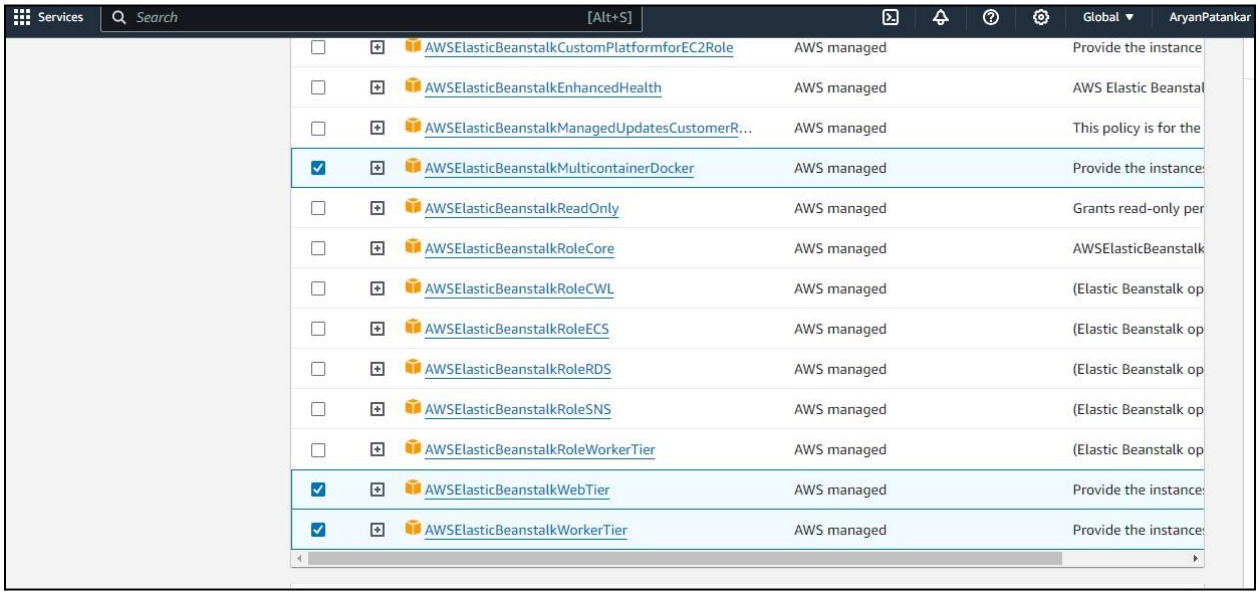
Cancel | Previous | Submit

Step 5: After clicking on the submit button, you would notice that the Elastic Beanstalk environment is being created and it may take some time for the environment to load completely.

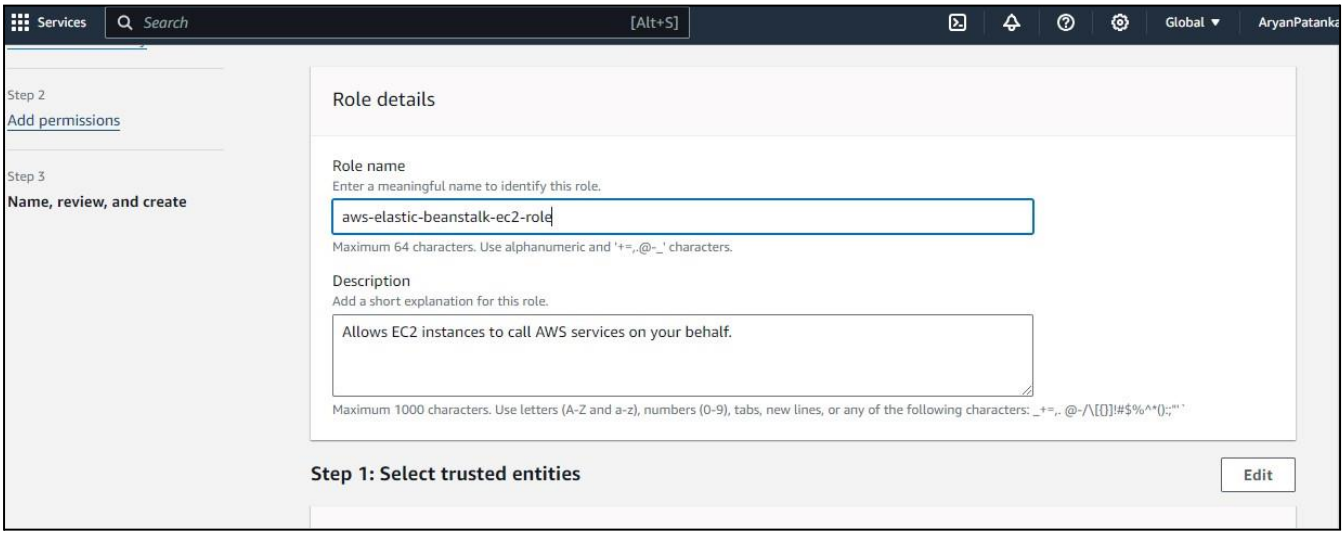


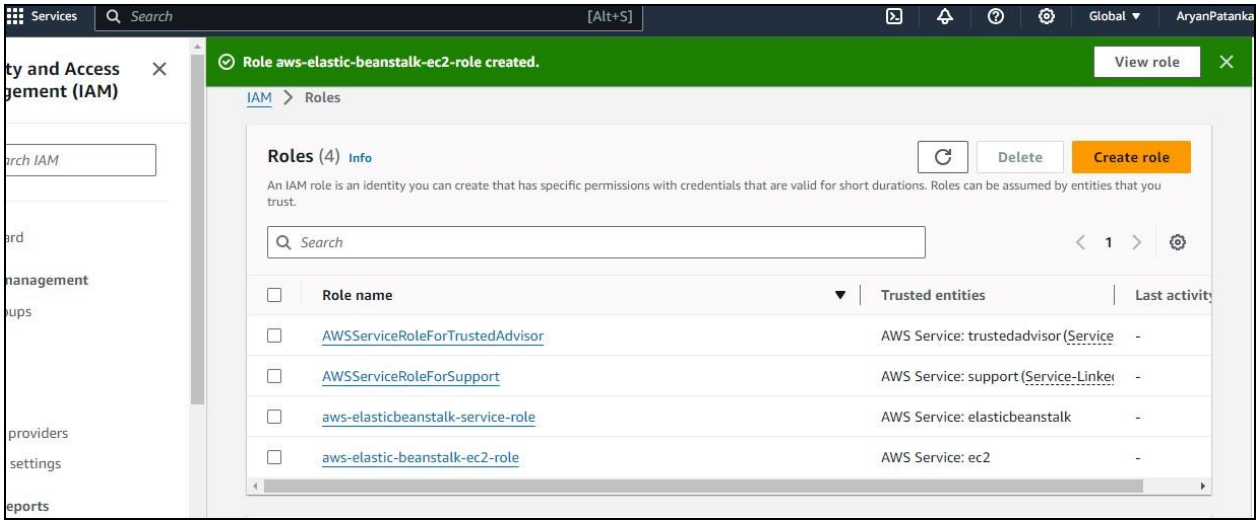


Step 6: Meanwhile,if a role is already not defined, then you need to create a new role for the elastic beanstalk and ensure there is a blue checkmark on the following three permissions given below.

