

# EXPERIMENT-11

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## **Q1) What is AWS Elastic Beanstalk?**

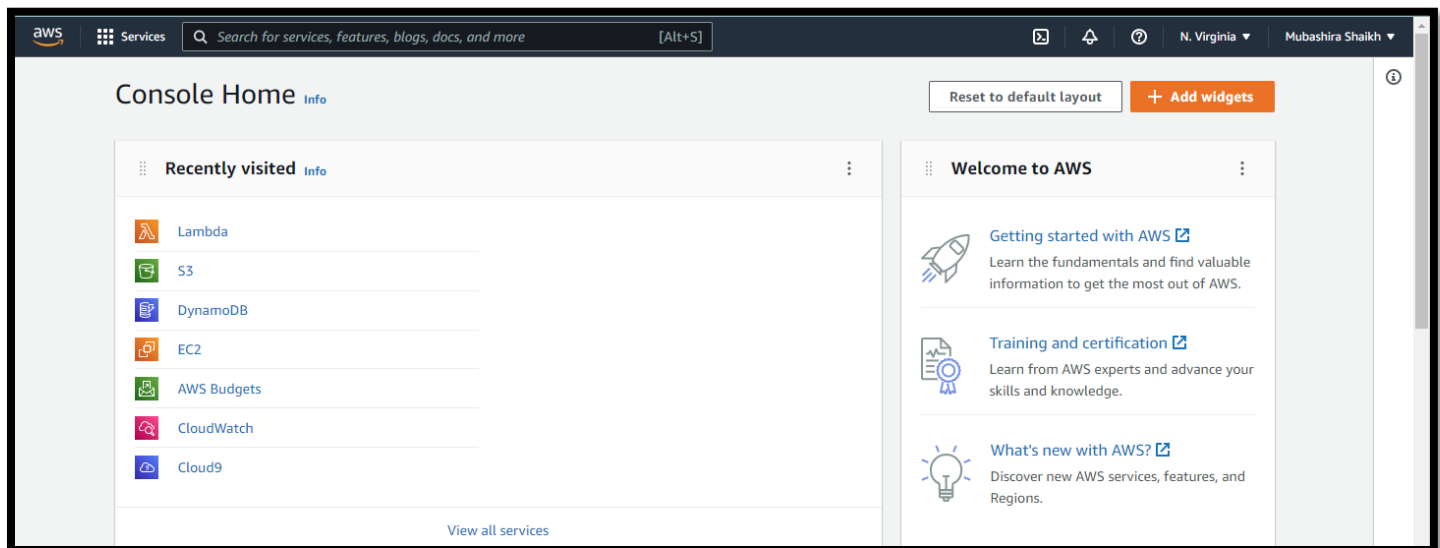
- Amazon Elastic Beanstalk is a web infrastructure management service. It handles deployment and scaling for web applications and services.
- Elastic Beanstalk can automatically manage setup, configuration, scaling and provisioning for other AWS services.
- AWS services that can be automatically manage include Amazon EC2 (Elastic Compute Cloud), Amazon S3 (Simple Storage Service), AWS RDS (Relational Database Service), Amazon DynamoDB, and Amazon SimpleDB.

## **Q2) Who should use AWS Elastic Beanstalk?**

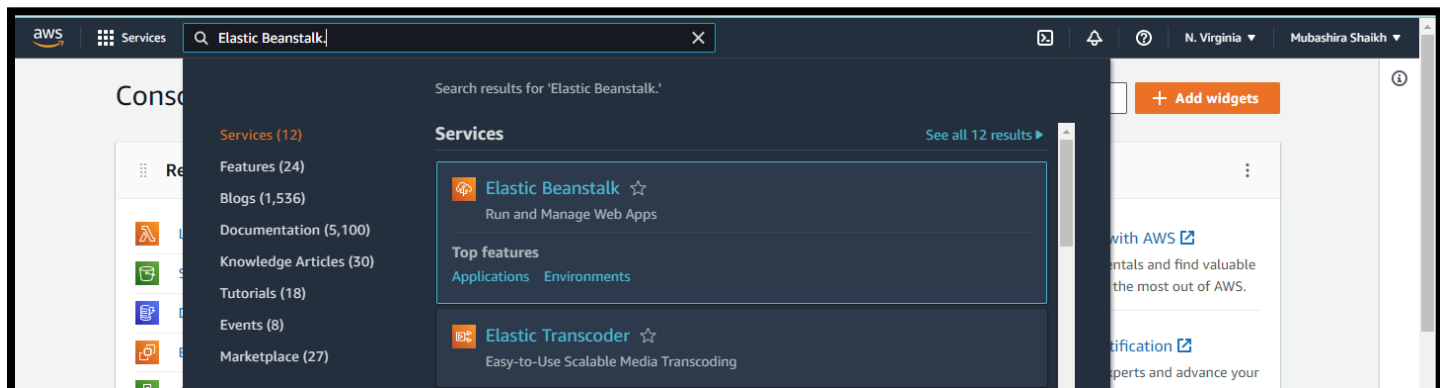
➔ Those who want to deploy and manage their applications within minutes in the AWS Cloud. You don't need experience with cloud computing to get started. AWS Elastic Beanstalk supports Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker web applications.

