Hello Friends today I will deploy a Java Sample Application in AWS Elastic Beanstalk. Lets start and get the basic understanding of Elastic Beanstalk and later we will deploy a sample application.

Deploy and scale web applications.

Elastic Beanstalk is a service for deploying and scaling web applications and services. Upload your code and Elastic Beanstalk automatically handles the deployment — from capacity provisioning, load balancing, and auto scaling to application health monitoring.

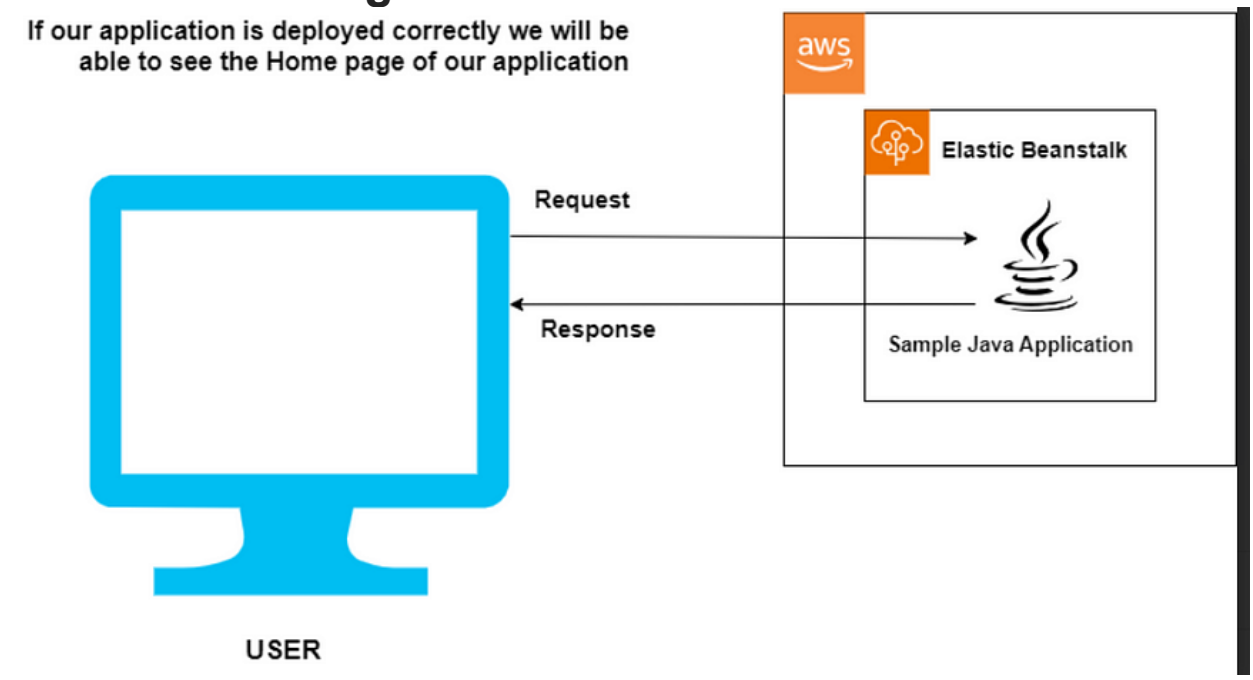
Elastic Beanstalk allows you to deploy and manage your application in Cloud with agility. You don’t have to worry about the underlying infrastructure which is needed to run the application.

We can deploy the application in any of the following programming languages like Go, Java, .NET, Node.js, PHP, Python, and Ruby.

You can interact with Elastic Beanstalk app with CLI, Elastic Beanstalk console.

Given below is the Architecture Diagram of our Java Application.