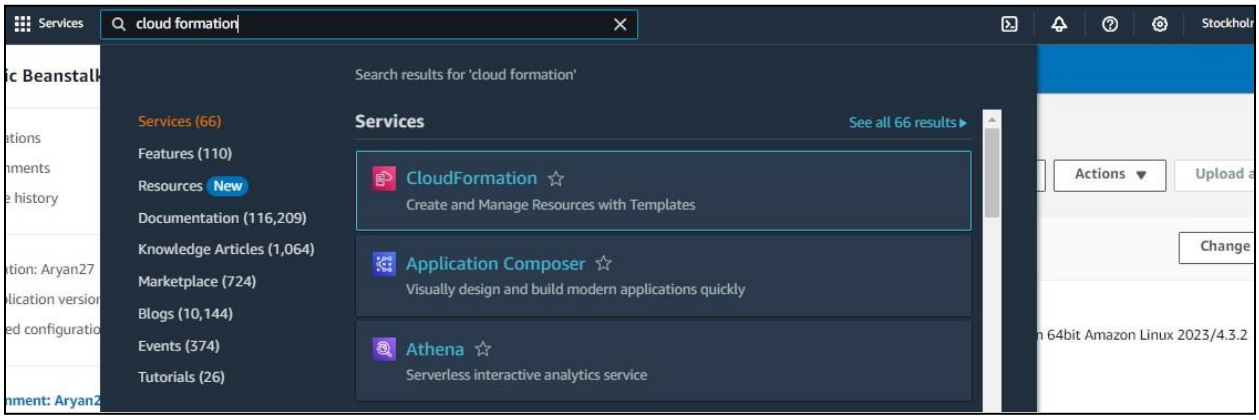


Step 7: Enter a role name and proceed.You would notice the role being successfully created after some time.

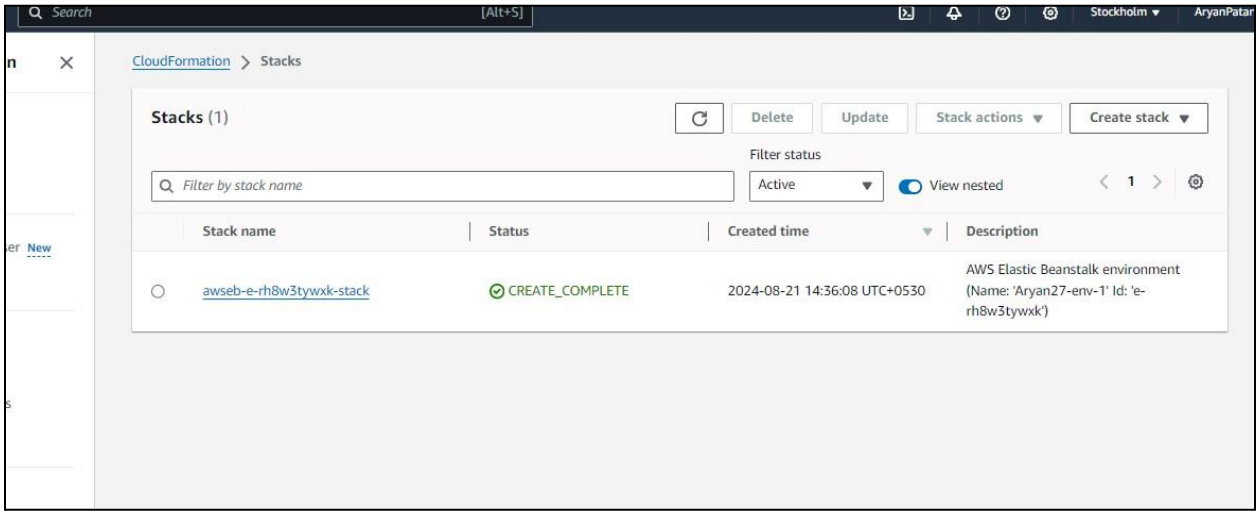


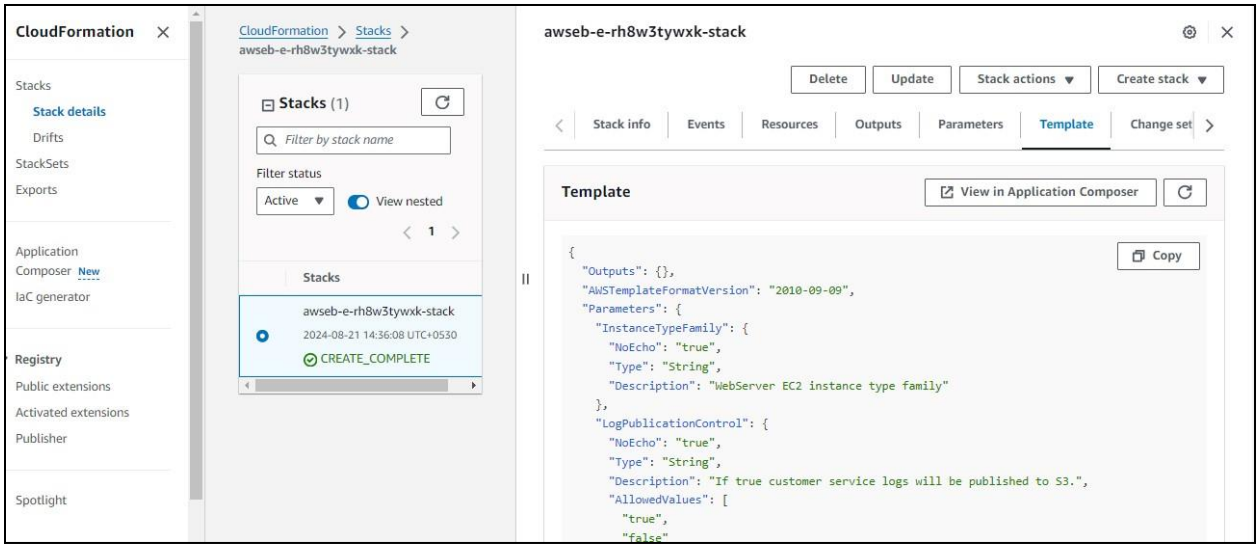


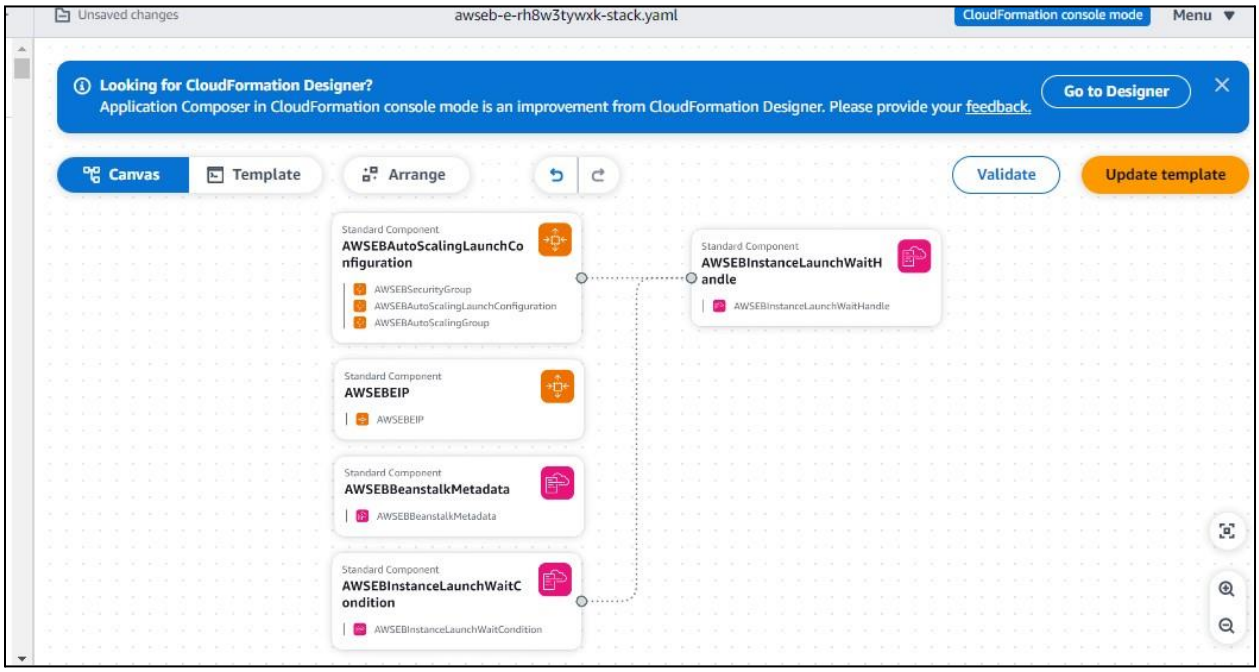
Step 8(optional):Search for CloudFormation as it helps you to manage AWS resources in a text file or a template.