## **Q3) Deploy a web Application[ any language] using AWs Elastic beanstalk.**

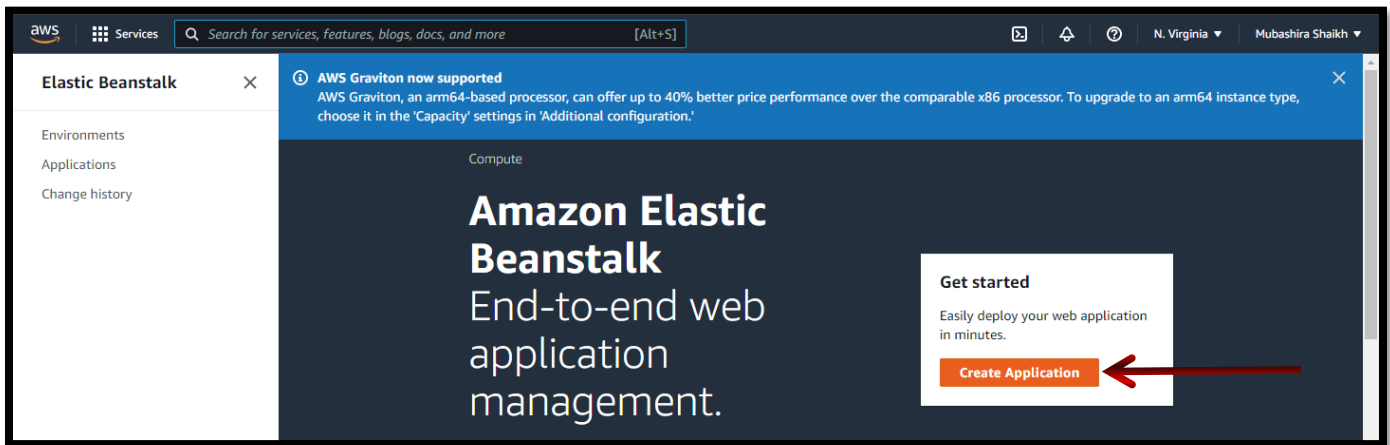
### **Step 1: AWS Management Console Dashboard.**