Architecture Diagram



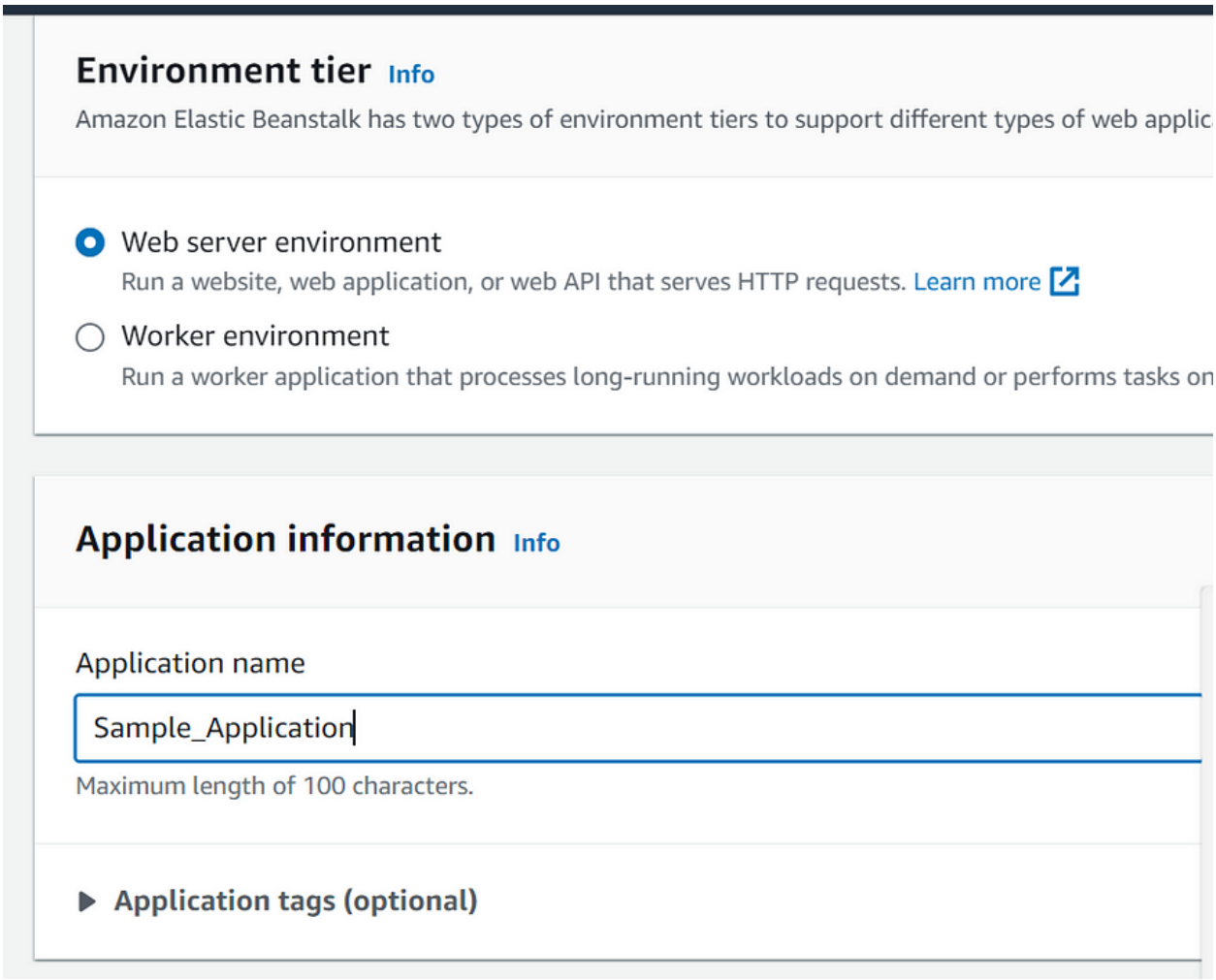
To create a Sample Application, follow the steps given below:

Step 1. Open[Elastic Beanstalk console](#).