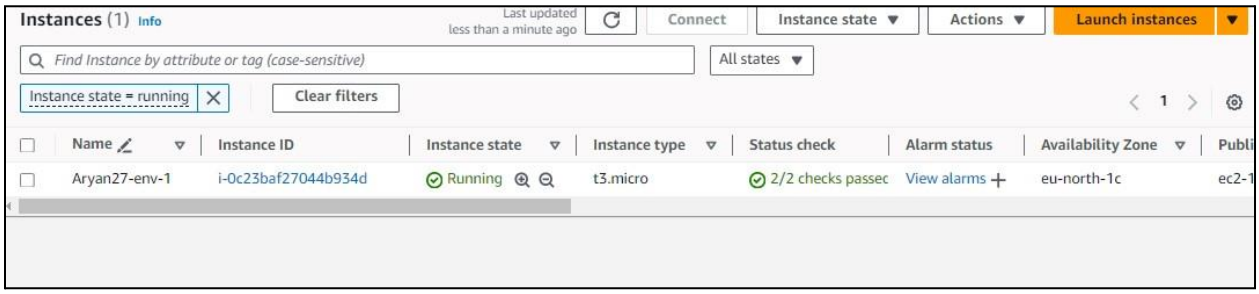
Here, the stacks option given below is a collection of AWS resources.



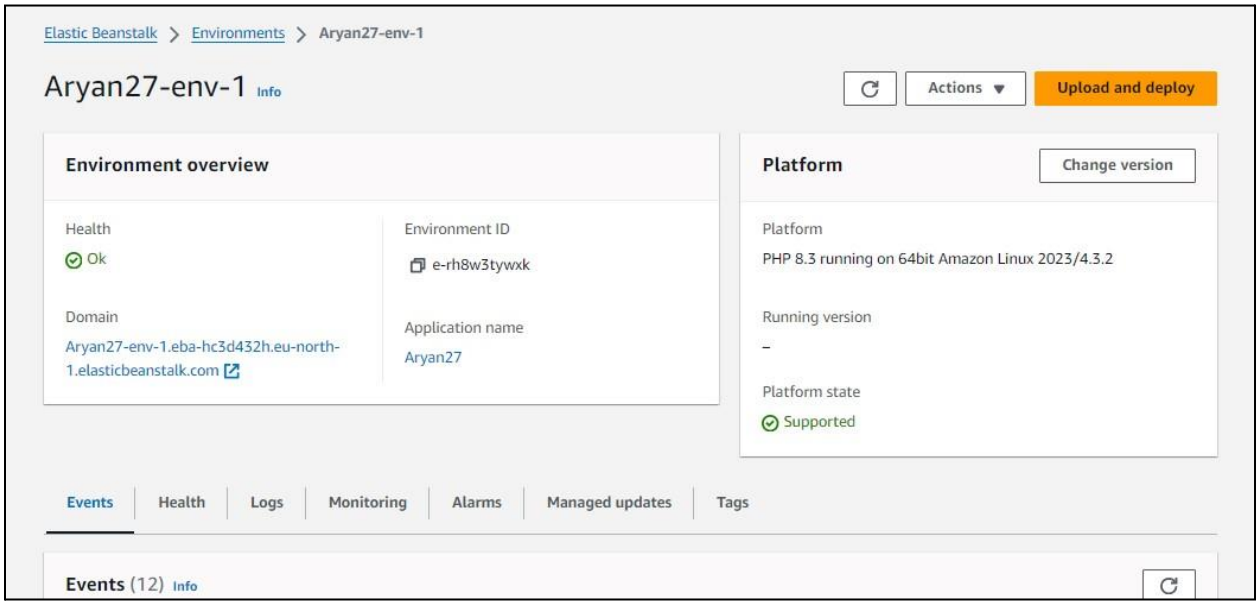


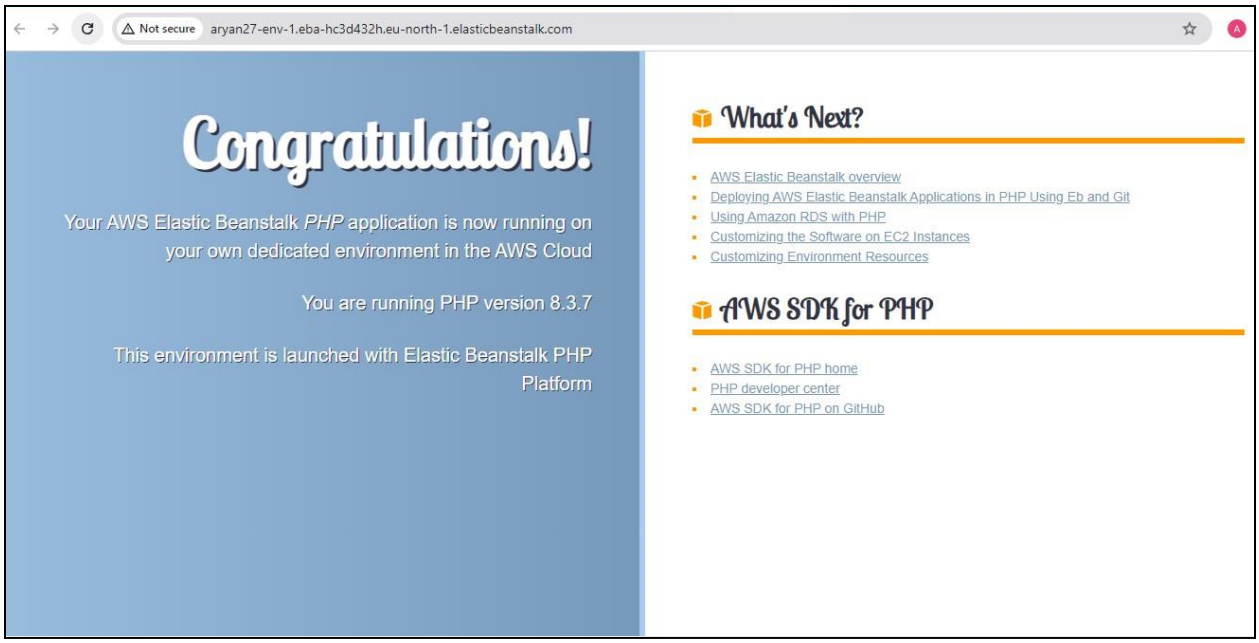


Step 9: Now,we search for EC2 in the services section and we notice that an instance of the Elastic Beanstalk app has already been created and it is running.