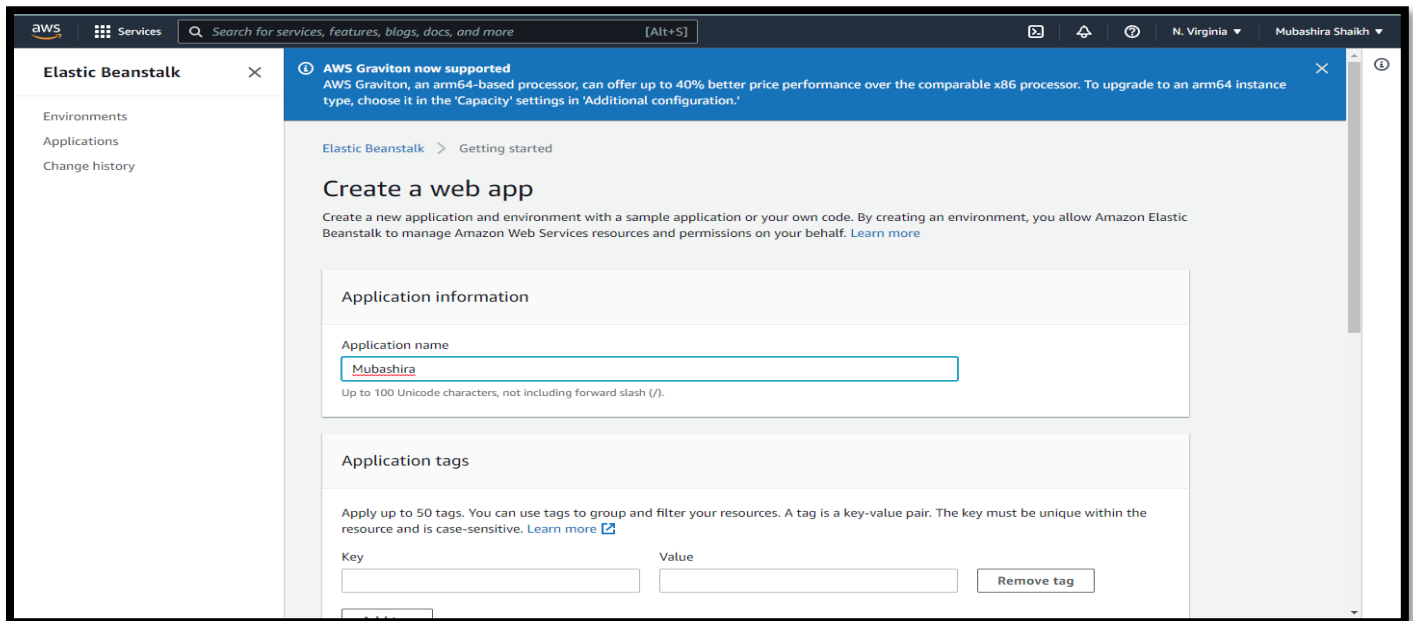
### **Step 2: Search for “Elastic Beanstalk” and select it.**



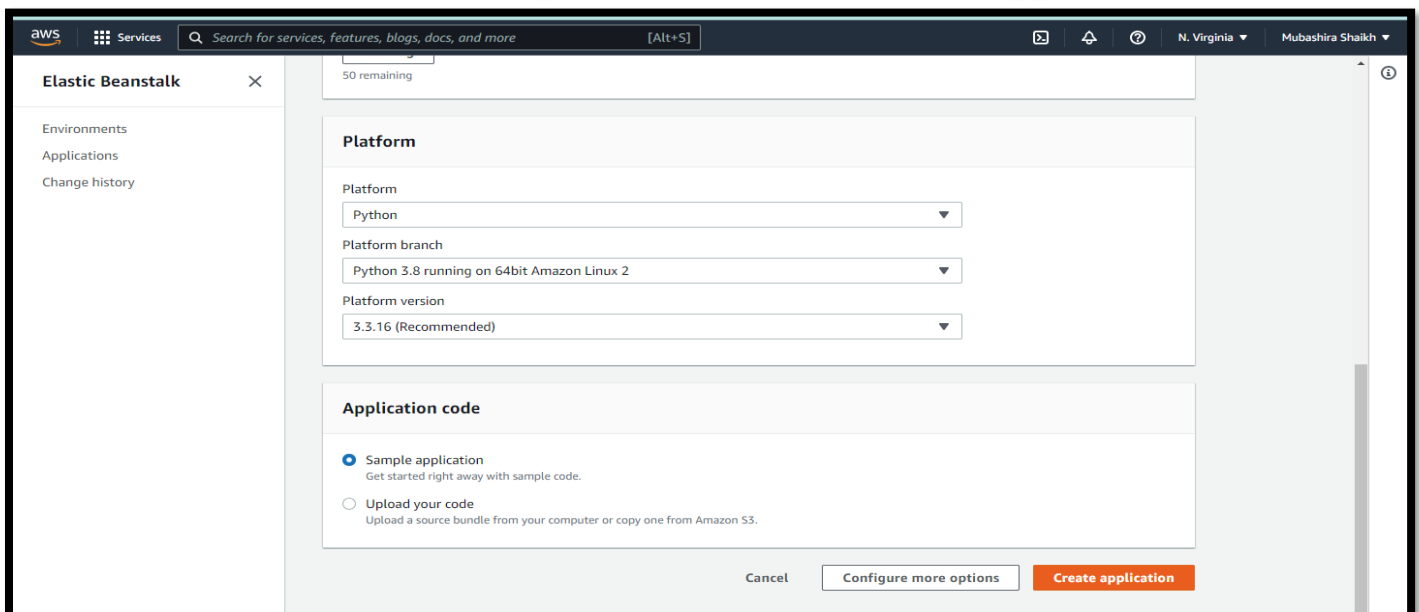
### Step 3: Click on Create Application.