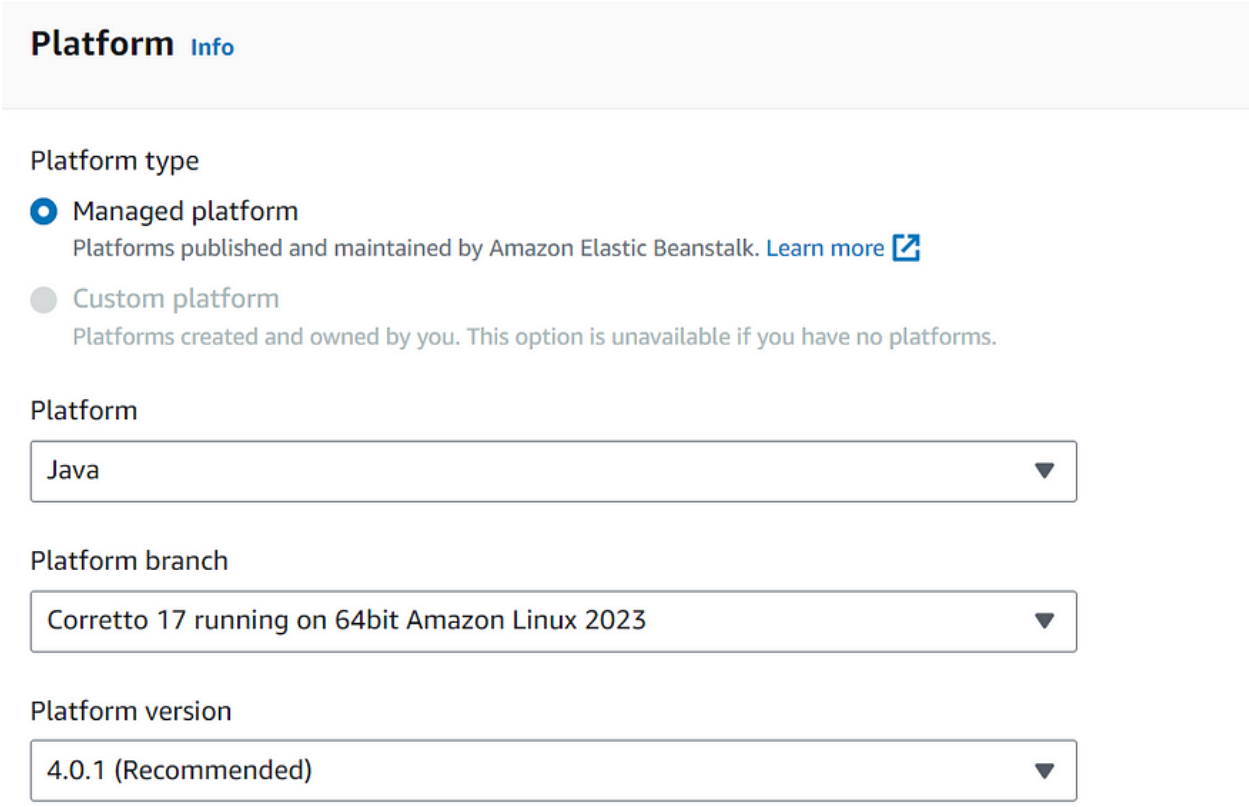
Step 2. Choose **Create application**

i) Choose **Web Server environment** under Configure Environment

ii) Give name as **Sample-Application**



iii) Under Platform choose **Java**



iv) Scroll down and click **Next** button 👉

Step 3. In **Configure Service Access**

i) Service role: **Create and use new service role**

ii) Ec instance profile : **EC2_Role**

**Service access == IAM roles, assumed by Elastic Beanstalk as a service role, and EC2 instance profiles allow Elastic Beanstalk to create and manage your environment. Both the IAM role and instance profile must be attached to IAM managed policies that contain the required permissions.

Service role

- (●) Create and use new service role
- ( ) Use an existing service role

Service role name

Enter the name for an IAM role that Elastic Beanstalk will create to assume as a service role. Beanstalk will attach the required managed policies to it.

aws-elasticbeanstalk-service-role

View permission details

EC2 key pair

Select an EC2 key pair to securely log in to your EC2 instances. Learn more

Choose a key pair

EC2 instance profile

Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.