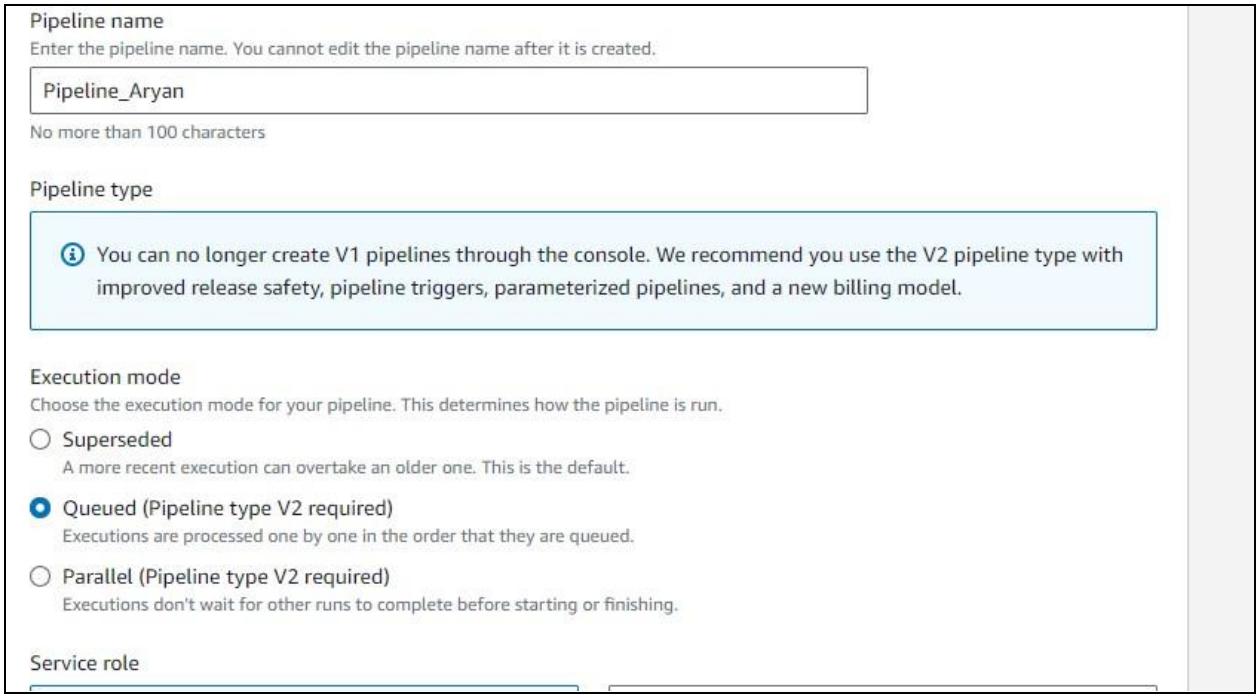


Step 10:Click on the domain link given below,after which we are redirected to a Congratulations page implying that our sample PHP application has been successfully hosted.

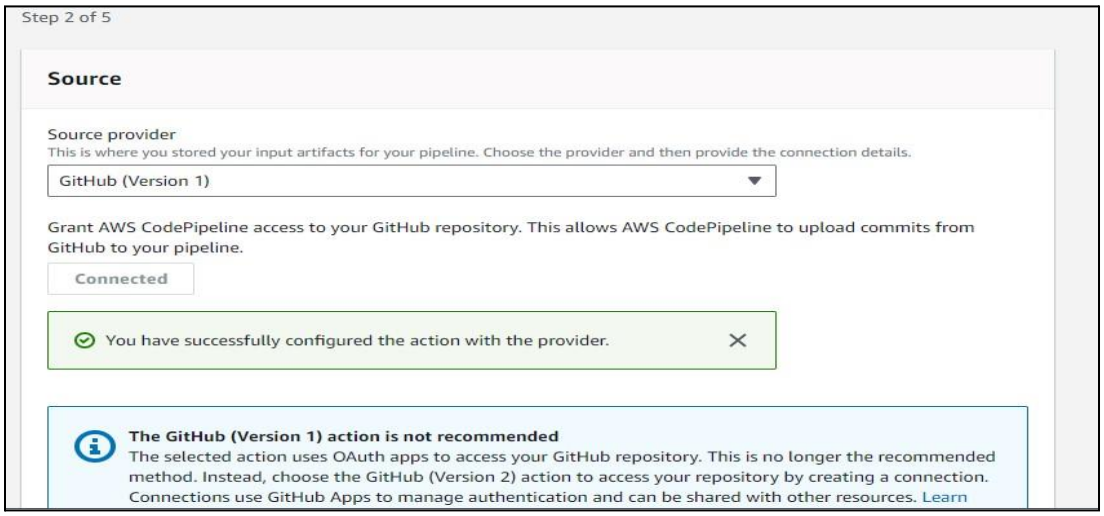


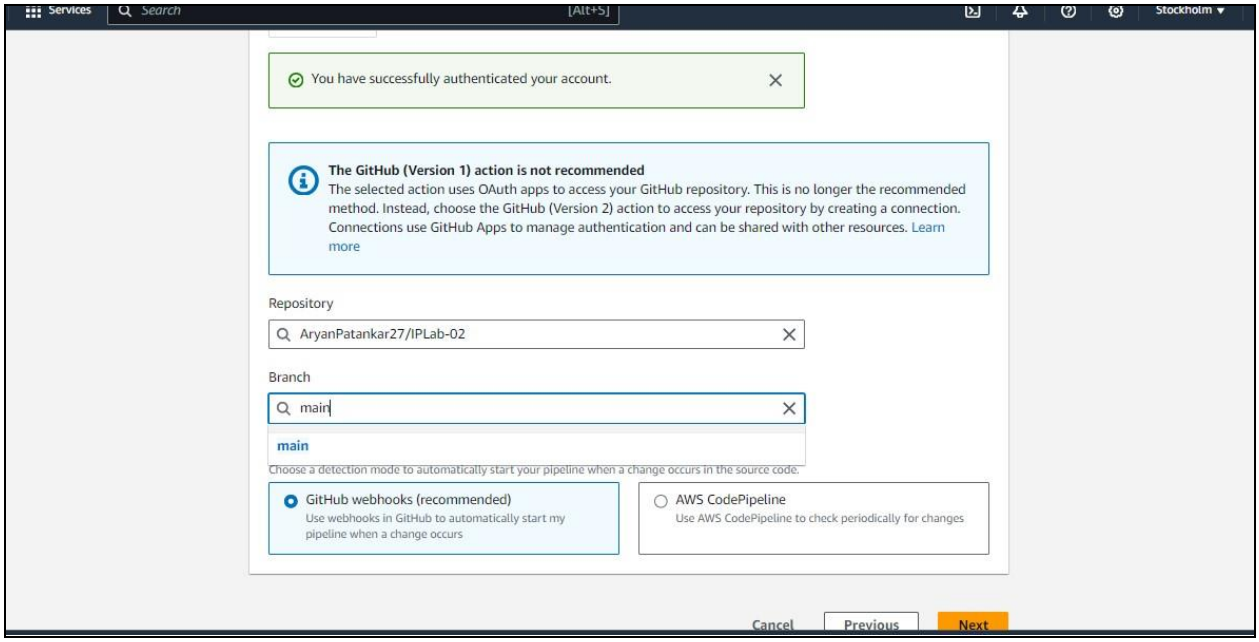


Step 11:Now,we will be deploying our website using CodePipeline,so follow all the steps given below and proceed.



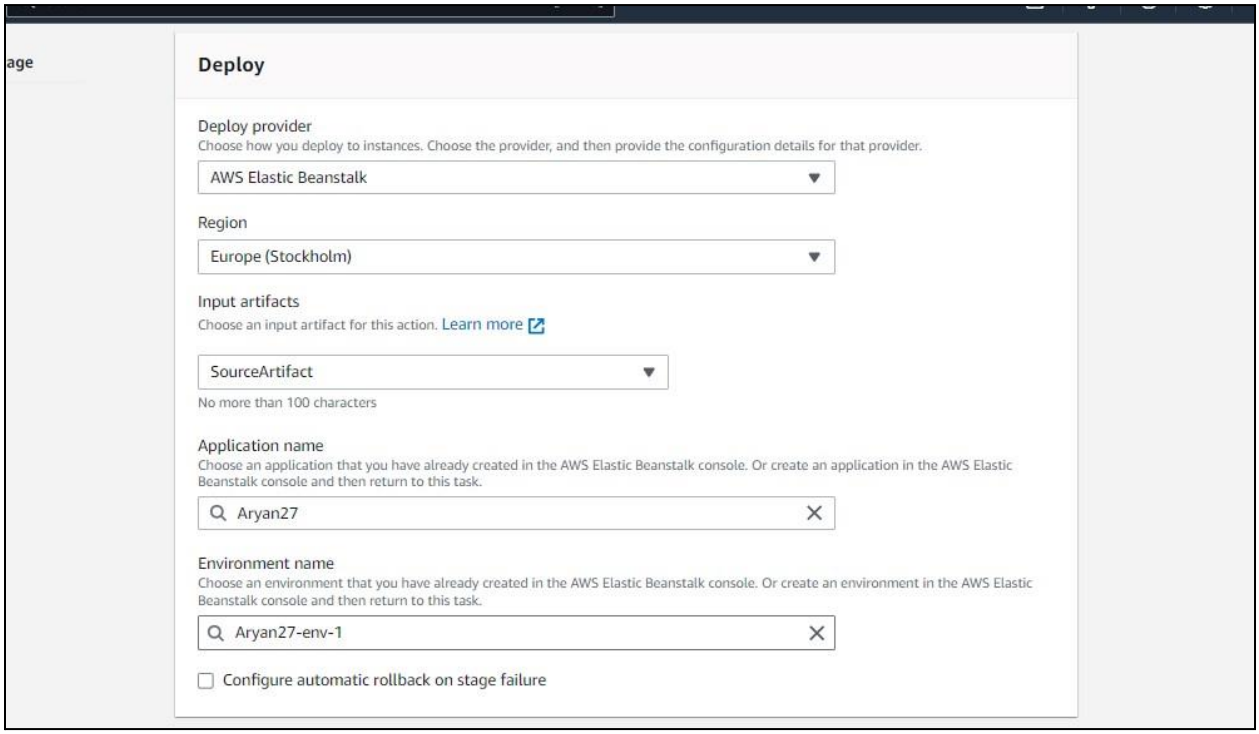
Step 12: In the source stage, choose GitHub v2 as the provider, then connect your GitHub account to
AWS by creating a connection. You'd need your GitHub credentials and then you'd need to authorize and install AWS on the forked GitHub Repository.