### Step 4: Give a name to Application.



### Step 5: We can select any platform so I have selected (Python) and we have to select sample code and click on Create Application.



**\* Now its Creating the Application and it will take approx 5 to 10 mins to process.**

The screenshot shows the AWS Elastic Beanstalk console. On the left, the 'Elastic Beanstalk' sidebar is visible with options for Environments, Applications, and Change history. The main content area shows the 'Creating Mubashira-env' process. A blue banner at the top states 'AWS Graviton now supported'. Below it, a message indicates 'This will take a few minutes.' A log shows the following steps:

- 11:17am Using elasticbeanstalk-us-east-1-746116160774 as Amazon S3 storage bucket for environment data.
- 11:17am createEnvironment is starting.

This screenshot shows the progress of creating the 'Mubashira-env' environment. The log in the main content area shows the following steps:

- 11:18am Created security group named: sg-0b29fc9a00bc5c96
- 11:18am Created target group named: arn:aws:elasticloadbalancing:us-east-1:746116160774:targetgroup/awseb-AWSEB-1K1YIEZGD0FT/e6515a520a4e3f5a
- 11:17am Using elasticbeanstalk-us-east-1-746116160774 as Amazon S3 storage bucket for environment data.
- 11:17am createEnvironment is starting.

**\* The Application has been created (Python)**

The screenshot shows the completed 'Mubashira-env' environment. The 'Health' status is 'Ok' with a green checkmark. The 'Running version' is 'Sample Application' with an 'Upload and deploy' button. The 'Platform' is 'Python 3.8 running on 64bit Amazon Linux 2/3.3.16' with a 'Change' button. The 'Recent events' table shows the following:

Time	Type	Details
2022-08-18 11:22:05 UTC+0530	INFO	Successfully launched environment: Mubashira-env
2022-08-18 11:22:04 UTC+0530	INFO	Application available at Mubashira-env.eba-mtpu8gy2.us-east-1.elasticbeanstalk.com.
2022-08-18 11:21:33 UTC+0530	INFO	Instance deployment completed successfully.
2022-08-18 11:21:30 UTC+0530	INFO	Instance deployment successfully generated a 'Profile'.
2022-08-18 11:21:26 UTC+0530	INFO	Created Load Balancer listener named: arn:aws:elasticloadbalancing:us-east-1:746116160774:listener/app/awseb-AWSEB-G3XT16NG6H5O/3f7d1517b08956c0/f5d99ff45853f28a

## Step 6: Click on the URL given.

The screenshot shows the AWS Elastic Beanstalk console. On the left, there's a sidebar with 'Elastic Beanstalk' selected, showing 'Environments', 'Applications', and 'Change history'. Below this, 'Recent environments' lists 'Mubashira-env'. The main area shows a notification about AWS Graviton support. Below the notification, the 'All environments' section has a search bar and a table of environments. The table has columns: Environment name, Health, Application name, Date created, Last modified, URL, Running versions, and Platform. One environment, 'Mubashira-env', is listed with a health status of 'OK' and a URL 'mubashira-env.mtpu8gy2.us-east-1.elasticbeanstalk.com'.

Environment name	Health	Application name	Date created	Last modified	URL	Running versions	Platform
<a href="#">Mubashira-env</a>	OK	Mubashira	2022-08-18 11:17:36 UTC+0530	2022-08-18 11:22:05 UTC+0530	<a href="#">mubashira-env.mtpu8gy2.us-east-1.elasticbeanstalk.com</a>	Sample Application	Python 3.8 running on 64bit Amazon Linux 2

