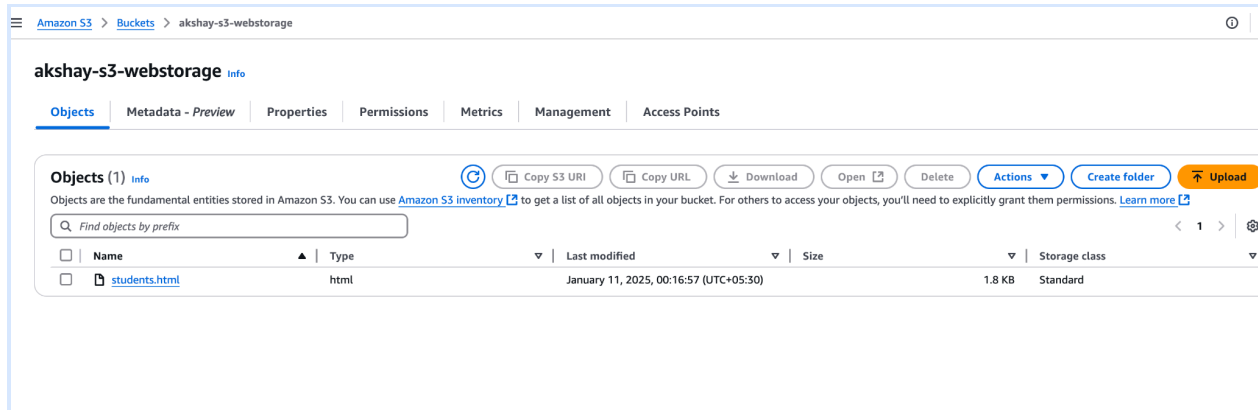


# Graded Assignment on Monitoring, Scaling and Automation

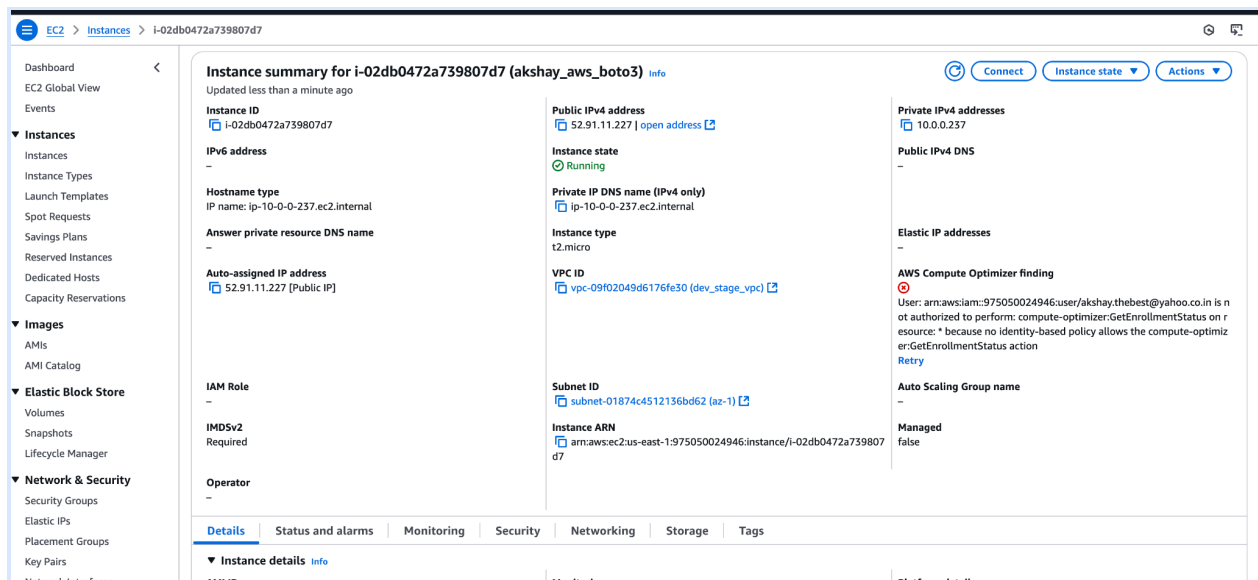
## 1. Creating S3 bucket

### 1\_s3\_setup.py



2. - Launch an EC2 instance and configure it as a web server (e.g., Apache, Nginx). - Deploy the web application onto the EC2 instance.

### 2\_ec2\_setup.py



```
[ec2-user@ip-10-0-0-237 ~]$
[ec2-user@ip-10-0-0-237 ~]$ sudo systemctl status nginx
● nginx.service - The nginx HTTP and reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: disabled)
   Active: active (running) since Fri 2025-01-10 18:55:27 UTC; 9s ago
     Main PID: 27312 (nginx)
        Tasks: 2 (limit: 1111)
       Memory: 2.4M
          CPU: 45ms
      CGroup: /system.slice/nginx.service
              └─27312 "nginx: master process /usr/sbin/nginx"
                 └─27314 "nginx: worker process"

Jan 10 18:55:27 ip-10-0-0-237.ec2.internal systemd[1]: Starting nginx.service - The nginx HTTP and reverse proxy server...
Jan 10 18:55:27 ip-10-0-0-237.ec2.internal nginx[27310]: nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
Jan 10 18:55:27 ip-10-0-0-237.ec2.internal nginx[27310]: nginx: configuration file /etc/nginx/nginx.conf test is successful
Jan 10 18:55:27 ip-10-0-0-237.ec2.internal systemd[1]: Started nginx.service - The nginx HTTP and reverse proxy server.
[ec2-user@ip-10-0-0-237 ~]$
[ec2-user@ip-10-0-0-237 ~]$
```

Not Secure 52.91.11.227

# Student List

## Add New Student

Name:

Age:

Submit

## List of Students

Name: akshay, Age: 22

Name: apoorva, Age: 20

### 3. Load Balancing with ELB:

- Deploy an Application Load Balancer (ALB) using `boto`.