EC2_Role

View permission details

Click on **Next** ☞

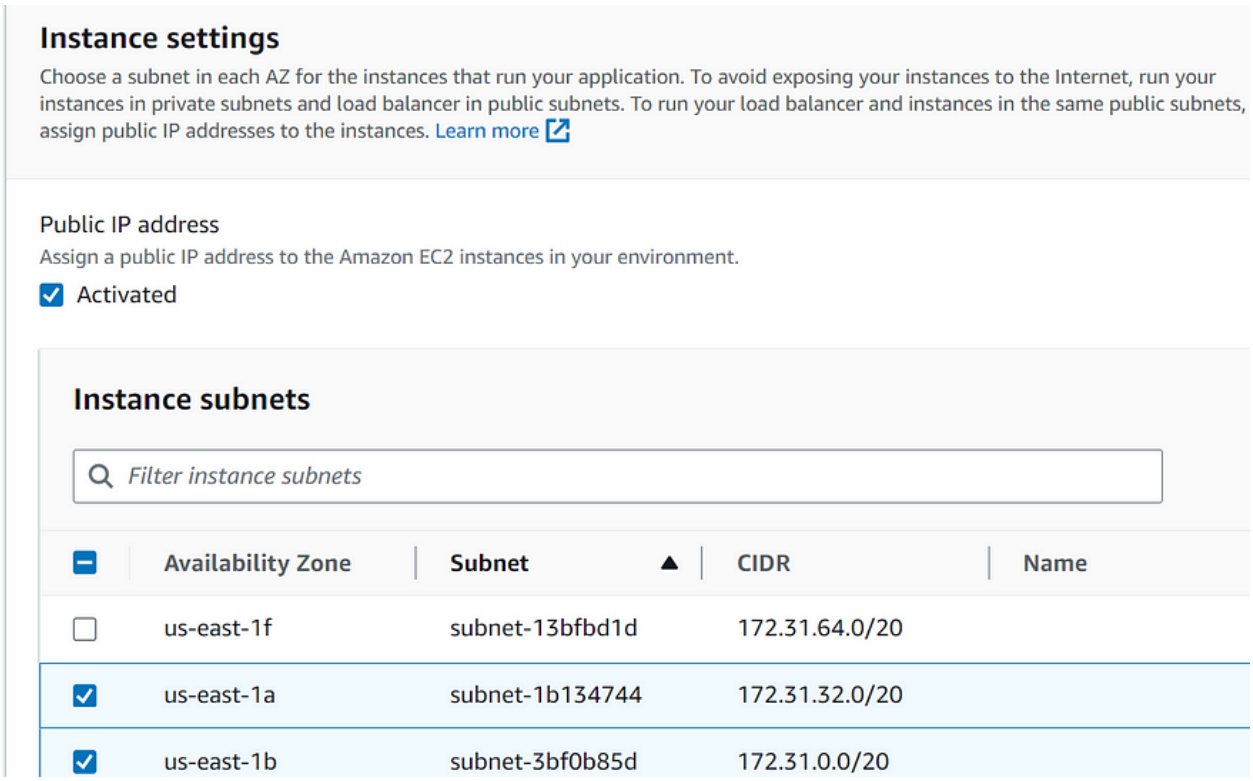
Step 4 . To set up **Networking, database and tags**

i) VPC : Select Default VPC

ii) Check the Public IP address checkbox .

iii) Check the us-east-1a and us-east-1b subnets checkbox under Instance subnets.