**\* Congratulations your Python Application has been created.**

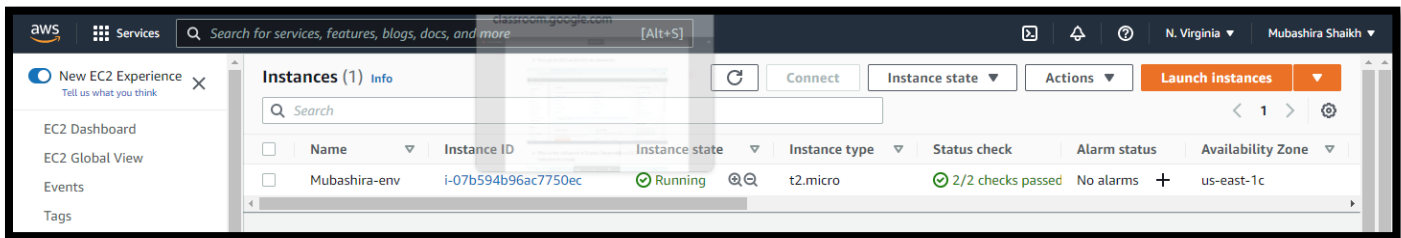
The screenshot shows the 'Congratulations' page in the AWS Elastic Beanstalk console. The page has a green background with the text 'Congratulations' and 'Your first AWS Elastic Beanstalk Python Application is now running on your own dedicated environment in the AWS Cloud'. Below this, it says 'This environment is launched with Elastic Beanstalk Python Platform'. On the right, there's a section titled 'What's Next?' with a list of links: 'AWS Elastic Beanstalk overview', 'AWS Elastic Beanstalk concepts', 'Deploy a Django Application to AWS Elastic Beanstalk', 'Deploy a Flask Application to AWS Elastic Beanstalk', 'Customizing and Configuring a Python Container', and 'Working with Logs'.

## Step 7: Now go to EC2 and click on instances.

The screenshot shows the AWS Management Console 'EC2 Dashboard'. The left sidebar has 'New EC2 Experience' selected, showing 'EC2 Dashboard', 'EC2 Global View', 'Events', 'Tags', 'Limits', and 'Instances'. The main area shows 'Resources' with a table of EC2 resources in the US East (N. Virginia) Region. The table has columns for resource type and count. The 'Instances (running)' section shows 1 instance.

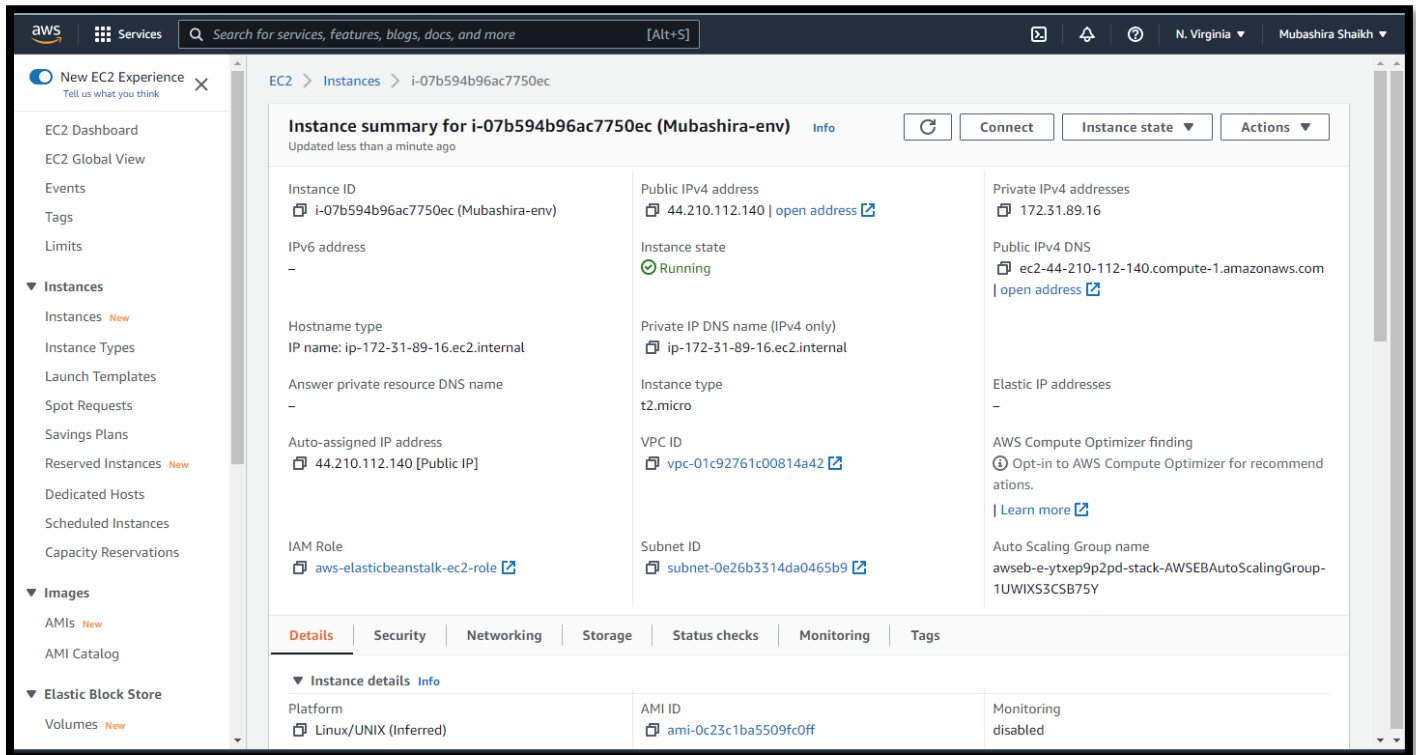
Resource	Count
Instances (running)	1
Instances	1
Placement groups	0
Volumes	1
Dedicated Hosts	0
Key pairs	0
Security groups	3
Elastic IPs	0
Load balancers	1
Snapshots	0