#### 3 alb\_setup.py

The screenshot displays the AWS Management Console for an Application Load Balancer (ALB) named 'aks-aws-alb'. The console shows the following details:

- Details:**
  - Load balancer type:** Application
  - Scheme:** Internet-facing
  - Status:** Active
  - Hosted zone:** Z35SXDOTRQ7X7K
  - VPC:** vpc-09f02049d6176fe30
  - Availability Zones:** subnet-01874c4512136bd62 (us-east-1a), subnet-08fa616f96d54dfc2 (us-east-1b)
  - Load balancer IP address type:** IPv4
  - Date created:** January 11, 2025, 00:36 (UTC+05:30)
  - Load balancer ARN:** arn:aws:elasticloadbalancing:us-east-1:975050024946:loadbalancer/app/aks-aws-alb/77610a3ca1218e44
  - DNS name:** aks-aws-alb-367625264.us-east-1.elb.amazonaws.com (A Record)
- Listeners and rules (1):**
  - Filter listeners:** Search bar for filtering listeners.
  - Table:**

Protocol:Port	Default action	Rules	ARN	Security policy	Default SSL/TLS certificate
HTTP:80	Forward to target group <ul style="list-style-type: none"><li>akshay-tg-alb (1 (100%))</li><li>Target group stickiness: Off</li></ul>	1 rule	ARN	Not applicable	Not applicable

### 4. ASG creation

#### 4 asg.py

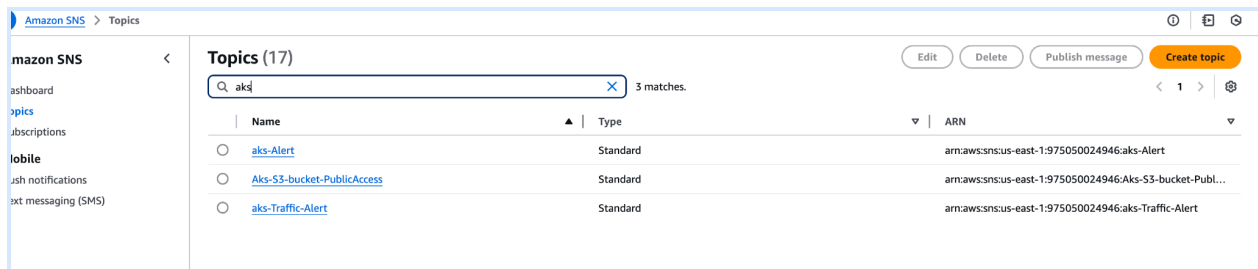
The screenshot displays the AWS Management Console for an Auto Scaling Group (ASG) named 'aks-asg-grp'. The console shows the following details:

- Capacity overview:**
  - Desired capacity:** 2
  - Scaling limits (Min - Max):** 2 - 3
  - Desired capacity type:** Units (number of instances)
  - Status:** -
  - Date created:** Sat Jan 11 2025 00:54:53 GMT+0530 (India Standard Time)
- Launch template:**
  - Launch template:** lt-0229970392408ad35 (aks-asg-grp)
  - AMI ID:** ami-01c7e22f6f6e7af2
  - Instance type:** t2.micro
  - Owner:** arn:aws:iam::975050024946:user/akshay.thebest@yahoo.co.in
  - Version:** Default
  - Security groups:** -
  - Security group IDs:** sg-0bc060d9865615fcb
  - Create time:** Sat Jan 11 2025 00:52:27 GMT+0530 (India Standard Time)
  - Description:** -
  - Storage (volumes):** -
  - Key pair name:** EC2-AMI-Aks-HV
  - Request Spot Instances:** No
- Network:**
  - Availability Zones:** us-east-1a, us-east-1b
  - Subnet ID:** subnet-01874c4512136bd62, subnet-08fa616f96d54dfc2
  - Availability Zone distribution:** Balanced best effort

## 5. Create cloudwatch events and SNS notifications:

5 [sns.py](#)

6 [cloudwatch.py](#)



The screenshot shows the Amazon SNS console interface. On the left is a navigation sidebar with links to 'Dashboard', 'Topics', 'Subscriptions', 'Mobile', 'Push notifications', and 'Text messaging (SMS)'. The main area is titled 'Topics (17)' and contains a search bar with the text 'aks'. Below the search bar is a table listing three topics. The table has columns for 'Name', 'Type', and 'ARN'. The topics listed are 'aks-Alert', 'Aks-S3-bucket-PublicAccess', and 'aks-Traffic-Alert', all of which are of type 'Standard'. At the top right of the main area are buttons for 'Edit', 'Delete', 'Publish message', and 'Create topic'.

Name	Type	ARN
<a href="#">aks-Alert</a>	Standard	arn:aws:sns:us-east-1:975050024946:aks-Alert
<a href="#">Aks-S3-bucket-PublicAccess</a>	Standard	arn:aws:sns:us-east-1:975050024946:Aks-S3-bucket-Publ...
<a href="#">aks-Traffic-Alert</a>	Standard	arn:aws:sns:us-east-1:975050024946:aks-Traffic-Alert