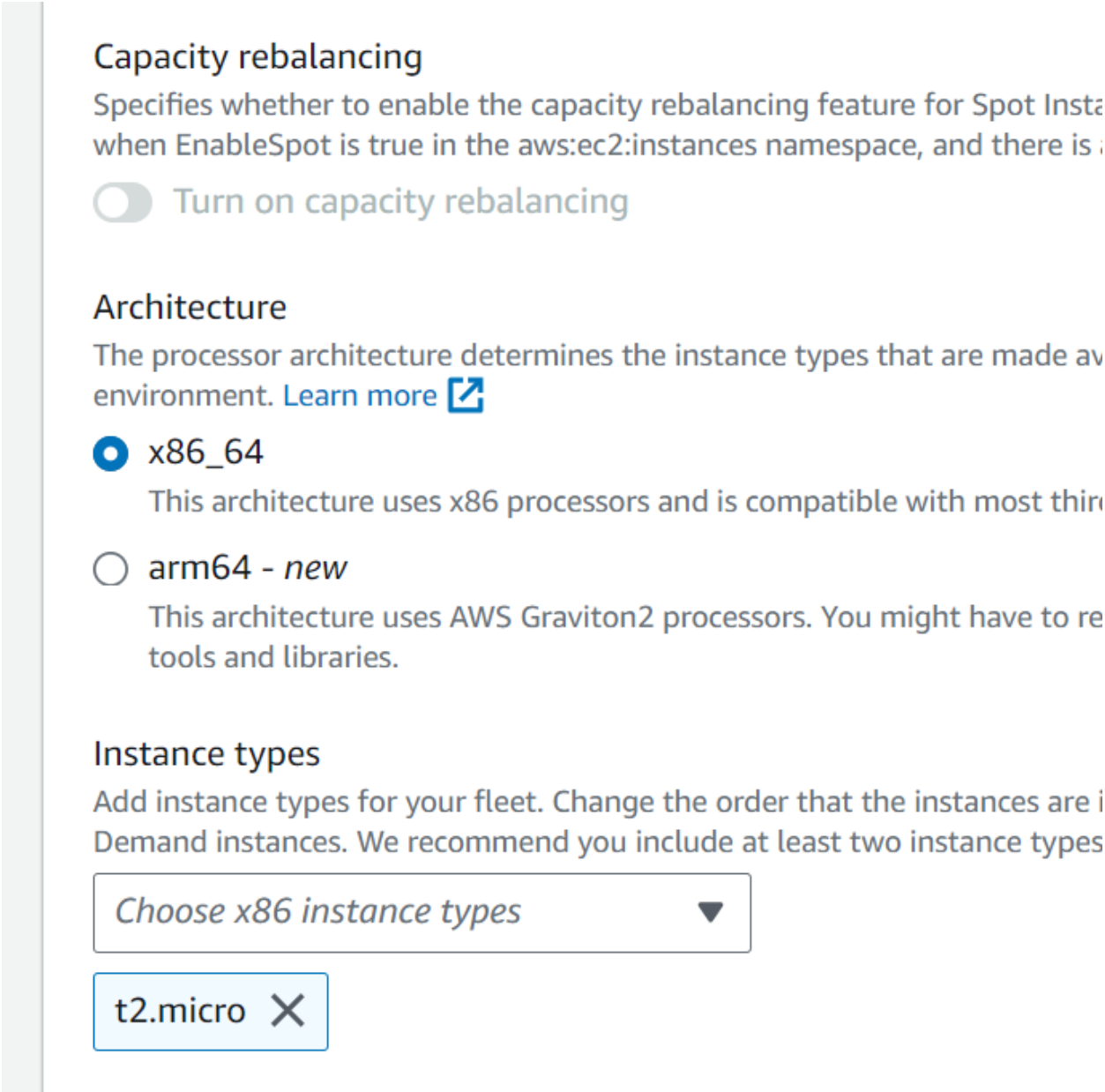
Keep the database and tags settings as default



