



**CHRIST**  
(DEEMED TO BE UNIVERSITY)  
B A N G A L O R E · I N D I A

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## Cloud computing

### Lab-2

#### 1. Describe IaaS

IaaS (Infrastructure as a Service) in AWS is like renting a virtual data center. Instead of buying and managing your own servers, storage, and networking equipment, you provision these resources in the cloud on a pay-as-you-go basis. This frees you from upfront costs and allows you to scale your resources up or down quickly to meet your application's needs. AWS offers a wide range of IaaS services, including:

- **Amazon EC2 (Elastic Compute Cloud):** Provides virtual servers with various configurations (CPU, memory, storage) to run your applications.
- **Amazon S3 (Simple Storage Service):** Highly scalable object storage for any type of data, from backups to website content.
- **Amazon EBS (Elastic Block Store):** Block-level storage for attaching high-performance disk volumes to your EC2 instances.
- **Amazon VPC (Virtual Private Cloud):** Lets you create a logically isolated network segment within the AWS cloud for secure deployment of your resources.

## 2. List the Compute and Storage services available in AWS and GCP.

### a. Compute

#### i. AWS:

1. **Amazon EC2 (Elastic Compute Cloud):** The core compute service, offering a vast selection of virtual machine configurations for diverse workloads. You have full control over the operating system and instance settings.
2. **AWS Lambda:** Serverless compute service ideal for short-lived tasks triggered by events. You only pay for the resources your code consumes, making it cost-effective for spiky workloads.

#### ii. GCP:

1. **Google Compute Engine:** Similar to EC2, offering virtual machines with various configurations. GCP integrates well with other Google Cloud services.
2. **Google Kubernetes Engine (GKE):** Managed Kubernetes service for deploying and managing containerized applications. GKE simplifies container orchestration, a complex task in traditional deployments.

### b. Storage Services:

#### i. AWS:

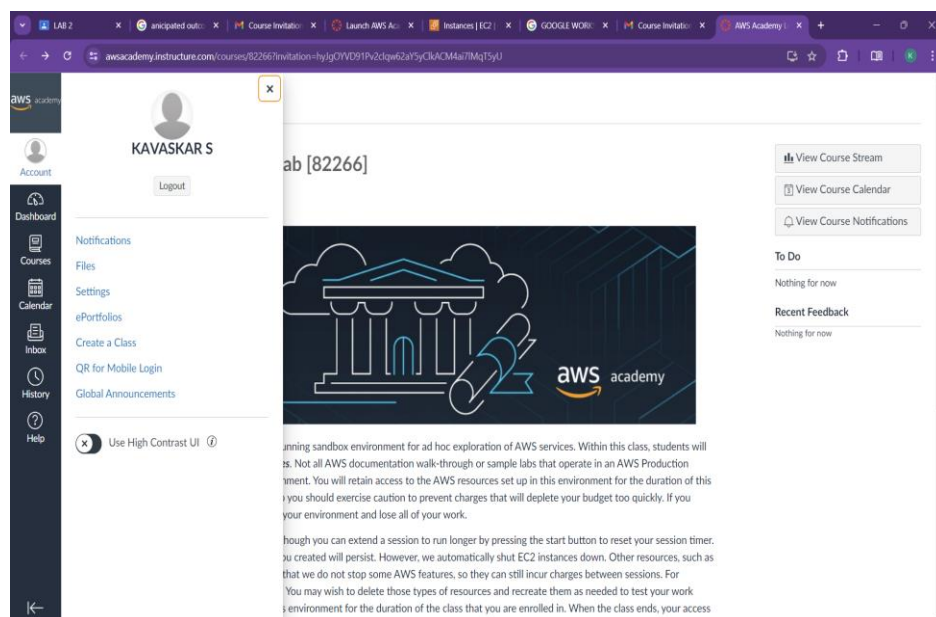
1. **Amazon S3 (Simple Storage Service):** Object storage designed for scalability and durability. Ideal for storing large datasets, backups, and static website content.
2. **Amazon EBS (Elastic Block Store):** Block storage for attaching high-performance disks to EC2 instances. EBS provides persistent storage for applications that require frequent disk access.