**\*This is the influence of Elastic Beanstalk on EC2 and now the instance is running.**



The screenshot shows the AWS Management Console interface. On the left is a navigation menu with options like 'New EC2 Experience', 'EC2 Dashboard', 'EC2 Global View', 'Events', and 'Tags'. The main content area displays a table of EC2 instances. One instance, 'Mubashira-env' (ID: i-07b594b96ac7750ec), is highlighted. Its status is 'Running', and it is a 't2.micro' instance type. The status check indicates '2/2 checks passed'. Buttons for 'Connect', 'Instance state', and 'Actions' are visible above the table.

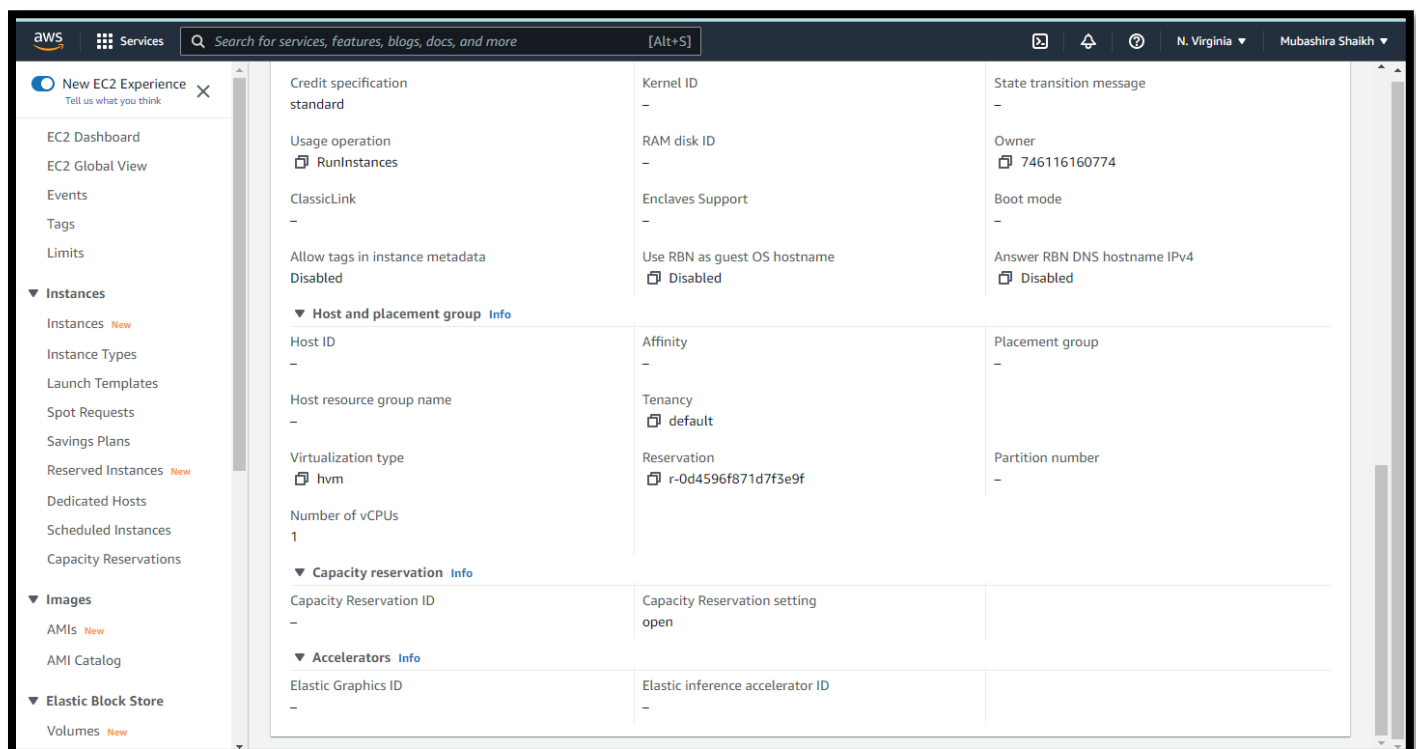
**\*We can see all the details of the instance.**