iv) Keep the rest things as default and click on **Next**

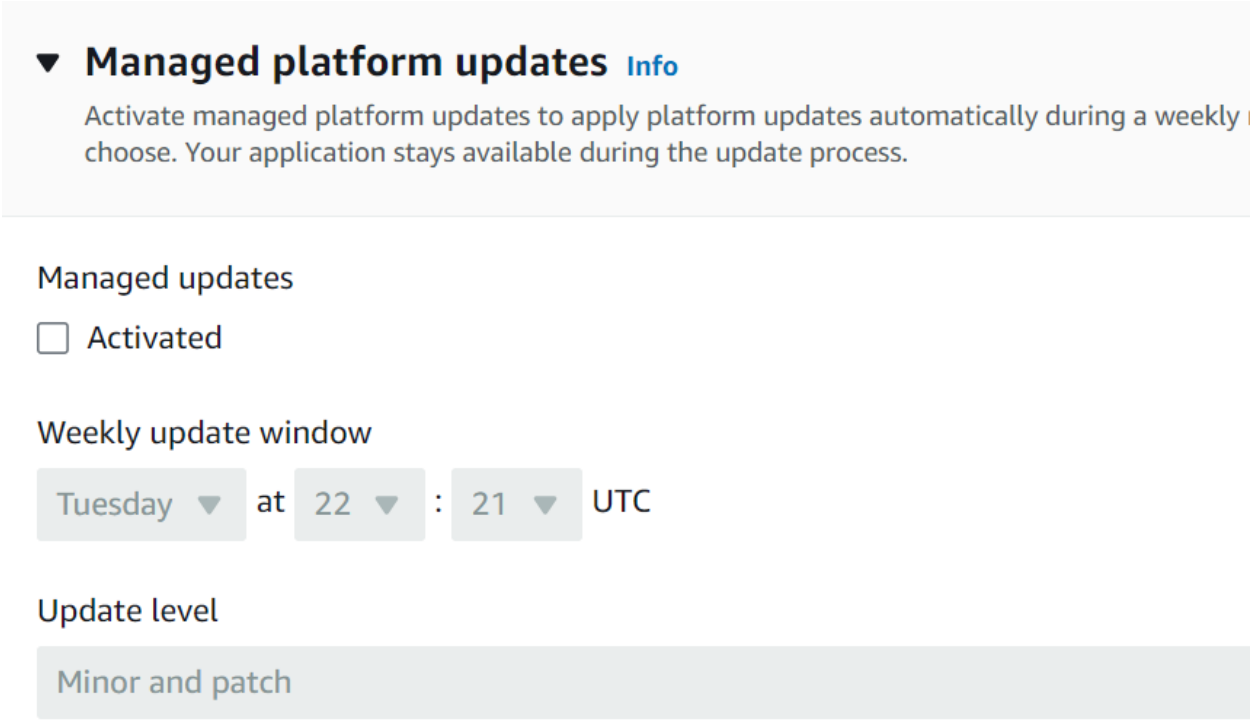
Step 5. To Configure instance traffic and scaling :

i) Scroll Down to capacity section and Under Instance Types, remove the existing instance types and select t2.micro from the drop-down.



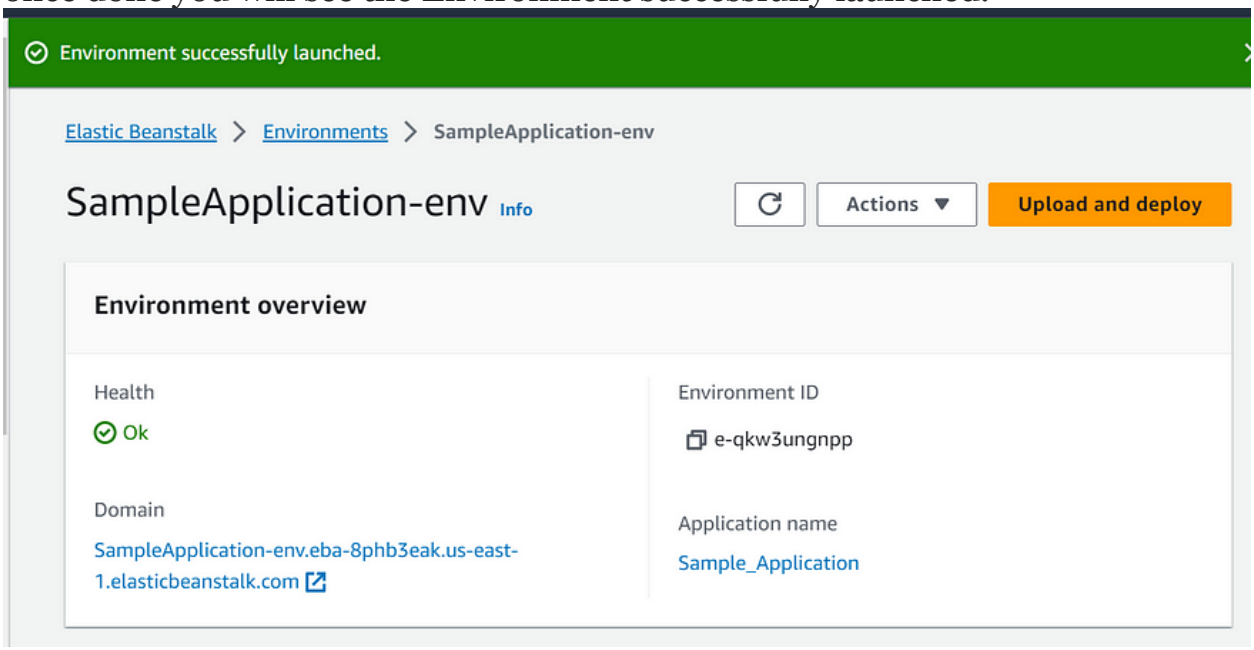
Step 6. Uncheck the Activated under **Managed platform updates**