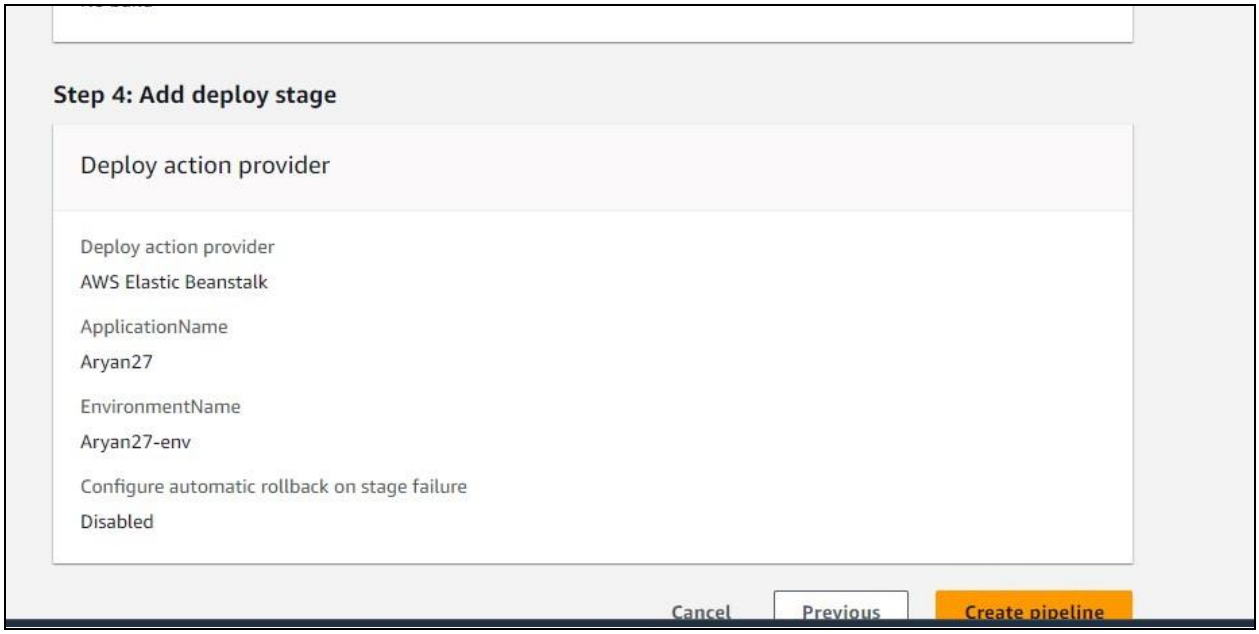




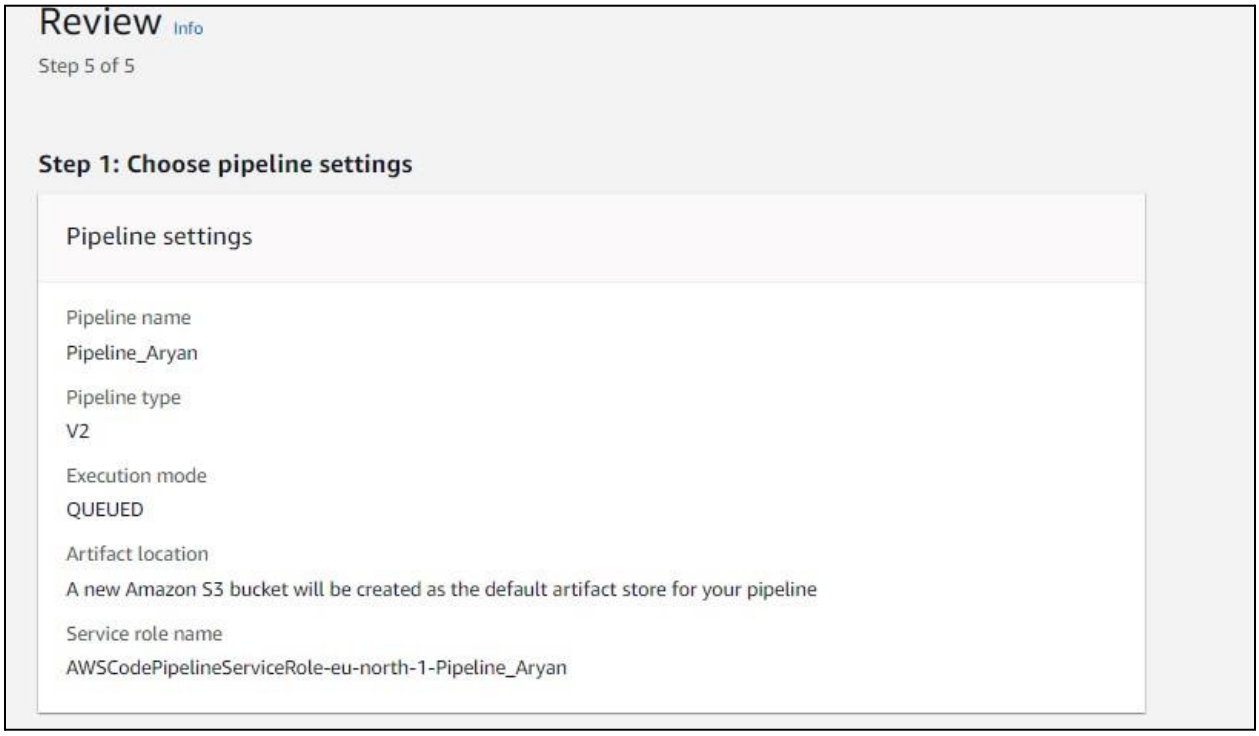
Then, simply choose this forked repository and the branch which you will be able to find in the search box. After that, click Continue and skip the build stage. Proceed to the Deployment stage.

Step 13: Choose Beanstalk as the Deploy Provider, same region as the Bucket and Beanstalk, name and environment name. Click Next, Review and create the pipeline.





Step 14: Review all the selected steps once.