This screenshot provides a detailed view of the EC2 instance 'i-07b594b96ac7750ec'. The 'Instance summary' section shows the instance is 'Running'. Key details include:

- Instance ID:** i-07b594b96ac7750ec (Mubashira-env)
- Public IPv4 address:** 44.210.112.140
- Private IPv4 address:** 172.31.89.16
- Instance state:** Running
- Instance type:** t2.micro
- VPC ID:** vpc-01c92761c00814a42
- IAM Role:** aws-elasticbeanstalk-ec2-role

The 'Details' tab is selected, showing various configuration parameters like 'Platform' (Linux/UNIX), 'AMI ID' (ami-0c23c1ba5509fc0ff), and 'Monitoring' (disabled). Other tabs like 'Security', 'Networking', 'Storage', 'Status checks', 'Monitoring', and 'Tags' are also available.



This screenshot shows the 'Host and placement group' details for the EC2 instance. It includes information about the host ID, affinity, tenancy, and reservation. The 'Capacity reservation' section shows the capacity reservation ID and setting. The 'Accelerators' section shows the elastic graphics ID and elastic inference accelerator ID. The 'State transition message' section shows the owner, boot mode, and answer RBN DNS hostname IPv4.

## Step 8: Now terminate the instance.

The screenshot shows the AWS Management Console interface. On the left, there's a navigation pane with 'Instances' selected. The main content area displays the 'Instance summary' for i-07b594b96ac7750ec (Mubashira-env). The instance is in the 'Running' state. The 'Actions' dropdown menu is open, showing options like 'Stop instance', 'Start instance', 'Reboot instance', 'Hibernate instance', and 'Terminate instance'.

Instance ID	Public IPv4 address	Private IPv4 addresses
i-07b594b96ac7750ec (Mubashira-env)	44.210.112.140   <a href="#">open address</a>	172.31.140.140

IPV6 address	Instance state	Public IPv4 address
-	Running	ec2-44-210-112-140.compute-1.amazonaws.com

Hostname type	Private IP DNS name (IPv4 only)	Elastic IP addresses
IP name: ip-172-31-89-16.ec2.internal	ip-172-31-89-16.ec2.internal	-

Answer private resource DNS name	Instance type	AWS Compute Optimizer finding
-	t2.micro	Opt-in to AWS Compute Optimizer for recommendations.   <a href="#">Learn more</a>

Auto-assigned IP address	VPC ID	Auto Scaling Group name
44.210.112.140 [Public IP]	vpc-01c92761c00814a42	awseb-e-ytxep9p2pd-stack-AWSEBAutoScalingGroup-1UWIXS3CSB75Y

IAM Role	Subnet ID	Monitoring
aws-elasticbeanstalk-ec2-role	subnet-0e26b3314da0465b9	disabled

**Instance details**

Platform	AMI ID	Monitoring
Linux/UNIX (Inferred)	ami-0c23c1ba5509fc0ff	disabled

The screenshot shows the 'Terminate instance?' dialog box. It contains a warning message: "On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost." It also asks "Are you sure you want to terminate these instances?" and provides a "Cancel" button and a "Terminate" button.

On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.

Are you sure you want to terminate these instances?

i-07b594b96ac7750ec (Mubashira-env)

To confirm that you want to terminate the instances, choose the terminate button below. Terminating the instance cannot be undone.

Cancel Terminate

**\*The instance has been terminated.**

The screenshot shows the 'Instances (2)' list. The instance i-07b594b96ac7750ec (Mubashira-env) is listed with a status of 'Terminated'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Mubashira-env	i-07b594b96ac7750ec	Terminated	t2.micro			us-east-1c

## Step 9: Now terminate the Environment.

**Elastic Beanstalk**

**Environments**

Applications

Change history

Recent environments

Mubashira-env

**All environments**

Filter results matching the display values

Environment name	Health	Application name	Date created	Last modified
Mubashira-env	Pending	Mubashira	2022-08-18 11:17:36 UTC+0530	2022-08-18 11:22:05 UTC+0530

**Actions**

- Load configuration
- Save configuration
- Swap environment URLs
- Clone environment
- Abort current operation
- Restart app server(s)
- Rebuild environment
- Terminate environment

**Create a new environment**

**Elastic Beanstalk**

**Environments**

Applications

Change history

Recent environments

Mubashira-env

**Confirm environment termination**

Permanently terminate **Mubashira-env**? This action can't be undone.