Keep the remaining settings as default in this page.

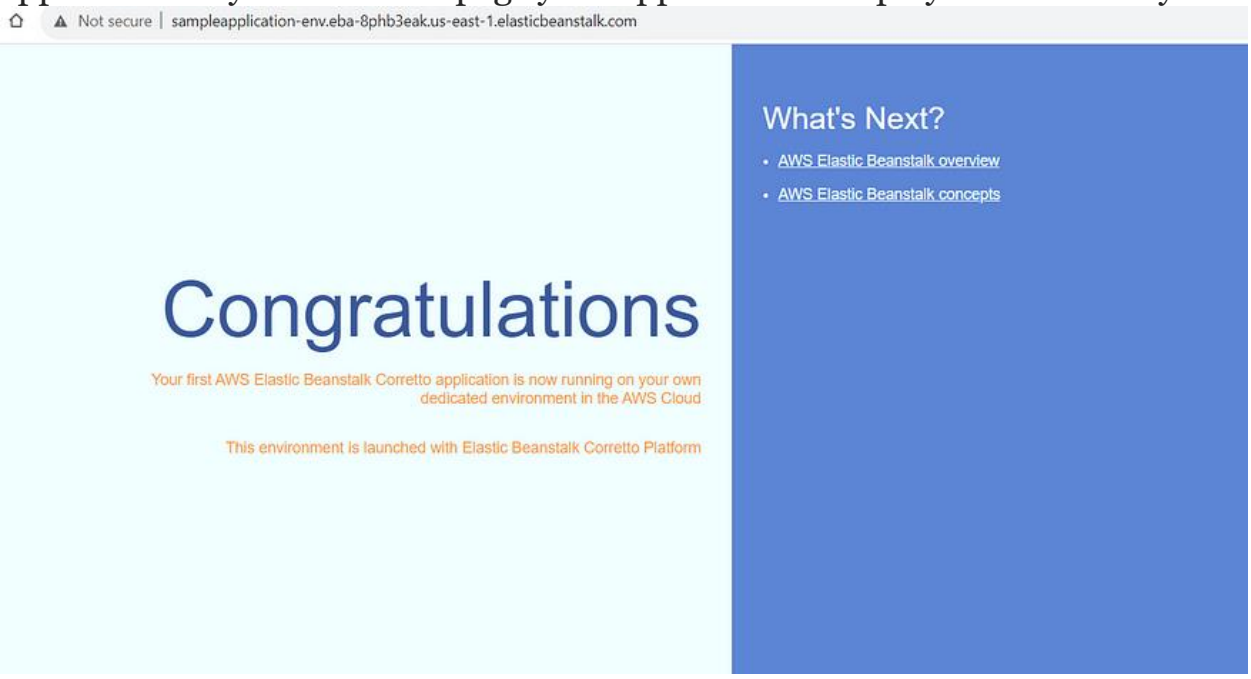


Step 7. The review page displays the summary of all your choices.