Step 2: Add source stage

Source action provider

Source action provider
GitHub (Version 1)

PollForSourceChanges
false

Repo
IPLab-02

Owner
AryanPatankar27

Branch
main

Step 3: Add build stage

Build action provider

Build stage
No build

Step 4: Add deploy stage

Deploy action provider

Deploy action provider
AWS Elastic Beanstalk

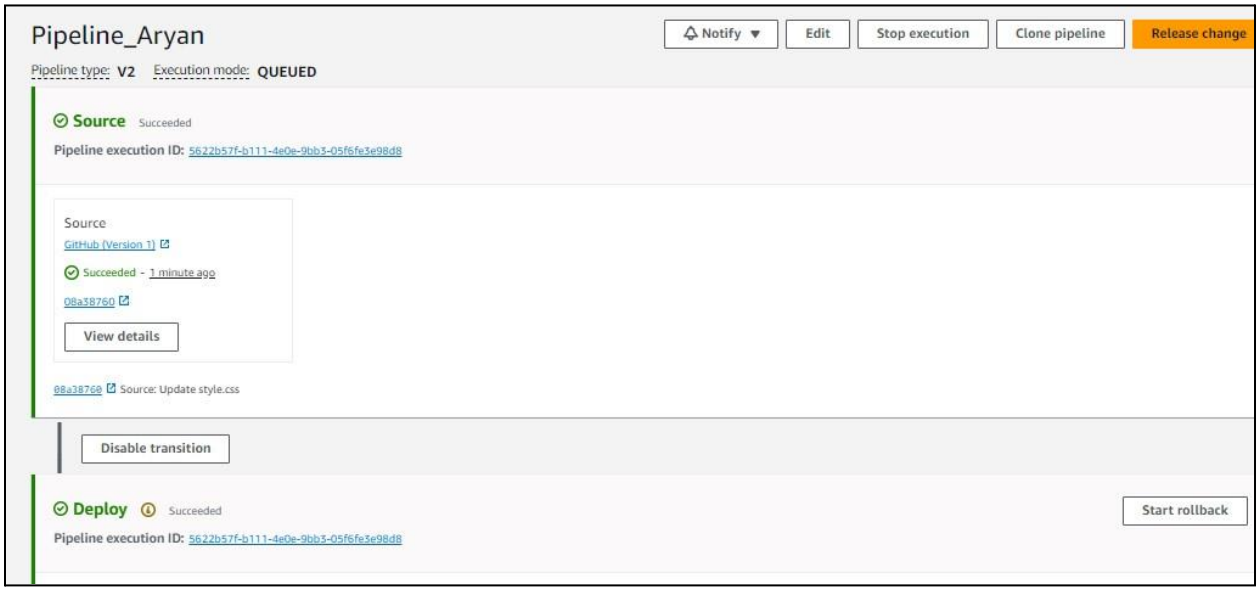
ApplicationName
Aryan27

EnvironmentName
Aryan27-env-1

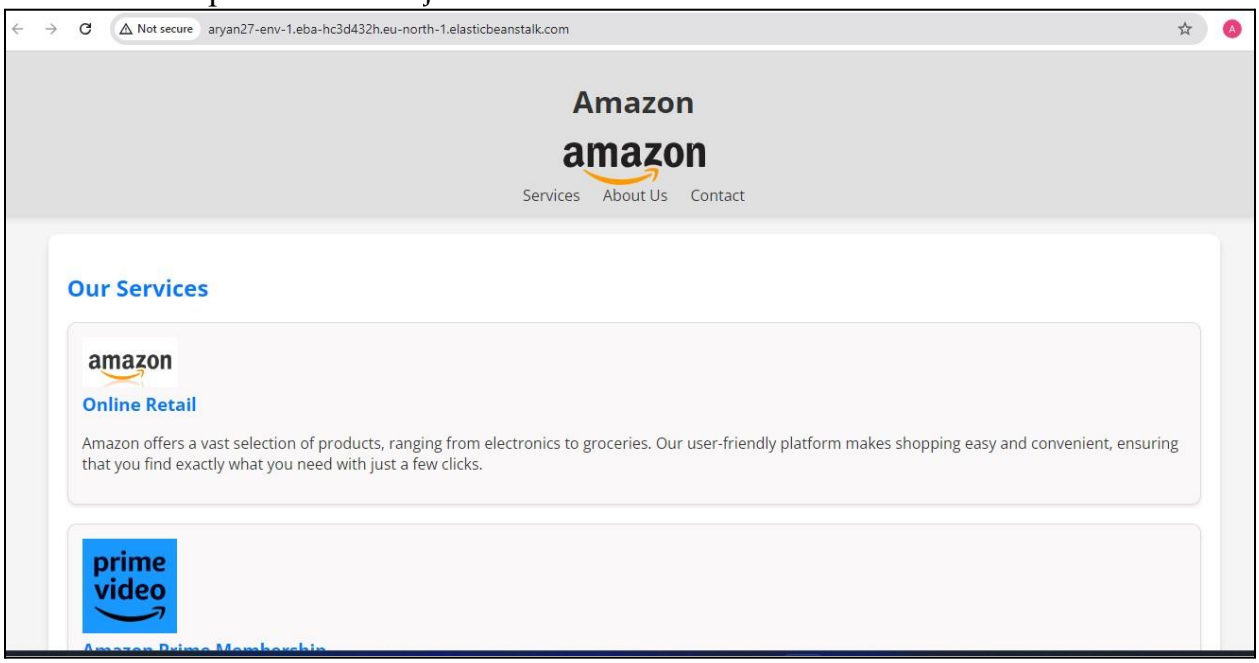
Configure automatic rollback on stage failure
Disabled

Cancel | Previous | Create pipeline

Step 15: In a few minutes, we will have our pipeline created. Once we have the success message on the
Deploy part, we can go ahead and check our URL provided in the EBS environment.



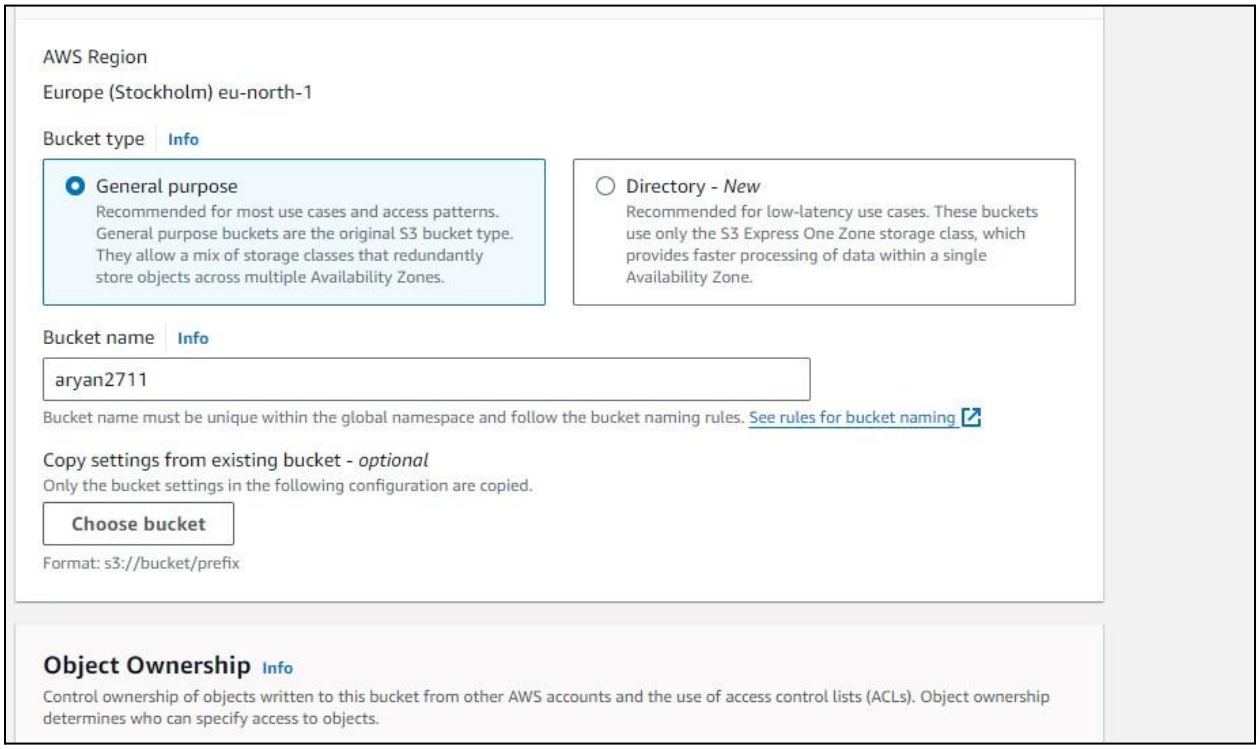
This is the sample website we just created.