#### ii. GCP:

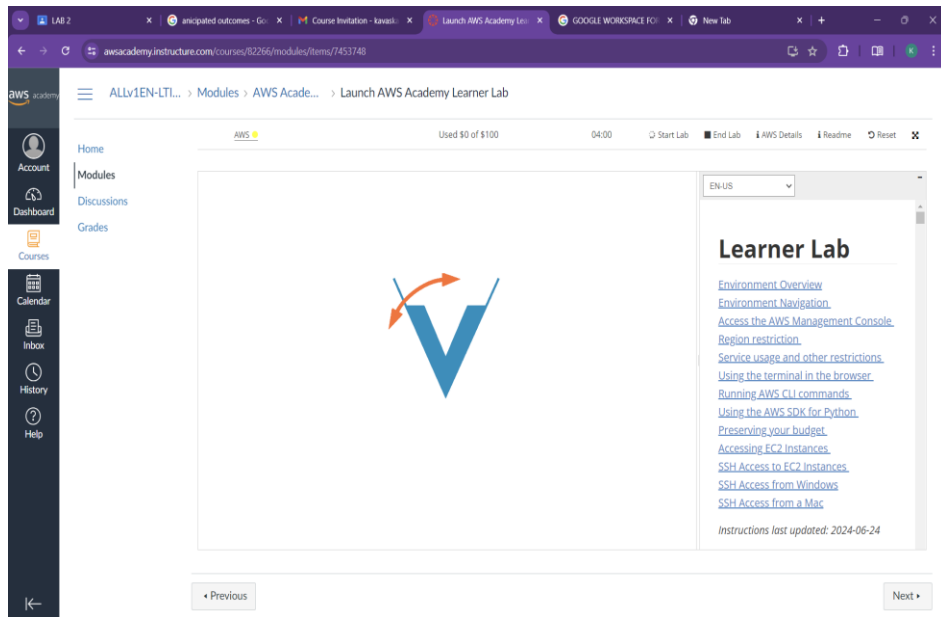
1. **Google Cloud Storage:** Similar to S3, offering object storage for various data needs. Integrates seamlessly with other GCP services.
2. **Google Persistent Disk:** Block storage for persistent data attached to virtual machines in Google Compute Engine. Offers similar functionality to Amazon EBS.
3. **Create 2 Identical AWS EC2 Instances (Instance Name: Regno\_EC2\_VM1, Regno\_EC2\_VM2) and install the necessary packages to execute a program of your choice in 'Regno\_EC2\_VM1'.**

STEPS:

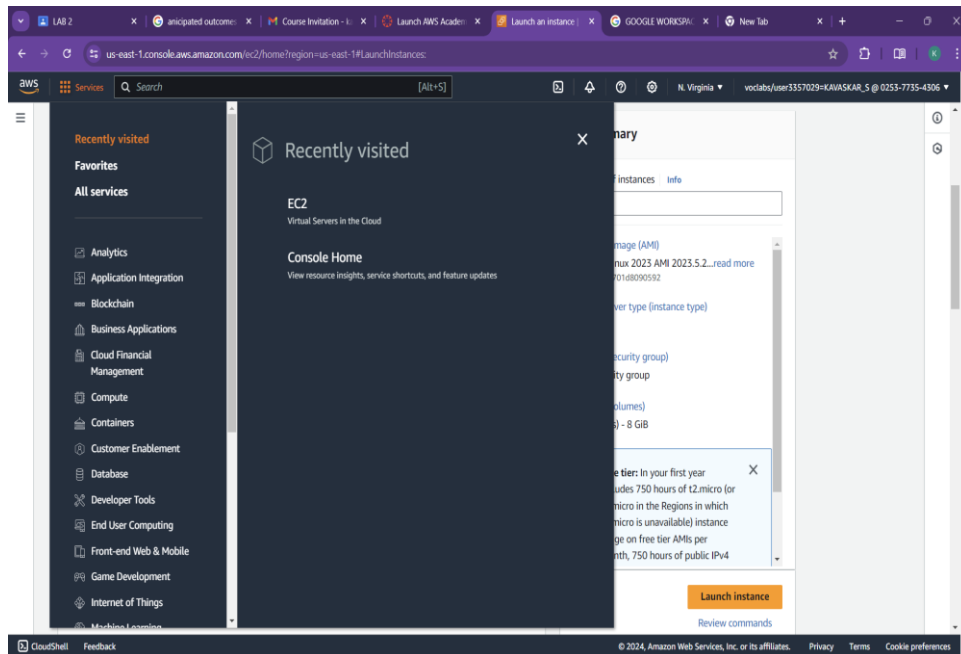
- a. Login to Learner Lab



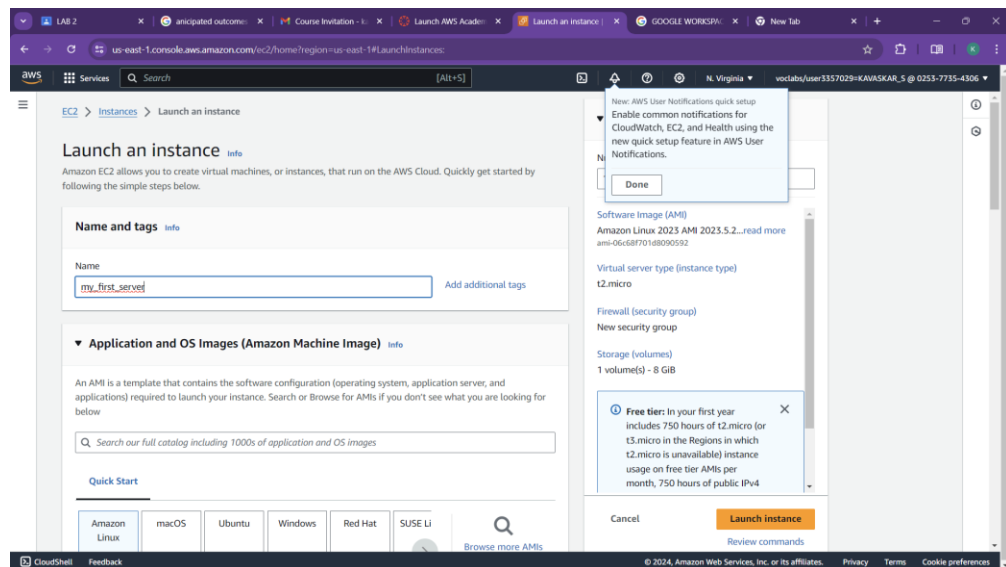
## b. Launch Learner Lab



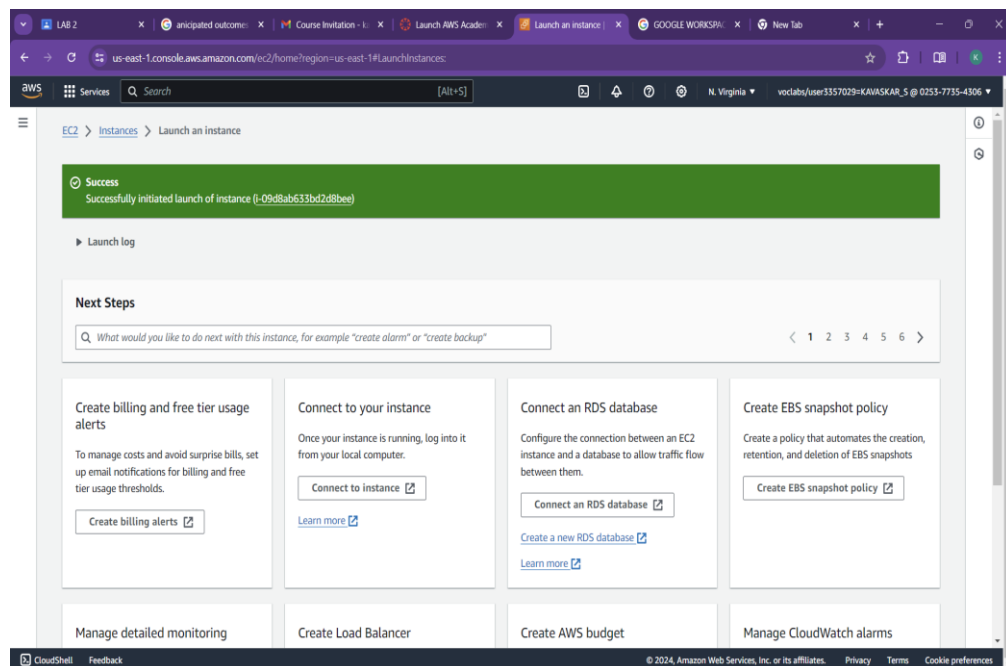
## c. Go to services and Select EC2



d. Give a name to the instance and select further options



e. Click Launch instance to create to create a instance



f. Finally go the instance dashboard to see the list of instance created

The screenshot shows the AWS Management Console for the 'us-east-1' region. The main content area is titled 'Instances (2)' and displays a table of EC2 instances. The table has the following columns: Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4 DNS. Two instances are listed:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
my_first_ser...	i-09d8ab633bd2d8bee	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-18-207-94-2...
2347230_EC2...	i-02ca22ba456329a06	Pending	t2.micro	-	View alarms +	us-east-1a	ec2-54-198-138...

The left sidebar contains navigation links for various AWS services, including EC2 Dashboard, EC2 Global View, Events, Console-to-Code, and a list of instance types and images. The bottom of the console shows the 'Select an instance' button and the footer with copyright information.