- Tier: Web Server
- Platform: Python 3.8 running on 64bit Amazon Linux 2/3.3.16
- Version: Sample Application
- Last modified: 2022-08-18 11:22:05 UTC+0530

**Terminating this environment will also terminate its associated resources.**

- URL - Mubashira-env.eba-mtpu8gy2.us-east-1.elasticbeanstalk.com will be released.
- Additional resources – any resources associated with this environment will also be terminated.

Enter the name of the environment to confirm:

Mubashira-env

This is case sensitive

Cancel **Terminate**

## Step 10: Now delete the Application.

**Elastic Beanstalk**

**Applications**

Environments

Change history

**All applications**

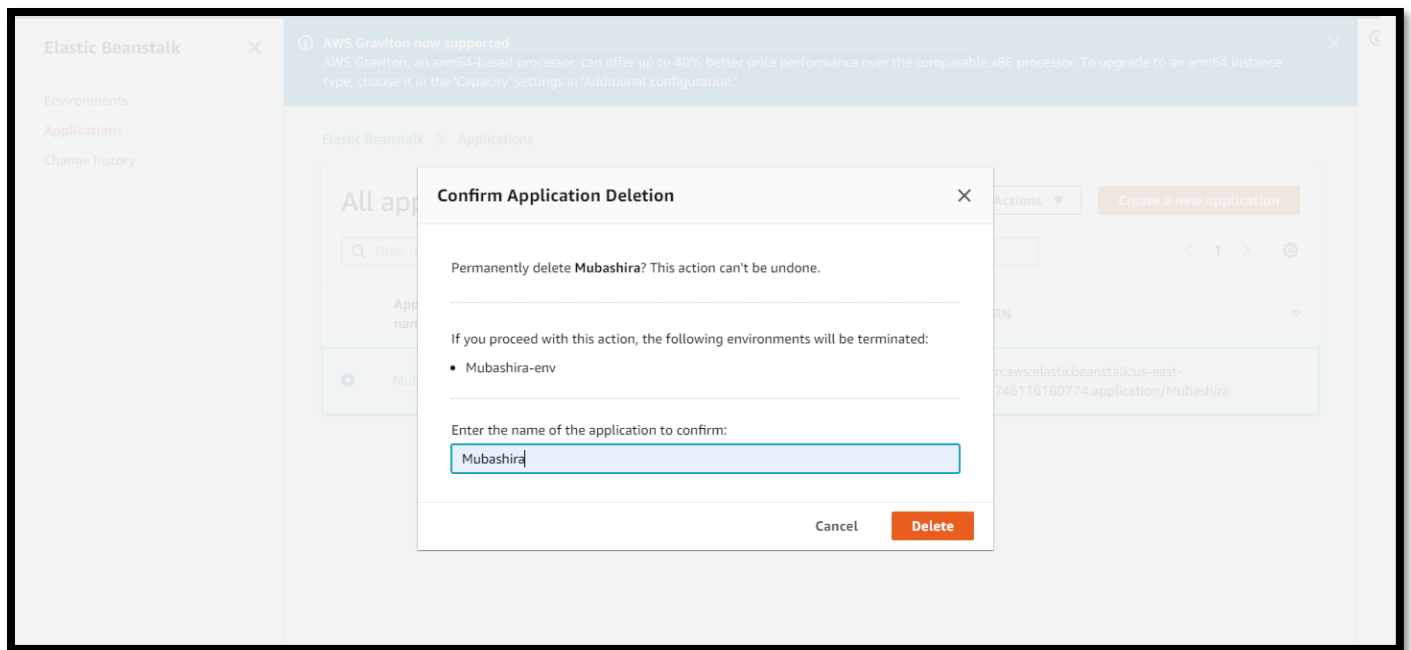
Filter results matching the display values

Application name	Environments	Date created	Last modified
Mubashira	Mubashira-env	2022-08-18 11:17:28 UTC+0530	2022-08-18 11:17:28 UTC+0530

**Actions**

- Create environment
- Delete application
- View application versions
- View saved configurations
- Restore terminated environment

**Create a new application**



**\*The Application is deleted.**