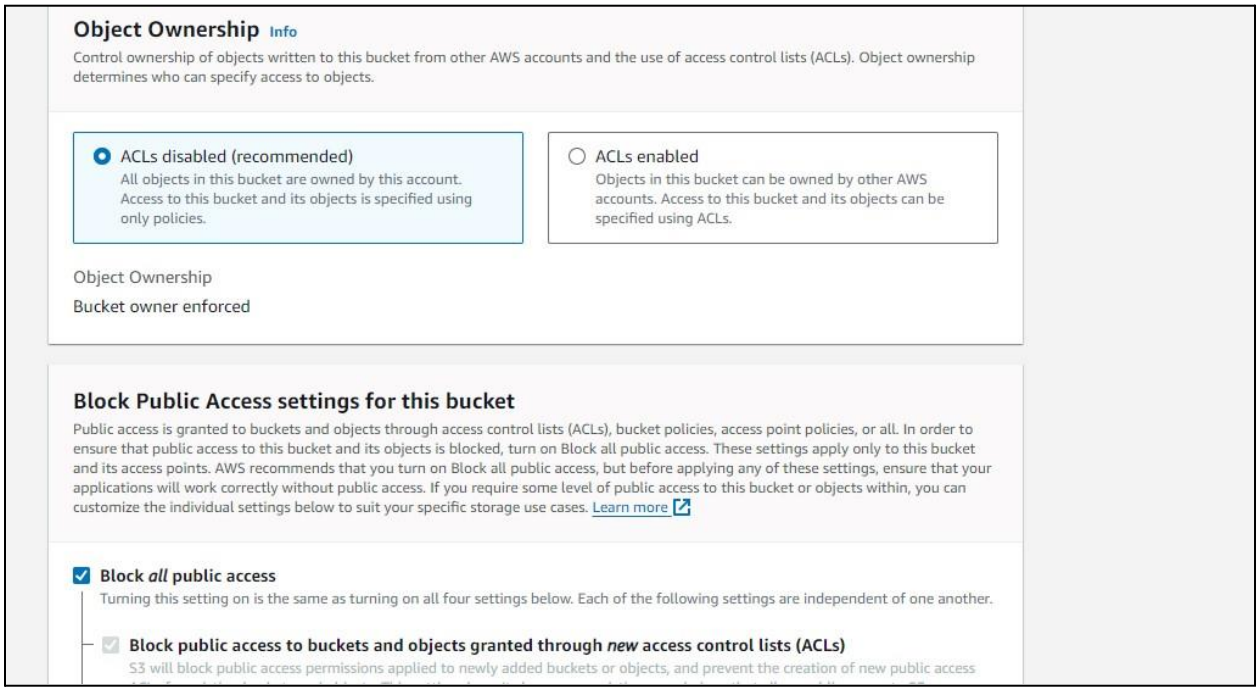


If you can see this, that means that you successfully created an automated software using CodePipeline.

Using S3 Bucket

Step 16: Now, we will be deploying our website using the S3 bucket.So proceed with the options as given below.





Encryption type Info

- Server-side encryption with Amazon S3 managed keys (SSE-S3)
- Server-side encryption with AWS Key Management Service keys (SSE-KMS)
- Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)

Secure your objects with two separate layers of encryption. For details on pricing, see **DSSE-KMS pricing** on the **Storage** tab of the Amazon S3 pricing page.

Bucket Key

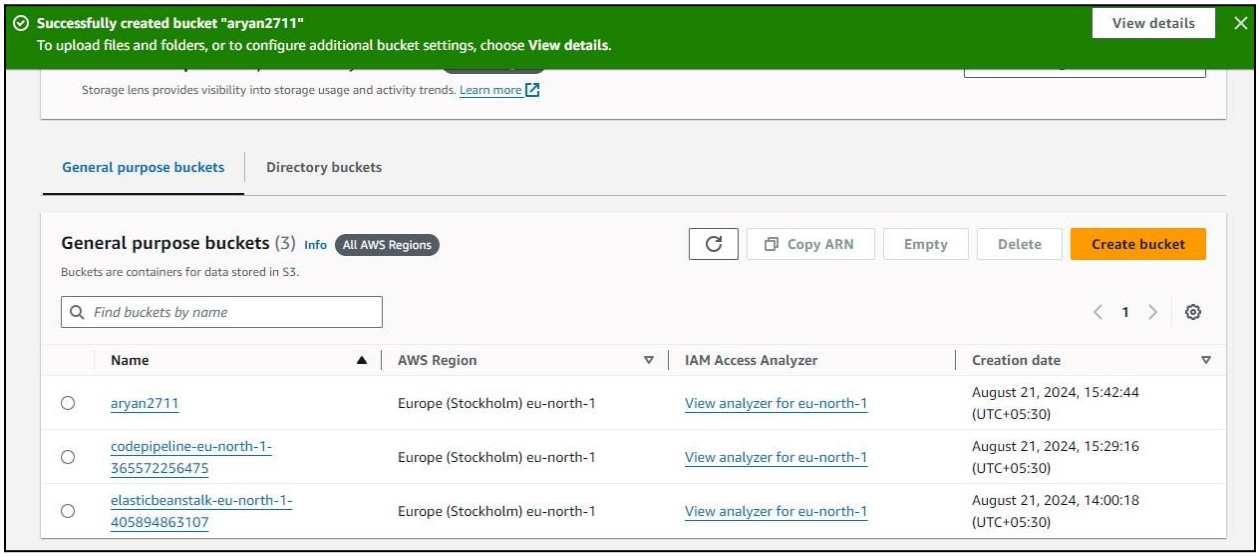
Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. Learn more