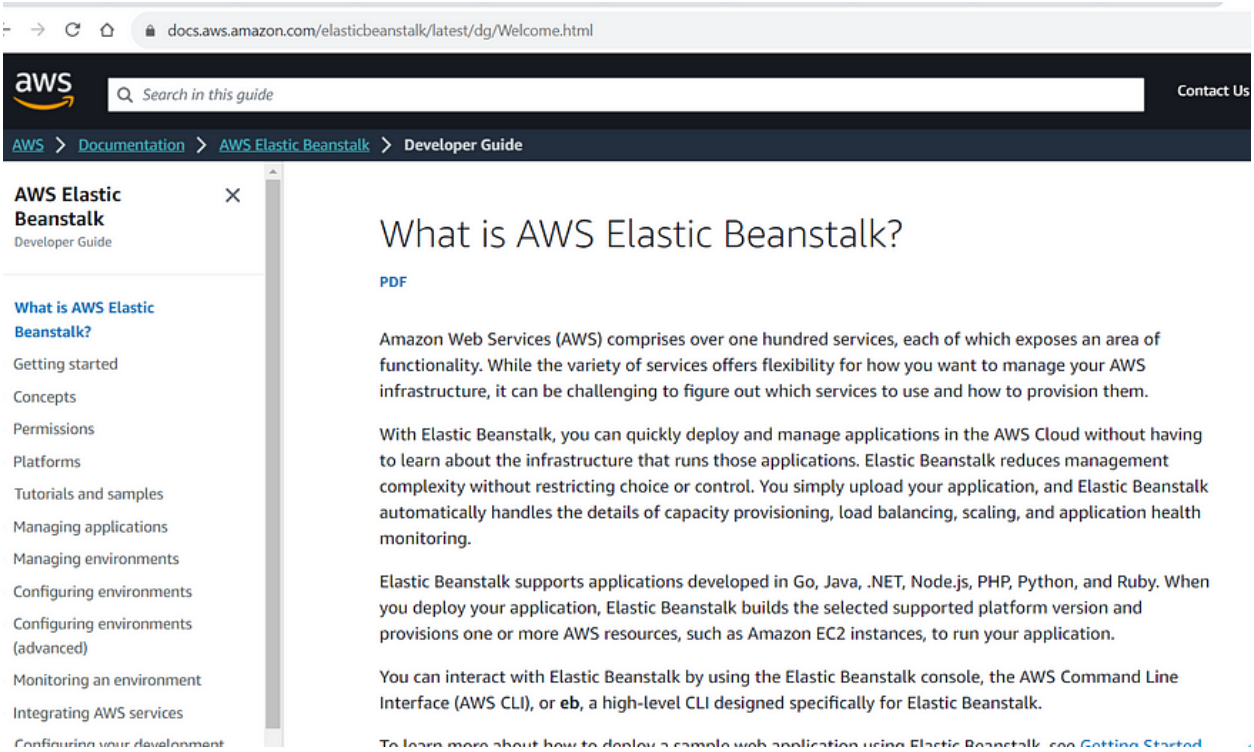
Step 8. Choose **Submit,** it will take few minutes to deploy the application and once done you will see the Environment successfully launched.



You will see the Domain , copy it and paste in another browser to test your application. If you the below page your application is deployed successfully.



If you click on the link given the Right panel you will be redirected to AWS Elastic Beanstalk overview page.



Following resources are created when the Sample application is created in Elastic Beanstalk.

- **EC2 instance** — An Amazon EC2 virtual machine configured to run web apps on the platform you choose.
- Each platform runs a different set of software, configuration files, and scripts to support a specific language version, framework, web container, or combination thereof. Most platforms use either Apache or nginx as a reverse proxy that processes web traffic in front of your web app, forwards requests to it, serves static assets, and generates access and error logs.

- **Instance security group** — An Amazon EC2 security group configured to allow incoming traffic on port 80. This resource lets HTTP traffic from the load balancer reach the EC2 instance running your web app. By default, traffic is not allowed on other ports.

- **Amazon S3 bucket** — A storage location for your source code, logs, and other artifacts that are created when you use Elastic Beanstalk.

- **Amazon CloudWatch alarms** — Two CloudWatch alarms that monitor the load on the instances in your environment and are triggered if the load is too high or too low. When an alarm is triggered, your Auto Scaling group scales up or down in response.

- **AWS CloudFormation stack** — Elastic Beanstalk uses AWS CloudFormation to launch the resources in your environment and propagate configuration changes. The resources are defined in a template that you can view in the AWS CloudFormation console.

- **Domain name** — A domain name that routes to your web app in the form `subdomain`.`region`.*elasticbeanstalk.com*.