- Disable
- Enable

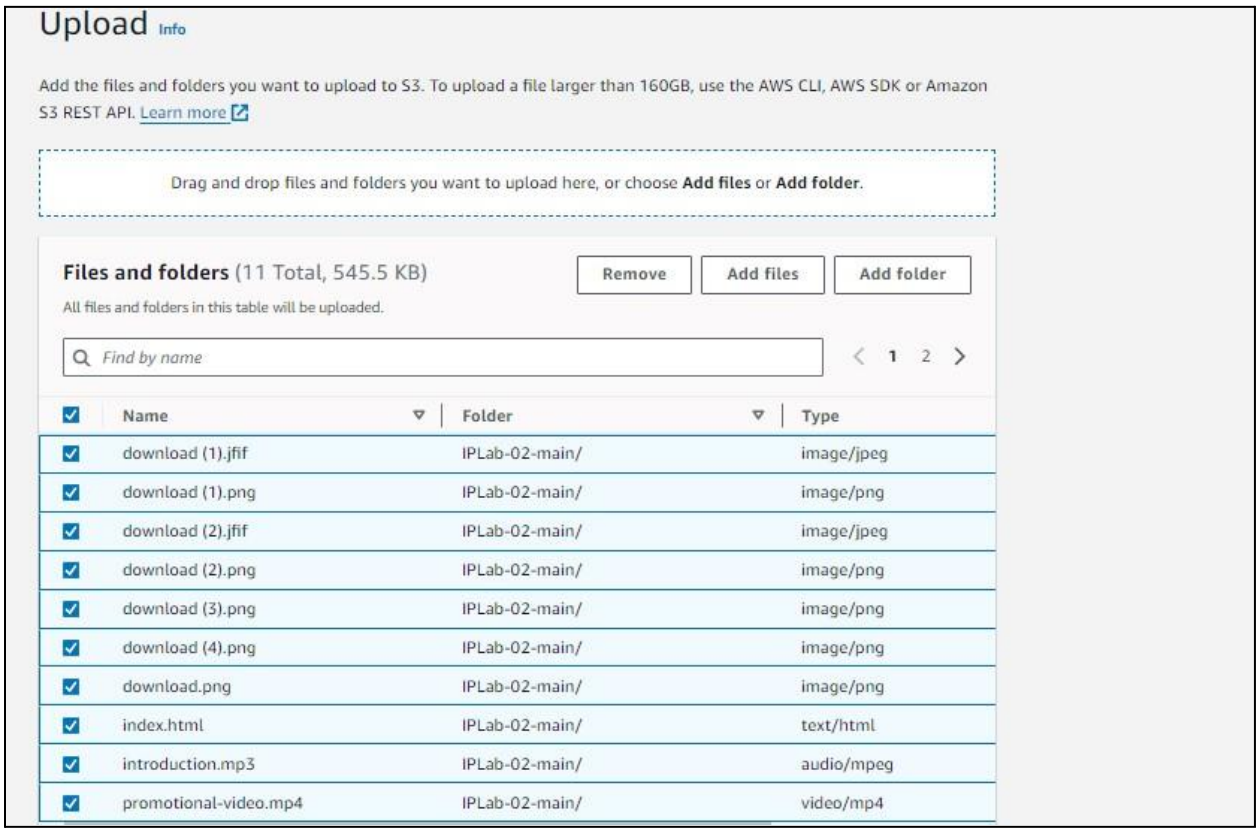
▶ **Advanced settings**

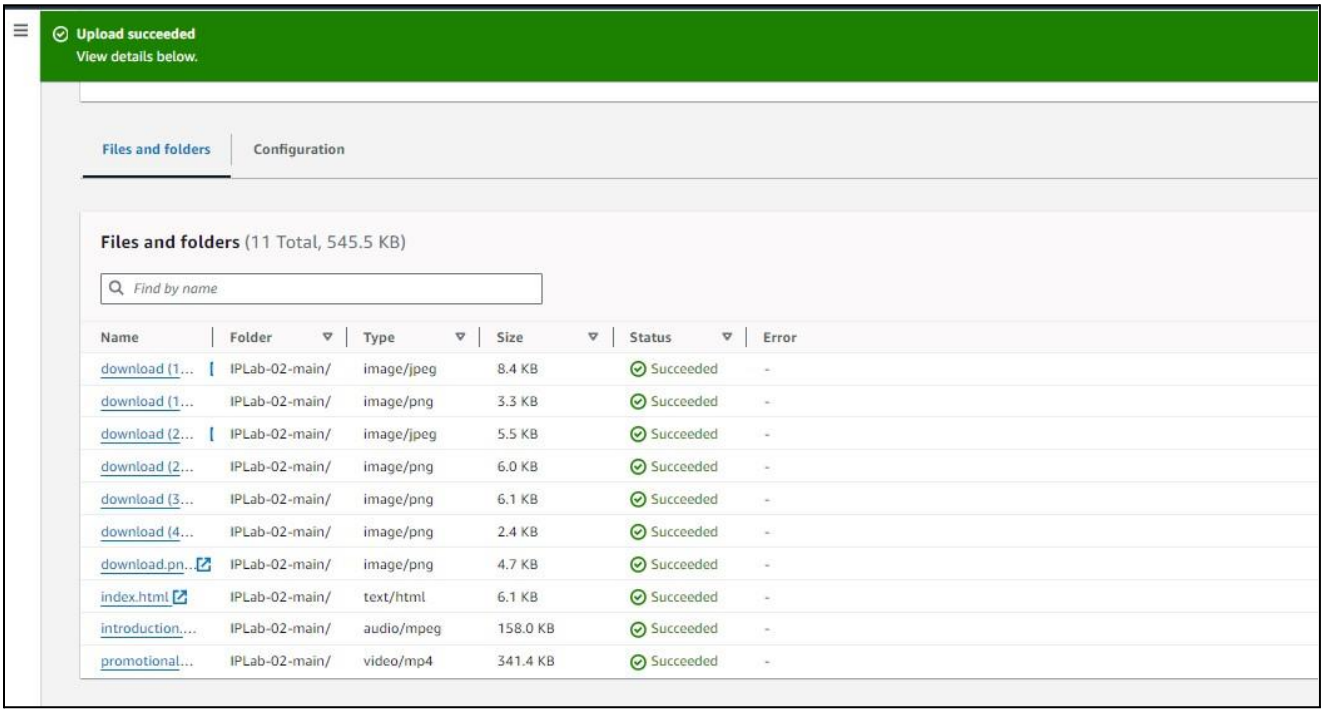
After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.

Cancel | Create bucket

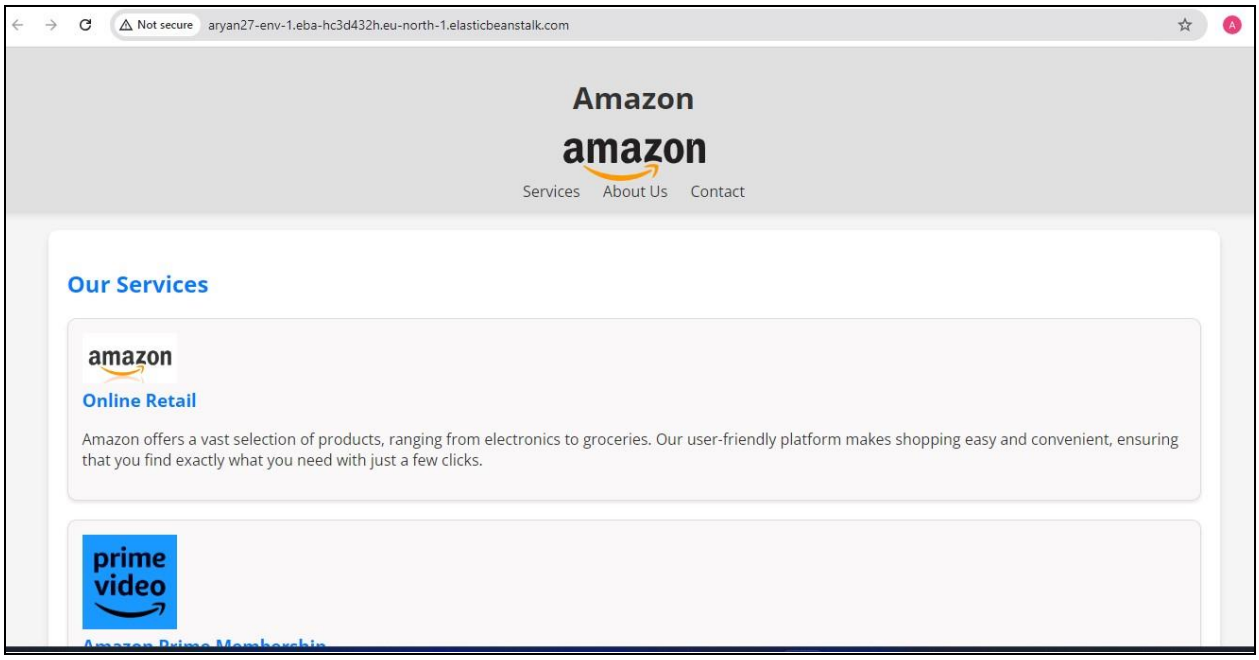


Step 17: Upload all the files that you want on your website that is to be hosted.





Step 18: Here,if the upload of files is successful you would get the following page,meaning your website has been successfully hosted using the S3 bucket.


Not secure
aryan27-env-1.eba-hc3d432h.eu-north-1.elasticbeanstalk.com
Amazon
amazon
Services
About Us
Contact
Our Services
amazon
Online Retail
Amazon offers a vast selection of products, ranging from electronics to groceries. Our user-friendly platform makes shopping easy and convenient, ensuring that you find exactly what you need with just a few clicks.
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